Brighton Council

ATTACHMENTS

ORDINARY COUNCIL MEETING

17 DECEMBER 2024

Brighton
going places

Brighton Council

MINUTES OF THE ORDINARY COUNCIL MEETING

OF THE BRIGHTON COUNCIL, HELD IN THE COUNCIL CHAMBERS,

COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH

AT 5.30P.M. ON TUESDAY, 19 NOVEMBER 2024

PRESENT: Cr Gray; Cr Curran; Cr De La Torre; Cr Geard; Cr McMaster; Cr Murtagh; Cr Owen and Cr Whelan

IN ATTENDANCE: Mr J Dryburgh (Chief Executive Officer) Mr C Pearce-Rasmussen (Director, Asset Services); Ms J Banks (Director, Governance & Regulatory Services); Ms G Browne (Director Corporate Services); Mrs J Blackwell (Acting Director, Development Services)

1. Acknowledgement of Country

2. Apologies / Applications for leave of absence

Cr Whelan moved, Cr Curran seconded that Cr G Irons be granted leave of absence due to illness.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

3. Confirmation of Minutes

3.1 Ordinary Council Meeting

The Minutes of the previous Ordinary Council Meeting held on the 15th October 2024 were submitted for confirmation.

RECOMMENDATION:

That the Minutes of the previous Ordinary Council Meeting held on 15th October 2024, be confirmed.

DECISION:

Cr Geard moved, Cr Owen seconded that the Minutes of the previous Ordinary Council Meeting held on 15th October 2024, be confirmed.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

3.2 Finance Committee Meeting

The Minutes of the Finance Committee Meeting held on the 5th November 2024 were submitted for confirmation.

RECOMMENDATION:

That the Minutes of the Finance Committee Meeting held on the 5th November 2024, be confirmed.

DECISION:

Cr De La Torre moved, Cr McMaster seconded that the Minutes of the Finance Committee Meeting held on 5th November 2024, be confirmed.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

3.3 Parks & Recreation Committee Meeting

The Minutes of the Parks & Recreation Committee Meeting held on the 5th November 2024 were submitted for confirmation.

RECOMMENDATION:

That the Minutes of the Parks & Recreation Committee Meeting held on the 5th November 2024, be confirmed.

DECISION:

Cr Geard moved, Cr McMaster seconded that the Minutes of the Parks & Recreation Committee Meeting held on 5th November 2024, be confirmed.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

3.4 Audit Panel

The Minutes of the Audit Panel Meeting held on the 13th September 2024 were submitted for confirmation.

RECOMMENDATION:

That the Minutes of the Audit Panel Meeting held on the 13th September 2024, be confirmed.

DECISION:

Cr Owen moved, Cr Curran seconded that the Minutes of the Audit Panel Meeting held on 13th September 2024, be confirmed.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

4. Declaration of Interest

In accordance with the requirements of Part 2 Regulation 8 of the L*ocal Government (Meeting Procedures) Regulations 2015*, the chairperson of a meeting is to request Councillors to indicate whether they have, or are likely to have, a pecuniary interest or conflict of interest in any item on the Agenda.

In accordance with Section 48(4) of the *Local Government Act 1993*, it is the responsibility of councillors to then notify the Chief Executive Officer, in writing, the details of any interest(s) that the councillor has declared within 7 days of the declaration.

Cr Curran declared an interest in Item 12.1

5. Public Question Time and Deputations

In accordance with the requirements of Part 2 Regulation 8 of the *Local Government (Meeting Procedures) Regulations 2015*, the agenda is to make provision for public question time.

- A Tanner addressed Council in relation to a proposed development at the St Ann's living village.
- S Kaleski addressed Council in relation to a proposed development at the St Ann's living village.
- D Burn addressed Council in relation to a proposed development at the St Ann's living village.
- W Burdon addressed Council in relation to a proposed development at the St Ann's living village.

- G Adderley addressed Council in relation to a proposed development at the St Ann's living village.

6. Reports from Council

6.1 Mayor's Communications

The Mayor's communications were as follows:

28/10 TasWater General Meeting

29/10 Sod Turning event – Ted Jeffries Memorial Park

5/11 Parks & Recreation Committee Meeting

5/11 Finance Committee Meeting

5/11 Council Workshop

6/11 Online Meeting with Minister McBain

7/11 STRWA Local Government Forum & AGM

12/11 Meeting with Brighton Football Club

13/11 STRLUS Steering Committee Meeting

13/11 Meeting with Anglican Diocese of Tasmania

15/11 St Virgils College Awards Ceremony

19/11 Council Meeting

RECOMMENDATION:

That the Mayor's communications be received.

DECISION:

Cr Curran moved, Cr De La Torre seconded that the Mayor's communications be received.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

6.2 Reports from Council Representatives

- Cr Geard advised that he recently attended a meeting with the Brighton Football club and Karana netball association in relation to suggested netball courts at Pontville Park. Cr Gray and Cr Curran had also attended a meeting with the two clubs re netball.
- Cr Geard recently attended an Emergency Management Co-ordinators meeting.
- Cr Geard attended the opening of the new fire station at Marrawah.
- Cr Owen attended the LGAT Health & Wellbeing forum.
- Cr Owen attended the Derwent Catchment Program AGM.

- Cr Owen also attended the Variety concert at the Brighton Civic Centre on the weekend.

RECOMMENDATION:

That the verbal reports from Council representatives be received.

DECISION:

Cr De La Torre moved, Cr Curran seconded that the verbal reports from Council representatives be received.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

7. Miscellaneous Correspondence

- Letter of Appreciation, Certificate of Appreciation and Event Summary from Uniting dated 23rd October 2024 in regard to an event held at the Civic Centre.
- Letter from the Premier dated 15th October 2024 in regard to the *Tell Someone* campaign.
- Letter from John Wood dated 11th October 2024 in regard to the naming of the new Bridgewater Bridge (& response from Mayor L Gray dated 25th October 2024).
- Letter from DPAC dated 30th October 2024 regarding Tasmanian Youth Justice Facility at Pontville.
- Letter to the Minister for Planning dated 11th November 2024 regarding Brighton's submission on the Draft LUPA Amendment (Development Assessment Panels) Bill.

8. Notification of Council Workshops

In accordance with the requirements of Section 8(2)(c) of the Local Government (Meeting Procedures) Regulations 2015.

One (1) Council workshop has been held since the previous Ordinary Council meeting.

A workshop was held on the 5th November 2024 at 5.45 pm to discuss the Development Assessment Panel framework.

Attendance: Cr Gray; Cr Curran; Cr De La Torre, Cr Geard, Cr Irons; Cr McMaster, Cr Murtagh, Cr Owen & Cr Whelan

Apologies: Nil.

9. Notices of Motion

There were no Notices of Motion.

10. Consideration of Supplementary Items to the Agenda

In accordance with the requirements of Part 2 Regulation 8(6) of the *Local Government (Meeting Procedures) Regulations 2015*, the Council, by absolute majority may approve the consideration of a matter not appearing on the agenda, where the Chief Executive Officer has reported:

(a) the reason it was not possible to include the matter on the agenda, and
(b) that the matter is urgent, and
(c) that advice has been provided under Section 65 of the *Local Government Act 1993*.

RECOMMENDATION:

That the Council resolve by absolute majority to deal with any supplementary items not appearing on the agenda, as reported by the Chief Executive Officer in accordance with the provisions of the *Local Government (Meeting Procedures) Regulations 2015.*

DECISION:

The Chief Executive Officer reported that there were no supplementary agenda items.

11. Reports from Committees

11.1 Finance Committee - 5 November 2024

The recommendations of the Finance Committee held on 5th November 2024 were submitted to Council for adoption.

RECOMMENDATION:

That the recommendations of the Finance Committee held on 5th November 2024 be adopted.

DECISION:

Cr Curran moved, Cr McMaster seconded that the recommendations of the Finance Committee held on 5th November 2024 be adopted.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

11.2 Parks & Recreation Committee - 5 November 2024

The recommendations of the Parks & Recreation Committee held on 5th November 2024 were submitted to Council for adoption.

RECOMMENDATION:

That the recommendations of the Parks & Recreation Committee held on 5th November 2024 be adopted.

DECISION:

Cr Geard moved, Cr De La Torre seconded that the recommendations of the Parks & Recreation Committee held on the 5th November 2024 be adopted.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

12. Council Acting as a Planning Authority

Under the provisions of the *Land Use Planning and Approvals Act 1993* and in accordance with Regulation 25 of the *Local Government (Meeting Procedures) Regulations 2015*, the Council will act as a planning authority in respect to those matters appearing under Item 12 on this agenda, inclusive of any supplementary items.

Cr Curran had declared an interest in the following item and left the meeting at 6.20pm.

12.1 Draft Amendment to the Brighton Local Provisions Schedule to remove 168 Brighton Road, Brighton from BRI-Table C6.1 (Local Heritage Places) – RZ 2024/001 – Section 40K Report

Author: Planning Officer (D Van)

Authorised: Acting Director Development Services (J Blackwell)

Type of Report:	Section 40K of *Land Use Planning and Approvals Act 1993*
File Reference:	RZ 2024-001
Applicant:	Rohan Targett obo Torelo Pty Ltd
Owner/s:	Torelo Pty Ltd
Location:	168 Brighton Road, Brighton TAS 7030 (CT 11271/3)
Proposal:	Amend the BRI-Table C6.1 (Local Heritage Places) to: a) Remove the cottage at 168 Brighton Road, Brighton (BRI-C6.1.23) from listing BRI-C6.1. b) Amend the Local heritage place overlay.
Planning Instrument:	Tasmanian Planning Scheme - Brighton
Date Advertised:	29 April to 27 May 2024

Representations:	Two (2)

1. Executive Summary

This report considers the submissions made during the exhibition period regarding a draft amendment pursuant to s.37 of the *Land Use Planning and Approvals Act* 1993 (the Act) for the land at 168 Brighton Road, Brighton (CT11271/3, the Site) by amending the Brighton Local Provisions Schedule (LPS) to:

a) Remove the cottage at 168 Brighton Road, Brighton (BRI-C6.1.23) from listing BRI-C6.1.
b) Amend the Local Heritage Place overlay.

Council's Planning Authority, at its meeting on 16th April 2024, agreed to initiate the proposed draft amendment made by Rohan Targett under s.38(2) of the *Land Use Planning and Approvals Act 1993* (the Act) and, therefore prepared and certified the draft amendment to the LPS (s.40F) as meeting the LPS criteria (s.34) under the Act.

The amendment application was then exhibited for a period of twenty-eight (28) days, in requirements of s.40H.

This is a report required by s.40K to be submitted to the Commission in relation to the two (2) representations received during and after the exhibition period.

It is considered that the representations to the draft amendment do not warrant any modification to the proposed amendment.

2. Legislative requirements

In accordance with s.40H the planning authority must exhibit the draft amendment RZ 2024-001 for twenty-eight (28) days.

Comments: The draft amendment was on public exhibition from 29th April until 27th May 2024.

Following exhibition, the planning authority must consider any representations and provide a report to the Commission within 35 days [s40K(1)].

Comments: There were four extensions of time granted by the Tasmanian Planning Commission to allow the planning authority to prepare and submit the s.40K report. The extension also allows the applicant to provide a response and a revised Heritage Significant Assessment to representation in relation to the draft amendment. The current extension is until 30 November 2024.

The report must include [s.40K(2)]:

(a) a copy of each representation, including any agreed to be accepted after the end of the exhibition period;

(b) the planning authority's views on the merit of each representation;

(c) a recommendation as to whether the draft amendment should be modified to take into account the representation and the effect on the LPS as a whole in implementing the recommendation; and

(d) a statement as to whether the planning authority is satisfied that the draft amendment meets the LPS criteria; and

(e) any other recommendations in relation to the draft amendment.

Comments:

(a) a copy of each representation was attached with this report.
(b) a planning authority's response on merit was included in this report.

(c) a recommendation on the draft amendment should not be modified after taking into account the representation and the effect on the LPS have been included in this report.

(d) a statement was included in the conclusion of this report.

The Representations and Response

A total of two (2) submissions were received: one (1) during the public exhibition period and the other (1) shortly after the public exhibition period expired.

Under s.40K(2), the report on representation must contain a copy of each representation made in relation to the draft amendment RZ 2024-001 before and after the end of the exhibition period.

A summary of the concerns raised in Representation 2 has been provided to the applicant for comment. The applicant has provided a response, which is included in Attachment C.

Below is a summary of the two representations received and the assessing officer's response on the merit of each representation as required by s.40K(2)(c) of the Act.

No.	Submission	Response on merit
Representation 1 – TasWater (Attachment A)		
1.	TasWater does not object to the draft amendment to the Brighton Local Provisions Schedule and has no formal comments for the Tasmanian Planning Commission in relation to this matter and does not require to be notified of nor attend any subsequent hearings.	Noted. No response required.
Representation 2 – Heritage Tasmania (Attachment B)		
2.	A Heritage Significance Assessment report should be produced to: - address each of the Local Historic Heritage Code significance criteria providing justification as to why the site would not reach the threshold for local listing; - provide a historical overview/background (local history), architectural value of the site (creative or technical achievement, class of building, aesthetic characteristics); and - give more reasons on why reduction in original heritage fabric (i.e. removal of fireplaces and skirting boards) could reduce the heritage value of the site.	A Heritage Significance Assessment has been provided to the request. Section C6.3.1 of the Local Historic Heritage Code of the Tasmanian Planning Scheme sets out definitions of Local Historic Heritage Significance in relation to a local heritage place. It means: *(a) its role in, representation of, or potential for contributing to the understanding of: (i) local history, (ii) creative or technical achievements; (iii) a class of building or place; or (iv) aesthetic characteristics; or* *(b) its association with: (i) a particular community or cultural group for social or spiritual reasons; or (ii) the life or works of a person, or group of persons, of importance to the locality or region, as identified in the relevant list in the relevant Local Provisions Schedule, or in a report prepared by a suitably qualified person, if not identified in the relevant list.* Comments to the Local Historic Heritage Significance criteria: Regarding criterion (a)(i), there was no local historic

		importance to the local community, supported by lifetime events of the site (refer to section 3 of the Heritage Significance Assessment report). Regarding criteria (a)(ii)(iii) and (iv), according to the report, the construction technique and material of the cottage were standard for the mid to late nineteenth century. There was nothing unusual or innovative about the place. The outside look of the cottage still can demonstrate its original c1880s form, however, there were some alterations to the place such as veranda, chimney, downpipes, decking, doors, ceiling, and cornices which do not contribute to the heritage values of the cottage. The class of place is categorised as Victorian Georgian. According to the report, the author cited *A Pictorial Guide to Identifying Australian Architecture* that describes characteristics of Victorian Georgian Architecture. Original joinery (doors, architraves, skirtings etc) and fireplaces are normally considered to be heritage fabric of higher value as they best demonstrate the history of the place. This cottage has lost almost all of that joinery and the fireplace(s). Surrounding land is held variously in private ownership and in Brighton Council ownership (road lot). Adjacent to the subject site (southern end) is the new IGA development and the post office and Brighton Pharmacy (northern end). The existing surrounding environment is an outlier in a modern commercial precinct of Brighton. With the loss of original joinery and the surrounding local context of streetscape, the cottage does not meet these criteria to be listed as Local Historic Heritage Significance.  Figure 1. The cottage at 168 Brighton Road viewed from Brighton Road (Google, 2024) Regarding criteria (b)(i) and (ii), there is no strong evidence showing the community's interest in the heritage value of the site. Given no relevant list in Brighton LPS, the revised Heritage Significance Assessment report as prepared by a suitably qualified person has demonstrated these criteria are not met

		with the supports of the archival history of the place written by a historian David Young. Based on the evaluation, it is concluded that the site does not meet the criteria for Local Historic Heritage Significance under the Local Historic Heritage Code of the Tasmanian Planning Scheme. Therefore, no modification to the draft amendment is required.
3.	Requesting more justifications on residence's relocation between 1979 and 2002 as the primary reason for delisting and uses Article 9 of the Burra Charter as support for reduction in significance as the residence was only moved slightly within the allotment, meaning the residence remains within its historical context (i.e. its original allotment). The report notes that heritage practitioner Brad Williams gave evidence that the cottage was relocated from nearer the street frontage back towards the centre of the allotment to make way for the construction widening of the Midlands Highway. The supplied report makes the assumption that the reason for the relocation was not for roadworks, but for property owner preference, however the supplied report does not provide evidence for this assumption.	According to the revised Heritage Significance Assessment report and archival research, the cottage was relocated away from the road for the widening of Midland Highway in c.1966. The report refers to Article 9 of the Burra Charter document endorsed by Australia ICOMOS in 1979 to emphasise the importance of physical/historical location in relation to the cultural significance of a place. According to the report, the relocation of the cottage is a contributing factor, but not the primary reason for the proposed delisting of the site. On that basis, the justification included in the revised Heritage Significance Assessment report is sufficient. Therefore, no modification to the draft amendment is required.
4.	It is suggested undertaking an independent assessment of the property (by a suitably qualified Heritage Consultant) following the Heritage Tasmania or a similar guide to address each criterion with evidence as to why the site does not reach the threshold for significance, to ensure best heritage outcomes.	The Heritage Significance Assessment was done by Graeme Corney. Mr Corney is a suitably qualified Heritage Consultant. His name is listed on a Heritage Services Directory on Heritage Tasmania's website with information as *"Graeme Corney is an architect who specialises in heritage projects. He has extensive knowledge of Tasmania's heritage buildings built up from working in this industry for nearly 30 years. His skills include technical knowledge of building problems such as rising damp, conservation planning, building repairs, adaptations and extensions."*. The revised Heritage Significance Assessment report sufficiently addressed each criterion threshold for local heritage significance with evidence. On that basis, no modification to the draft amendment is required.

3. Modifications to the draft amendment

The site is within the General Business Zone Local Area Objective BRI-15.3 of Brighton LPS. The BRI-15.3 sets out objectives as *"To develop the Brighton town centre as a Rural Services Centre for the surrounding region and encourage consolidation of the town centre and provide a mix of uses including retail, commercial, administrative and community services that complement this function and provide for the needs of the local community."* Considering the effect of the draft amendment RZ 2024-001 and the LPS to which it relates, the planning authority is of the opinion that the proposal accords with the current Brighton LPS, given the removal of constraints to developments will allow for a range of mixed-use opportunities.

As demonstrated above, based on assessments of the representations above, no modifications to the draft amendment RZ 2024-001 are required.

4. Conclusion

Two (2) representations were received during the public exhibition period for the draft amendment RZ 2024-001, which have been considered in this report. The proposed draft amendment still meets the LPS criteria as required by s.40K(2)(d) of the Act and does not require any modification (s.40K (2)(c)).

5. Options:

a) To adopt the recommendation; or

b) To adopt an alternative recommendation satisfying the provisions of section 40K of the Act, with a full statement of reasons as determined by Council.

RECOMMENDATION:

It is recommended that Council resolves that:

a) Pursuant to section 40K(1) of the *Land Use Planning and Approvals Act 1993*, provide the Tasmania Planning Commission with a copy of this report.

b) Pursuant to section 40K (2)(a)(b) of the *Land Use Planning and Approvals Act 1993,* provide to the Tasmanian Planning Commission a copy of each of the 2 representations that were received during and after the advertising of draft amendment RZ 2024-01.

c) Pursuant to section 40K (2)(c) of the *Land Use Planning and Approvals Act 1993* advise the Tasmanian Planning Commission that the representations received during advertising do not warrant a modification to draft amendment RZ 2024-001 as detailed in this report

DECISION:

Cr De La Torre moved, Cr Owen seconded that the recommendation be adopted.

CARRIED

VOTING RECORD

In favour	Against
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr Owen	
Cr Whelan	

Cr Curran rejoined the meeting at 6.23pm.

13. Officers Reports

13.1 Nominations - Tasmanian Animal Welfare Advisory Committee (AWAC)

Author: Director, Governance & Regulatory Services (J Banks)

Background

LGAT are seeking nominations from local government elected representatives for appointment to the Tasmanian Animal Welfare Advisory Committee (AWAC).

The AWAC is established under Part 6 of the *Animal Welfare Act 1993* (the Act) and LGAT is required to nominate a representative to the AWAC (section 39(1)(e)).

The functions of the AWAC are to:

- Provide advice to the Minister on matters referred to the Committee by the Minister and any matters relating to animal welfare including standards and guidelines;
- Advise the Minister on any changes to animal welfare legislation;
- Identify and develop educational strategies for animal welfare; and
- Any other functions as determined by the Minister and the Act.

The Animal Welfare Advisory Committee consists of 13 persons, including representatives of specified organisations and representatives from the community who are appointed by the Minister for Primary Industries and Water.

An information package is attached which includes additional information regarding the committee, including sitting fees and meeting frequency. Nominations are to be received by close of business on the 25th November 2024.

Consultation:

SMT

Risk Implications:

Nil.

Financial Implications:

Members appointed to the AWAC receive a sitting fee in accordance with the Tasmanian Government Board Fee Policy.

Strategic Plan

4.1 Be big picture, long-term and evidence-based in our thinking.

4.3 Ensure strong engagements and relationships to shape the agenda and advocate for our community.

Social Implications

Not applicable.

Environmental or Climate Change Implications

Not applicable.

Economic Implications

Not applicable.

Options

1. That Council evaluates potential elected members for the Tasmanian Animal Welfare Advisory Committee and puts forward a nomination for consideration by LGAT.

2. Council do not put forward a nomination for the Tasmanian Animal Welfare Advisory Committee.
3. Other.

RECOMMENDATION:

That Council nominate a Councillor for consideration by LGAT to join the Tasmanian Animal Welfare Advisory Committee.

DECISION:

Cr Owen moved, Cr De La Torre seconded that Option 2 be adopted.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

13.2 Naming Roads and Streets - Renaming Lewis Court, Old Beach

Author: Development Services Officer (K Clifton)

Authorised: Acting Director Development Services (J Blackwell)

Background

The purpose of this report is to seek endorsement for the re-naming of 'Lewis Court' within the Tivoli Green subdivision in accordance with the *Place Names Act 2020* (the Act). The name 'Lewis Court' was previously endorsed by Council in 2005, but due to further development the road type no longer conforms with the requirements of the Act.

In 2020, the Act was introduced to provide for contemporary Governance arrangements for the place naming process and clarity in the responsibility for the naming of roads and streets.

Under the Act, local councils are the naming authority for roads and streets.

The Tasmanian Place Naming Guidelines (the Guidelines) are provided for under the Act and are to be used by all naming authorities to assist in the selection of a conforming name, as well as providing the public and community with the principals that apply to the selection of a name.

Section 7.11 of the Guidelines states: "Road and street name proposals should be endorsed by the elected council members".

The proposed change to 'Lewis Court' is as follows:

- Lewis Drive

Consultation

Consultation has been undertaken with the landowners by way of a mailout. These have been hand delivered to resident's mailboxes where possible or posted via Australia Post (1 letter). At the time of writing this report, no feedback has been received from residents.

Risk Implications

There is a risk that the proposed road name does not conform with the Guidelines and that the proposed name will be referred back to Council. Council staff have considered the Guidelines and confirm that the proposed road name meets the requirements.

Financial Implications

Nil.

Strategic Plan

1.4 Encourages a sense of pride and engaging in local activities.

3.3 Community facilities are safe and meet contemporary needs.

Social Implications

Nil.

Environmental or Climate Change Implications

Nil.

Economic Implications

Nil.

Other Issues

Nil.

Assessment

By renaming this road, Council is providing a safe and accessible environment for the community in keeping with its vision and core values. Likewise, it ensures street names continue to conform to the Act and Guidelines.

Options

1. As per the recommendation.
2. Other.

RECOMMENDATION:

It is recommended that Council endorse the re-naming of Lewis Court, Old Beach to Lewis Drive, Old Beach.

DECISION:

Cr Owen moved, Cr De La Torre seconded that Council endorse the re-naming of Lewis Court, Old Beach to Lewis Drive, Old Beach.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

13.3 Complete Set of Financial Statements 2023/24

Author: Director Corporate Services (G Browne)

Background

In accordance with Section 84(4) of the *Local Government Act 1993*, the complete set of Financial Statements for the year ending 2023/24 is formally submitted to Council for consideration.

The Tasmanian Audit Office has given its opinion that the Financial Report of Brighton Council and its subsidiaries presents fairly, in all material respects, the Council's financial position as at 30 June 2024, and of its financial performance and its cash flows for the year then ended. The report is in accordance with the *Local Government Act 1993* and Australian Accounting Standards.

The Financial Statements have again been passed without any qualifications by the Tasmanian Audit Office. The Tasmanian Audit Office is responsible for the report to be completed in accordance with section 84(3) of the *Local Government Act 1993*.

The report format also complies with the Australian Equivalent to International Reporting Standards (AIFRS). A summary has been provided below.

Highlights of the General Purpose Financial Report include:

Consolidated Statement of Comprehensive Income (P/L)

- Unqualified Audit Opinion by the Tasmanian Audit Office for Brighton Council.
- Recurrent Income of $21,140,330 up slightly from $21,046,433 last financial year. The decrease in grant income of $1,265,721 was offset by an increase in rates and charges of $1,211,791 and an increase in investment income and commercial activities.
- Total Income $24,013,950. This includes capital income of $2,873,620 added to the recurrent income which incorporates capital grant revenue of $2,839,419 and profit on sale of plant and equipment of $34,201. Total income decreased from the 22/23 by $1,672,097, this being predominately due to no subdivision contributions were received by developers.
- Other Comprehensive Income that contributed to our overall comprehensive result was $65,195,852. This included a net asset revaluation increment of $62,567,811 for Brighton Council Assets and a net asset revaluation increment of $2,628,041 on equity invested assets being our share of TasWater.
- Total expense from continuing operations was $20,364,421 which was an increase from $18,772,072 in the 22/23 financial year. The increase in expenditure was dominated by higher maintenance and material costs and also an increase in wages from years of not being able to recruit higher skilled applicants to fill vacant positions. Depreciation expenditure of $4,144,328 has also increased from $3,966,580 due to Council's spend on capital investments from a number of grants over the past few years.
- A positive net result for the year again from continuing operations of $3,649,529 compared to $6,913,975 in the previous year. The previous year included non-monetary assets of $2,908,922 compared with nil in the current year and also profit on sale of $403,247 compared to the current year of $34,201. Even with the removal all capital income, Brighton Council would have had a successful financial result with a surplus of $810,110.
- Other commercial activities included Professional Service which in the previous and current financial year council employees undertook road works in relation to the Elderslie Road Roundabout for the Department of Education. Council is also experiencing full capacity of Council owned buildings which has resulted in an increase in rental income from $234,824 in 22/23 to $321,784 in the 23/24 year.

Consolidated Statement of Financial Position (Balance Sheet)

All our key economic indicators are in sound shape. The following balance sheet statistics provide an excellent overall picture of our financial position at year end.

Every Financial Management Indicator sought by the Auditor General is either within the Auditor General's preferred range or exceeds the identified benchmark for the year ending June 2024.

- Our current assets are 233% of our current liabilities. The benchmark recognised by the Auditor General is >100%.
- Our asset sustainability ratio for the year was 151% against a benchmark of 100%.
- Our underlying surplus is a positive $1,326,000. The benchmark recognised by the Auditor General is 0.
- Our underlying surplus ratio is a positive 6%. The benchmark recognised by the Auditor General is 0.
- Our Net financial Liabilities are inside the Auditor General's benchmark range.
- Our asset consumption ratios are all above 60%. The Auditor general does not provide a benchmark for this ratio.
- Our Asset renewal funding ratio is 100%. The benchmark recognised by the Auditor General is 90% - 100%.
- Our asset sustainability ratio is 151%. The benchmark recognised by the Auditor General is 100%.
- Our total assets have increased from $236,845,491 to $304,356,079. The main contribution from property and infrastructure revaluation totalling $62,567,811.
- Our total liabilities have decreased from $5,744,348 to $4,992,265. This decrease is predominately due to revenue being recognised for projects being completed in the 23/24 year that had grants paid in advance.
- Our total equity has increased from $230,381,143 to $299,226,525 during the financial year. This equity increase reflects the comments provided that relate to the movement in total assets and total liabilities.
- Our total cash and investments held at the end of the year decreased significantly from $12,771,223 to $3,971,836. This is due to the construction of the medical centre in Brighton and the settlement not occurring until 30th September 2024.

In summary, the report outlines a strong position for the key financial management ratios of Brighton Council.

I thank Councillors for their support and long term financial vision to place Brighton Council in such a strong financial position.

Consultation:

Tasmanian Audit Office

Risk Implications:

Nil

Financial/Budget Implications:

As stated.

Strategic Plan:

Goal 4: - Ensure a progressive, efficient and caring Council

S4.4: - Ensure financial and risk sustainability.

S4.2: - Be well governed, providing quality service and accountability to our community.

Social Implications:

Not Applicable

Environmental or Climate Change Implications:

Not Applicable

Economic Implications:

Not Applicable

Other Issues:

Not applicable

Options:

1. As per the recommendation.
2. That Council not receive the report.

RECOMMENDATION:

That the Financial Statements for 2023/24 be received.

DECISION:

Cr De La Torre moved, Cr Geard seconded that the Financial Statements for 2023/24 be received.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

13.4 2A Eddington Street, Bridgewater - Material Institute Lease

Author: Executive Officer (M Braslin)

Authorised: Director Corporate Services (G Browne)

Background

The Material Institute has written to Council seeking a long-term lease.

Material Institute is the current leaseholder of the Council owned property at 2A Eddington Street, Bridgewater. The lease renewal was due in August 2024 for a further three (3) years however as per the attached submission, Material Institute would like a 5+5+5 year lease.

During the past five years they have made substantial investments in the site including capital infrastructure with the new Beauty lab estimated at $500,000 and the new commercial kitchen approximately valued at $1.1 million. As well as general maintenance, replacement of the eastern boundary fence, installation of a security camera system, high-speed Wi-Fi access and upgrades to the internal parking areas and driveway – not to mention the food garden and its positive contribution within the community.

As a registered charity, Material Institute is committed to a future where all children, young people and their families in Lutruwita are healthy, thriving and able to achieve their full potential.

As the proposal details:

> The extended lease term will provide several key benefits:
>
> - Long-Term Planning and Sustainability: A stable lease arrangement will enable us to plan effectively for the future, ensuring the sustainability of our programs and initiatives.
> - Maximising Community Impact: With the security of a longer lease, we can continue to develop and expand services that directly benefit the community, including educational programs, vocational training, and social enterprises.
> - Strengthening Partnerships: An extended lease will solidify our relationships with funding providers and stakeholders, demonstrating a mutual commitment to long-term community development.
>
> We believe that this extension aligns with the Council's objectives of supporting local charities and enhancing community services. Our ongoing projects not only enrich the lives of residents but also contribute positively to the local economy and social fabric.

Due to the term of the lease exceeding 5 years Council must act in accordance with section 178 of the *Local Government Act 1993.*

178. Sale, exchange and disposal of public land

(1) A council may sell, lease, donate, exchange or otherwise dispose of public land owned by it in accordance with this section.

(2) Public land that is leased for any period by a council remains public land during that period.

(3) A resolution of the council to sell, lease, donate, exchange or otherwise dispose of public land is to be passed by an absolute majority.

(4) If a council intends to sell, lease, donate, exchange or otherwise dispose of public land, the general manager is to–

(a) publish that intention on at least 2 separate occasions in a daily newspaper circulating in the municipal area; and

(ab) display a copy of the notice on any boundary of the public land that abuts a highway; and

(b) notify the public that objection to the proposed sale, lease, donation, exchange or disposal may be made to the general manager within 21 days of the date of the first publication.

(5) If the general manager does not receive any objection under subsection (4) and an appeal is not made under section 178A , the council may sell, lease, donate, exchange or otherwise dispose of public land in accordance with its intention as published under subsection (4) .

(6) The council must –

(a) consider any objection lodged; and

(b) by notice in writing within 7 days after making a decision to take or not to take any action under this section, advise any person who lodged an objection of –

(i) that decision; and

(ii) the right to appeal against that decision under section 178A .

(7) The council must not decide to take any action under this section if –

(a) any objection lodged under this section is being considered; or

(b) an appeal made under section 178A has not yet been determined; or

(c) the Appeal Tribunal has made a determination under section 178B(b) or (c) .

Consultation

Senior Management Team, Council Community Facilities Officer.

Risk Implications

Possible business failure or realignment. Possible vandalism of Council assets if left vacant.

Financial Implications

Lease amount is set in accordance with the new Community leasing policy. The lessee will be responsible for the upkeep and maintenance of the property as well as all outgoings reducing the financial burden on Council.

Cost to Council of Advertising in accordance with section 178 (4) of the *Local Government Act 1993* is estimated at $1,200.

Strategic Plan

Goal 1 to Inspire a proud community that enjoys a comfortable life at every age.

1.1 Engage with and enable our community.

Social Implications

As the Brighton Municipality continues to grow so does the need for community engagement services. It's important that when the opportunity arises to increase secure community engagement long term within the municipality that Council supports this.

Environmental or Climate Change Implications

No significant climate or environmental-related issues. Any tenant will be required to engage in activities to promote sustainable living behaviours.

Economic Implications

Long-term leases can support sustainable community development and economic resilience. This long-term lease to the Material Institute will have a positive impact on the Brighton Community. It is important for the Brighton Council to find occupants to lease and utilise our properties.

Other Issues

Nil.

Assessment

Material Institutes Vision is: *healthy, beautiful and resilient communities where children, young people and their families achieve their full potential.*

The Material Institute team runs community events, social enterprises and food education programs at community hubs and schools across the state. A long-term lease agreement can assist in securing grant funding to develop the space for the use of the local community.

Long-term lease agreements offer a range of benefits that enhance financial stability, reduce operational maintenance burdens, and foster strong relationships between Council and lessees. By providing security and predictability, these agreements support strategic planning, investment in property improvements, and overall economic and community development.

Options

1. As per the recommendation.
2. Do not adopt the report for a long term lease.

RECOMMENDATION:

That Council approve the Material Institute to lease Councils property at 2A Eddington Street, Bridgewater for 5+5+5 years in accordance with the Community leasing policy.

DECISION:

Cr Curran moved, Cr Whelan seconded that Council approve the Material Institute to lease Councils property at 2A Eddington Street, Bridgewater for 5+5+5 years in accordance with the Community Leasing Policy.

CARRIED

VOTING RECORD

In favour	Against
Cr Curran	
Cr De La Torre	
Cr Geard	
Cr Gray	
Cr McMaster	
Cr Murtagh	
Cr Owen	
Cr Whelan	

14. Questions on Notice

There were no Questions on Notice for the November meeting.

Meeting closed: 6.40pm

Confirmed: _____

(Mayor)

Date: 17 December 2024

ATTACHMENT
AGENDA ITEM **7**

From: Libraries Tasmania - Office of the Executive Director
Sent: Monday, 9 December 2024 10:34 AM
To: Admin Emails <Admin.Emails@brighton.tas.gov.au>
Subject: Public library open hours

Dear Mr Dryburgh

In April 2024 Libraries Tasmania reviewed opening hours at all Tasmanian public libraries, with a view to providing improved access, particularly for members of the community who cannot easily get to a library during standard weekday working hours.

We had initially proposed some changes for libraries in your council area, as per the attached letter. We have subsequently undertaken a wide range of community consultation about these proposals, and made some adjustments.

I am writing to advise that the changes proposed to Bridgewater library will not be going ahead, and the library opening hours will remain as they currently are.

If you would like to discuss the public library opening hours in your council area at any time, please do not hesitate to get in touch.

Regards

Patrick

Patrick Gregory | A/Executive Director
Libraries Tasmania
91 Murray Street, Nipaluna/Hobart, Lutruwita/Tasmania

03 6165 5556 | www.libraries.tas.gov.au

Libraries Tasmania recognises the deep histories and cultures of the Aboriginal people of Lutruwita/Tasmania. We acknowledge Tasmanian Aboriginal people as the traditional and continuing custodians of the land, waters, and sky. We pay respect to the Elders, past and present who hold the memories, traditions, culture, and knowledge of Country. We extend our respect to all Aboriginal and Torres Strait Islander peoples, whose Countries were never ceded.

Department for Education,
Children and Young People
LIBRARIES TASMANIA

91 Murray Street HOBART TAS 7000
GPO Box 623 HOBART TAS 7001
Ph: (03) 6165 5559
Email: libraries.tas@libraries.tas.gov.au Web: www.libraries.tas.gov.au

LIBRARIES TASMANIA

File: FOL/24/1298

22 April 2024

James Dryburgh
General Manager
Brighton Council
1 Tivoli Road
OLD BEACH TAS 7017

Via email: admin@brighton.tas.gov.au

Dear Mr Dryburgh

Libraries Tasmania has been undertaking work to review the opening hours of all public libraries across the state. The aim of this process is to improve the accessibility of libraries, particularly to those in the community who are not able to visit during normal business hours, by increasing the number of options for opening after 5pm on weekdays, or on weekends.

We now have some proposed changes to opening hours which we are putting out to consultation with stakeholders and with library staff. These proposals have been developed based on existing patterns of use, demographic trends and identified opportunities for improving levels of access.

The proposed changes are intended to be cost-neutral, and in some instances have required the reduction in hours at lower use libraries to support increased access in libraries where demand is growing. In the proposed new model, the total number of weekly opening hours across all libraries has increased slightly from 1151.75 to 1173.25 but the number of libraries which will be able to provide access either after 5pm and/or on weekends has increased from 30 to 39.

Proposed changes to library opening hours in your area are as follows:

Library		Current Hours	Proposed Hours
Bridgewater	Mon	9.00-4.30	9.00-4.30
	Tue	9.00-4.30	9.00-4.30
	Wed	9.00-4.30	9.00-4.30
	Thu	9.00-4.30	9.00-4.30

Tasmanian Government

	Fri	9.00-4.30	9.00-4.30
	Sat	CLOSED	9.30-12.30
	Sun	CLOSED	CLOSED

If you have any questions or concerns, please don't hesitate to contact me. We would appreciate any feedback by COB Friday 10th May 2024. Pending the finalisation of any changed hours we will be in touch regarding implementation dates of any changes.

Regards

Patrick

Patrick Gregory
Executive Director
Libraries Tasmania

Tasmanian Planning Scheme - Brighton
Amendment RZ 2024/06
Instrument of Certification

The Brighton Council Planning Authority resolved at its meeting held on 17 December 2024 that Amendment RZ2024/06 of the *Tasmanian Planning Scheme - Brighton* meets the requirements specified in Section 34 of the *Land Use Planning and Approvals Act 1993*.

The common seal of the Brighton Council is affixed below, pursuant to the Council resolution of 16 May 2006 in the presence of:

Chief Executive Officer

Date:

AMENDMENT TO THE PLANNING SCHEME ORDINANCE

Amend clauses BRI-S11.8.2 P1.2 of the BRI-S11.0 South Brighton Specific Area Plan as follows:

BRI-S11.8.2 Infrastructure provision

This clause is in addition to General Residential Zone - clause 8.6 Development Standards for Subdivision

Objective:	That: (a) subdivision design provides for Council infrastructure that will enable further land development in accordance with the Development Framework and purpose of the Specific Area Plan; and (b) developer contributions are made towards the cost and provision of infrastructure in accordance with the relevant Policy adopted by the Council

Acceptable Solutions	Performance Criteria
A1 No Acceptable Solution	P1.1 The provision, and upgrading of Council infrastructure, must be provided having regard to: (a) the demand the subdivision places on Council infrastructure; (b) the need for connecting Council infrastructure to common

	boundaries with adjoining land to facilitate future subdivision potential; (c) any existing Council infrastructure; (d) any upgrades to existing Council infrastructure that may be required; (e) topography and other site conditions; and (f) any advice from a State authority, regulated entity or a Council P1.2 Where Council infrastructure has been provided by Council, an infrastructure contribution must be paid, having regard to Council's adopted Infrastructure Contributions Policy as amended or replaced from time to time relevant to the land.

Brighton Council

POLICY NAME: **INFRASTRUCTURE CONTRIBUTIONS**

POLICY No: **1.7**

1. PURPOSE:

1.1. The purpose of this *"Infrastructure Contributions Policy'* **('Policy')** is to set guidelines by which Brighton Council **('Council')** can make key infrastructure investments. Council will recoup these investments via the imposition of a charge on the creation of new lots or the intensification of land that benefits directly from these investments.

2. SCOPE:

2.1 This policy applies only to the Areas of land identified in the addendums to this Policy on the day following its adoption, as well as the Areas identified by all future addendums adopted by Council and forming part of this Policy.

3. COMMENCEMENT:

3.1 This Policy will apply from the day immediately following its adoption by Council.

4. DEFINITIONS:

Area	The geographical location within Council's municipal area to which each addendum to the Policy apply.
Equivalent Tenement	A calculation of the real effect of the load or demand on infrastructure for a particular use as a proportion of a typical dwelling.
Development	The meaning provided for within the *Land Use Planning and Approvals Act* 1993 or any other matter requiring a permit under that act.
Lot	Each individual area of land created by the subdivision of a parent title or strata scheme.
Investment	The monetary contribution made by Council towards the specific piece of infrastructure to which the Charge is to be applied.
Tenement	A single detached dwelling / residence.
Tenement capacity	The number of Tenements able to be serviced by an individual infrastructure investment when fully utilised.
Charge	The proportion of Council's investment to be recouped.

5. OBJECTIVE:

5.1 To ensure that strategically appropriate development is not unduly hindered by a lack of critical infrastructure or inhibitive upfront costs via the assistance of Council in investing in this infrastructure. Council will seek to recoup its investment as the development of land benefitting from that investment occurs.

5.2 Investments made by Council will:

(a) ensure that services and infrastructure are provided in a sustainable and coordinated manner, with the appropriate levels of service to residents, visitors and the environment;

(b) ensure a more equitable system for infrastructure costs for land development;

(c) ensure that fair and orderly development in accordance with endorsed strategies and plans can occur in the most efficient manner;

(d) ensure legislative requirements for provision of infrastructure and for infrastructure-related charges are met;

(e) ensure operational processes are identified and responsibility for administering this policy is allocated; and

(f) demonstrate transparent and responsible support for key infrastructure.

6. POLICY:

Introduction

6.1 Council is committed to facilitating strategic development that aligns with its endorsed strategies and plans. Council recognises that substantial up front infrastructure costs can often lead to ad hoc and inefficient development, or stifle development all together.

6.2 It is particularly difficult to ensure that efficient long-term infrastructure is installed, when there is multiple land owners who share the benefits but not the costs of the construction of that infrastructure.

6.3 Council as an intermediary can play a role in removing this blockage by in ensuring that infrastructure costs associated with growth are equitably carried by the beneficiaries.

Background

6.4 The situation often arises where the first to undertake development must incur major costs for critical infrastructure that then benefit all subsequent developers within that area. This is called the “first mover” problem and it can be a significant barrier to achieving strategic development outcomes.

6.5 The issue is more prevalent for infill development projects where land has recently been “upzoned” and there are multiple property owners. This can also result in development occurring in an ad-hoc manner that creates undesirable and inefficient outcomes.

6.6 Council can fill this void by acting as an intermediary and provide an investment in the upfront contribution to these infrastructure costs, or collect contributions to provide a coordinated approach to infrastructure delivery.

6.7 This policy will generally be applied to infrastructure that is the responsibility of Council, such as roads, bridges, stormwater, open space and the like. There may

be occasions where Council act as an intermediary to collect funds for other infrastructure authorities such as TasWater, TasNetworks, etc.

6.8 This proactive approach by Council in the investment in infrastructure is likely to encourage development to occur in line with Council's strategies and plans and be in a more efficient and equitable manner.

6.9 This Policy is consistent with and supports Council's Strategic Plan. The Policy specifically supports the Strategic Plan in that it can be harnessed to ensure Brighton's preferred future will have:

(a) a sustainable natural and built environment;

(b) infrastructure maintained at an appropriate level;

(c) a better image as a place where people want to live;

(d) an appropriate, affordable and accessible transport system; and

(e) practical and effective land use strategies.

6.10 A strategic approach to infrastructure investment and land use development will ensure that the Council delivers the highest appropriate opportunities for growth, whilst ensuring efficiency and amenity.

Principles

6.11 Council is not obliged to make infrastructure investments outside their normal responsibilities.

6.12 Council may consider investing in infrastructure where it is of the opinion there is a strong long-term benefit to the municipality and its community.

6.13 All relevant legislative requirements together with political, social and economic environments are to be taken into account when deciding to invest in infrastructure and recoup this investment via the imposition of a Charge on the benefitting land.

6.14 Any investments are to be consistent with Council's strategies, land use planning strategies and plans.

6.15 Investment agreements are to be appropriately structured so as to ensure that the relevant infrastructure will be completed to a satisfactory standard.

6.16 Charges for the recovery of Council's investment are to be calculated by reference to the total estimated benefit to an Area resulting from the infrastructure investment and is to be calculated by reference to the total sum of that investment, divided by the estimated number of Tenements that will ultimately share in the benefit of the investment.

Application

6.17 In applying the principles of this Policy to the individual investments made by Council, addendums to this Policy are to be made (**'Addendums'**). On adoption of these Addendums by Council, they are to be read as being part of this Policy.

6.18 The Addendums are to include the following detail:

(a) a description of the specific infrastructure invested in by Council;

(b) the Area of land to which the Policy has application;

(c) the initial Investment made by Council;

(d) the financial year in which the Investment was made;

(e) the Equivalent Tenement of additional capacity supported by the specific investment and infrastructure (if applicable);

(f) the formula by which the Charge is to be calculated and applied;

(g) the design assumptions and standards of the infrastructure invested in; and

(h) the equivalence factors to be applied for the relevant uses of the land and to be applied in calculating the Charge.

6.19 The infrastructure investments of Council may include but are not limited to the following general areas:

(a) roads and other transport;

(b) public open space and recreation infrastructure;

(c) stormwater drainage;

(d) carparking; or

(e) social infrastructure.(e.g. buildings for youth hubs, social services, etc.)

6.20 Under each Addendum, the sum of Council's investment in the infrastructure is to be calculated and indexed to account for the Hobart CPI increase each financial year.

6.21 Equivalent tenement factors are to be calculated by applying industry guidelines and actual data.

6.22 The calculation of each Charge is to be based on the recovery of the total amount of Council's investment as a proportion to the number of additional tenements that can be serviced by that piece of infrastructure (where applicable).

6.23 Conditions imposed by Council on planning permits for infrastructure contributions are to read principally as follows:

"The subdivider is to pay to the Council an infrastructure contribution of $XX per lot in the subdivision, with such payment being made prior to the sealing of the final plan."

6.24 Notwithstanding the above draft condition, developers can be given the opportunity to make an agreement with Council to allow payment at some other time.

6.25 The Charges under this Policy are to be indexed to the Hobart CPI and rounded to the nearest $5, calculated at the time of payment.

6.26 Lots may be excluded from an Area at the discretion of Council.

7. PAYMENT:

7.1 Payment of the Charge shall be made as follows unless otherwise authorised by the General Manager:

(a) Subdivision - prior to the sealing of the subdivision plans;

(b) Strata Scheme - prior to the issue of the Certificate of Approval; and

(c) Intensified Use - prior to the commencement of the intensified use.

8. ROLES & RESPONSIBILITIES

8.1 Councillors are to:

(a) ensure the Policy is applied consistently; and

(b) ensure this policy is utilised only for development that aligns to endorsed strategies and plans and that has significant long-term community benefits;

8.2 Senior Management Team is to:

(a) ensure the Policy is applied consistently.

(b) recommend additions or revisions to this policy.

8.3 Asset Services & Development Services is to:

(a) ensure this policy is reflected in relevant Development Applications and Planning Permit conditions.

9. REFERENCES:

Local Government Act 1993

Local Government (Building and Miscellaneous Provisions) Act 1993

Local Government (Highways) Act 1982

Land Use Planning and Approvals Act 1993

Urban Drainage Act 2013

Water and Sewerage Industry Act 2008

Strategic Plan 2023-2033

Brighton Structure Plan 2012

Brighton Town Centre Local Area Plan 2012

Asset Management Plans

Long Term Financial Management Strategy

Long Term Financial Management Plan

ADMINISTRATIVE DETAILS:

Policy compiled:	September 2018
Adopted by Council:	18/09/2018; 21/02/2023; 15/10/2024
Reviewed:	October 2024
To be reviewed:	October 2028
Responsibility:	Director Development Services

CHIEF EXECUTIVE OFFICER
Being the General Manager as appointed by Brighton Council
pursuant to Section 61 of the *Local Government Act 1993*

Tasmanian Planning Scheme - Brighton
Amendment RZ 2024/05
Instrument of Certification

The Brighton Council Planning Authority resolved at its meeting held on 17 December 2024 that Amendment RZ2024/05 of the *Tasmanian Planning Scheme - Brighton* meets the requirements specified in Section 34 of the *Land Use Planning and Approvals Act 1993*.

The common seal of the Brighton Council is affixed below, pursuant to the Council resolution of 16 May 2006 in the presence of:

Chief Executive Officer

Date:

AMENDMENT TO THE PLANNING SCHEME ORDINANCE

Amend clauses BRI-S12.7.1 P1.2 and BRI-S12.8.1 P2.2 of the BRI-S12.0 Burrows Avenue Specific Area Plan as follows:

BRI-S12.7.1 Infrastructure provision for multiple dwellings

This clause is in addition to General Residential Zone – Clause 8.4 Development Standards for Dwellings

Objective:	That: (a) multiple dwelling development delivers sufficient council infrastructure to provide for road and pedestrian network connectivity and amenity; and (b) developer contributions are made towards the cost and provision of council infrastructure in accordance with the relevant policy adopted by council

Acceptable Solutions	Performance Criteria
A1 No Acceptable Solution	P1.1 Council infrastructure must be provided or upgraded as required, having regard to: (a) the demand that the development places on council infrastructure; (b) any existing council infrastructure; (c) the topography and other site conditions; and

	(d) any advice from a State authority, regulated entity or council P1.2 For council infrastructure that has been provided by council, an infrastructure contribution must be paid, having regard to Council's adopted Infrastructure Contributions Policy as amended or replaced from time to time relevant to the land.

BRI-S12.8.1 Subdivision - Precinct A

This clause is in substitution for General Residential Zone - Clauses 8.6.1 Lot design A1 and P1; and 8.6.1 A4 and P4.

Objective:	That subdivision within Precinct A provides for consistency with the purpose of the specific area plan and the development framework.

Acceptable Solutions	Performance Criteria
A2 No Acceptable Solution.	P2.1 Council infrastructure must be provided or upgraded as required, having regard to: (a) the demand that the development places on council infrastructure; (b) any existing council infrastructure; (c) the topography and other site conditions; and (d) any advice from a State authority, regulated entity or council P2.2 For council infrastructure that has been provided by council, an infrastructure contribution must be paid, having regard to Council's adopted Infrastructure Contributions Policy as amended or replaced from time to time relevant to the land.

Brighton Council

POLICY NAME: **INFRASTRUCTURE CONTRIBUTIONS**

POLICY No: **1.7**

1. PURPOSE:

1.1. The purpose of this *"Infrastructure Contributions Policy'* **('Policy')** is to set guidelines by which Brighton Council **('Council')** can make key infrastructure investments. Council will recoup these investments via the imposition of a charge on the creation of new lots or the intensification of land that benefits directly from these investments.

2. SCOPE:

2.1 This policy applies only to the Areas of land identified in the addendums to this Policy on the day following its adoption, as well as the Areas identified by all future addendums adopted by Council and forming part of this Policy.

3. COMMENCEMENT:

3.1 This Policy will apply from the day immediately following its adoption by Council.

4. DEFINITIONS:

Area	The geographical location within Council's municipal area to which each addendum to the Policy apply.
Equivalent Tenement	A calculation of the real effect of the load or demand on infrastructure for a particular use as a proportion of a typical dwelling.
Development	The meaning provided for within the *Land Use Planning and Approvals Act* 1993 or any other matter requiring a permit under that act.
Lot	Each individual area of land created by the subdivision of a parent title or strata scheme.
Investment	The monetary contribution made by Council towards the specific piece of infrastructure to which the Charge is to be applied.
Tenement	A single detached dwelling / residence.
Tenement capacity	The number of Tenements able to be serviced by an individual infrastructure investment when fully utilised.
Charge	The proportion of Council's investment to be recouped.

5. OBJECTIVE:

5.1 To ensure that strategically appropriate development is not unduly hindered by a lack of critical infrastructure or inhibitive upfront costs via the assistance of Council in investing in this infrastructure. Council will seek to recoup its investment as the development of land benefitting from that investment occurs.

5.2 Investments made by Council will:

(a) ensure that services and infrastructure are provided in a sustainable and coordinated manner, with the appropriate levels of service to residents, visitors and the environment;

(b) ensure a more equitable system for infrastructure costs for land development;

(c) ensure that fair and orderly development in accordance with endorsed strategies and plans can occur in the most efficient manner;

(d) ensure legislative requirements for provision of infrastructure and for infrastructure-related charges are met;

(e) ensure operational processes are identified and responsibility for administering this policy is allocated; and

(f) demonstrate transparent and responsible support for key infrastructure.

6. POLICY:

Introduction

6.1 Council is committed to facilitating strategic development that aligns with its endorsed strategies and plans. Council recognises that substantial up front infrastructure costs can often lead to ad hoc and inefficient development, or stifle development all together.

6.2 It is particularly difficult to ensure that efficient long-term infrastructure is installed, when there is multiple land owners who share the benefits but not the costs of the construction of that infrastructure.

6.3 Council as an intermediary can play a role in removing this blockage by in ensuring that infrastructure costs associated with growth are equitably carried by the beneficiaries.

Background

6.4 The situation often arises where the first to undertake development must incur major costs for critical infrastructure that then benefit all subsequent developers within that area. This is called the “first mover” problem and it can be a significant barrier to achieving strategic development outcomes.

6.5 The issue is more prevalent for infill development projects where land has recently been “upzoned” and there are multiple property owners. This can also result in development occurring in an ad-hoc manner that creates undesirable and inefficient outcomes.

6.6 Council can fill this void by acting as an intermediary and provide an investment in the upfront contribution to these infrastructure costs, or collect contributions to provide a coordinated approach to infrastructure delivery.

6.7 This policy will generally be applied to infrastructure that is the responsibility of Council, such as roads, bridges, stormwater, open space and the like. There may

be occasions where Council act as an intermediary to collect funds for other infrastructure authorities such as TasWater, TasNetworks, etc.

6.8 This proactive approach by Council in the investment in infrastructure is likely to encourage development to occur in line with Council's strategies and plans and be in a more efficient and equitable manner.

6.9 This Policy is consistent with and supports Council's Strategic Plan. The Policy specifically supports the Strategic Plan in that it can be harnessed to ensure Brighton's preferred future will have:

(a) a sustainable natural and built environment;

(b) infrastructure maintained at an appropriate level;

(c) a better image as a place where people want to live;

(d) an appropriate, affordable and accessible transport system; and

(e) practical and effective land use strategies.

6.10 A strategic approach to infrastructure investment and land use development will ensure that the Council delivers the highest appropriate opportunities for growth, whilst ensuring efficiency and amenity.

Principles

6.11 Council is not obliged to make infrastructure investments outside their normal responsibilities.

6.12 Council may consider investing in infrastructure where it is of the opinion there is a strong long-term benefit to the municipality and its community.

6.13 All relevant legislative requirements together with political, social and economic environments are to be taken into account when deciding to invest in infrastructure and recoup this investment via the imposition of a Charge on the benefitting land.

6.14 Any investments are to be consistent with Council's strategies, land use planning strategies and plans.

6.15 Investment agreements are to be appropriately structured so as to ensure that the relevant infrastructure will be completed to a satisfactory standard.

6.16 Charges for the recovery of Council's investment are to be calculated by reference to the total estimated benefit to an Area resulting from the infrastructure investment and is to be calculated by reference to the total sum of that investment, divided by the estimated number of Tenements that will ultimately share in the benefit of the investment.

Application

6.17 In applying the principles of this Policy to the individual investments made by Council, addendums to this Policy are to be made (**'Addendums'**). On adoption of these Addendums by Council, they are to be read as being part of this Policy.

6.18 The Addendums are to include the following detail:

(a) a description of the specific infrastructure invested in by Council;

(b) the Area of land to which the Policy has application;

(c) the initial Investment made by Council;

(d) the financial year in which the Investment was made;

(e) the Equivalent Tenement of additional capacity supported by the specific investment and infrastructure (if applicable);

(f) the formula by which the Charge is to be calculated and applied;

(g) the design assumptions and standards of the infrastructure invested in; and

(h) the equivalence factors to be applied for the relevant uses of the land and to be applied in calculating the Charge.

6.19 The infrastructure investments of Council may include but are not limited to the following general areas:

(a) roads and other transport;

(b) public open space and recreation infrastructure;

(c) stormwater drainage;

(d) carparking; or

(e) social infrastructure.(e.g. buildings for youth hubs, social services, etc.)

6.20 Under each Addendum, the sum of Council's investment in the infrastructure is to be calculated and indexed to account for the Hobart CPI increase each financial year.

6.21 Equivalent tenement factors are to be calculated by applying industry guidelines and actual data.

6.22 The calculation of each Charge is to be based on the recovery of the total amount of Council's investment as a proportion to the number of additional tenements that can be serviced by that piece of infrastructure (where applicable).

6.23 Conditions imposed by Council on planning permits for infrastructure contributions are to read principally as follows:

"The subdivider is to pay to the Council an infrastructure contribution of $XX per lot in the subdivision, with such payment being made prior to the sealing of the final plan."

6.24 Notwithstanding the above draft condition, developers can be given the opportunity to make an agreement with Council to allow payment at some other time.

6.25 The Charges under this Policy are to be indexed to the Hobart CPI and rounded to the nearest $5, calculated at the time of payment.

6.26 Lots may be excluded from an Area at the discretion of Council.

7. PAYMENT:

7.1 Payment of the Charge shall be made as follows unless otherwise authorised by the General Manager:

(a) Subdivision - prior to the sealing of the subdivision plans;

(b) Strata Scheme - prior to the issue of the Certificate of Approval; and

(c) Intensified Use - prior to the commencement of the intensified use.

8. ROLES & RESPONSIBILITIES

8.1 Councillors are to:

(a) ensure the Policy is applied consistently; and

(b) ensure this policy is utilised only for development that aligns to endorsed strategies and plans and that has significant long-term community benefits;

8.2 Senior Management Team is to:

(a) ensure the Policy is applied consistently.

(b) recommend additions or revisions to this policy.

8.3 Asset Services & Development Services is to:

(a) ensure this policy is reflected in relevant Development Applications and Planning Permit conditions.

9. REFERENCES:

Local Government Act 1993

Local Government (Building and Miscellaneous Provisions) Act 1993

Local Government (Highways) Act 1982

Land Use Planning and Approvals Act 1993

Urban Drainage Act 2013

Water and Sewerage Industry Act 2008

Strategic Plan 2023-2033

Brighton Structure Plan 2012

Brighton Town Centre Local Area Plan 2012

Asset Management Plans

Long Term Financial Management Strategy

Long Term Financial Management Plan

ADMINISTRATIVE DETAILS:

Policy compiled:	September 2018
Adopted by Council:	18/09/2018; 21/02/2023; 15/10/2024
Reviewed:	October 2024
To be reviewed:	October 2028
Responsibility:	Director Development Services

CHIEF EXECUTIVE OFFICER
Being the General Manager as appointed by Brighton Council
pursuant to Section 61 of the *Local Government Act 1993*

We, the undersigned residents of Bridgewater, strongly oppose the proposed rezoning of Cobbs Road from rural-residential
to residential. This development threatens the unique character of our neighbourhood by replacing spacious rural blocks with 280 high-density residential lots as small as 450 sqm. Our community values the quiet, semi-rural environment that makes this area special. It provides a much-needed contrast to suburban development and fosters a diverse mix of residents who appreciate the space, peace, and lifestyle it offers. This rezoning will not only destroy this balance but also place undue strain on local infrastructure, increase traffic congestion, and erode the very qualities that make this area desirable.
While we acknowledge the removal of the proposed through-road into Tranquillity Crescent, we do not believe this change addresses the broader concerns. High-density housing in this location is incompatible with the community's identity and long-term interests.
We respectfully urge the Brighton Council to reject this rezoning proposal in favour of preserving the integrity, character, and liveability of our community

Name	Address	Signature	Identify as Aboriginal (optional)
Dale Ward	13 Cobbe hill Rd		N
Brad Johnson	28 cobbs Hill Rd		Y
Iris Hope	28 Cobbs Hill, Rd		N
Jodi Gough	24 Cobbs Hill Rd		N
Sonya Wooley	26 Cobbs Hill Rd		N
Rhonda Spink	22 COBBS Hill Rd		N
Tony Spink	22 COBBS HILL RD		
Tania Keates	20 Cobbs Hill Rd.		

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STUART LENNARD	8A COBBS HILL RD		N
Matt Hay	12 Cobbs Hill RD		N
Lee Archer	38 Cobbs Hill Rd		Y
Amber, Bonifacio	85 Nunns Road 21 ~~Cobbs Hill~~	Bonifacio	N
Jason Lovell	8 Samuel St. Samuel St.		N
SHAUN HARRIS-SMITH	36 COBBS HILL ROAD	HARRIS-SMITH	N
KEN HUNT	36 COBB HILL Rd		N

24/11/2024

From: **pam harvey** <>
Date: Mon, 7 Oct 2024 at 13:51
Subject: Attention James Dryburgh,General Manager
To: <admin@brighton.tas.gov.au>

On behalf of the committee of The Quilter's Easter Showcase to be held on 12th April 2025 at the Community Centre I am asking once again for a waiver or part thereof of the hiring costs.

Due to your generousity and the work of our small committee last year we were able to pass on a cheque for $2000 to the Jordan River Foodbank which was much appreciated.We make nothing out of this event but it is welcomed by our quilting comrades from all over Tasmania who generously partake.

Thanking you in anticipation

Pam Harvey

0426 289892

--

Pam

Sorell Street Residential Masterplan

DRAFT

REALM studios

ACKNOWLEDGEMENT OF COUNTRY

As we develop conceptual thinking on lutruwita Aboriginal land, sea and waterways, we acknowledge, with deep respect the traditional owners of this land, the palawa people. The palawa people belong to the oldest continuing culture in the world. They cared for and protected Country for thousands of years. They knew this land, they lived on the land and they died on these lands. We honour them.

We pay our respects to elders past and present, to the many Aboriginal people that did not make elder status and to the Tasmanian Aboriginal community that continue to care for Country. We recognise a history of truth which acknowledges the impacts of invasion and colonisation upon Aboriginal people resulting in the genocide and forcible removal from their lands.

Our Island is deeply unique, with spectacular landscapes with our cities and towns surrounded by bushland, wilderness, mountain ranges and beaches. We stand for a future that profoundly respects and acknowledges Aboriginal perspectives, culture, language and history. And a continued effort to fight for Aboriginal justice and rights paving the way for a strong future.

PREPARED FOR

BRIGHTON CITY COUNCIL

October 2024

CONSULTANT TEAM

REALM studios

Hobart
L2, 89 Macquarie Street
Hobart TAS 7000
+61 4 31 454 492

Revision:	Status:	Date:	By:	Checked:
A	Draft Report	29/08/24	FD	AH
B	Draft Report	27/09/2024	FD	AH

CONTENTS


URBAN GROWTH BOUNDARY
INDUSTRIAL PARK
NORTH
NORTHERN CHRISTIAN SCHOOL
BOYER ROAD PRECINCT AREA
MIDLAND HIGHWAY
THE STUDY AREA
BRIDGEWATER HIGH SCHOOL
BRIDGEWATER BRIDGE MASTERPLAN AREA
BRIGHTON CIVIC CENTRE
NEW BRIDGEWATER BRIDGE
URBAN GROWTH BOUNDARY

1.1 **INTRODUCTION**
THE PROJECT'S PURPOSE

This report presents a masterplan for the sustainable delivery of one of Brighton's proposed residential growth areas. The project focuses on the rezoning of the Sorell Street Precinct (The Site). The Site consists of approximately 30ha of land, bordering Boyer Road, and Weily Park Road, and including part of Cobbs Hill Road and Samuel Street.

The proposed rezoning of the Sorell Street Precinct Site, seeks to create a transformative residential development opportunity. The project aims to provide well-serviced land with increased residential dwellings, located in proximity to public and active transport infrastructure along Old Main Road. This approach supports the vision of Bridgewater as a liveable and connected community. It will assist in reinforcing Bridgewater as a liveable and connected community.

The sites rezoning aligns with the settlement strategy of Greater Hobart and Brighton Council. The project has a broader purpose to help address the anticipated population growth and housing needs in Brighton that will continue to be spurred by developments such as the New Bridgewater Bridge Project and Brighton Industrial Park.

The project builds on existing planning initiatives, notably the Bridgewater Waterfront Master Plan, which encourages increased density and mixed-use development along Old Main Road. This proposal further complements the strategic assessments of the Brighton Structure Plan 2018 and aligns with infill development considerations outlined in the Southern Tasmanian Regional Land Use Strategy (STRLUS).

This opportunity aims to provide well-serviced land, close to public and active transport infrastructure, reinforcing the centre of Bridgewater as a liveable and connected community.

This Masterplan is made up of:

- Site analysis and background research findings
- Local context analysis
- Planning and design principles
- Plans and sections that detail the proposed Masterplan structure
- Suggested steps for implementing the Masterplan

Timeline

FEB 2023 — Background Site Investigations and Options Report

↓

AUG 2023 — Community and Stakeholder consultation

↓

SEP 2024 — Development of Draft Masterplan

↓

OCT 2024 — Draft Masterplan Community and Stakeholder consultation

↓

NOV 2024 — Feedback review and Masterplan refinement

↓

DEC 2024 — Final Masterplan

1.2 **CONTEXT**
REGIONAL AND STRATEGIC POSITIONING

Growth and Change in Greater Hobart

The Brighton Council area has experienced growth in recent years, emerging as one of the fastest-growing regions in the state. Key factors contributing to the area's growth have included demand for more affordable housing options and proximity to employment and schools.

Brighton's population growth is forecast to continue, with the population projected to grow to 27,068 by 2053. With a current trend of smaller household sizes (approximately 2.6 persons) this growth will require around 3000 additional dwellings to be built.

The area's continued growth will also require new local services and amenities to support the local community. The Brighton Council has been proactive in managing population growth and development to-date. However, challenges remain, including the need for delivering continued investment in infrastructure, public transport, and social services to support the population.

Moving from Rural to Urban

The anticipated population growth over the coming years will see parts of Brighton shift from their current rural / peri-urban form to more suburban areas.

The Sorell Street Precinct represents a natural extension of Brighton LGA's urban area. The site has been identified as a location for residential development at a local and regional level. It is located within the Greater Hobart Urban Growth Boundary (UGB) and is designated as an urban zoned area in the Southern Tasmanian Regional Land Use Strategy (STRLUS).

To the west of The Site is the Boyer Road Precinct which is also identified as a key Greenfield Development Precinct. In future it is expected to form a new suburb.

Responding to Crisis

Tasmania's housing crisis has intensified over recent years, driven by a combination of factors, including population growth, smaller average household sizes, supply constraints. This demand has pushed property prices to record highs, making home-ownership increasingly unattainable for many Tasmanians. Overall, the housing crisis is particularly acute due to the state's small population and limited housing stock.

With its location in proximity to jobs, services and future transport, the Sorell Street Precinct is well-placed to help address Hobart's housing shortage. Its development aligns with the Greater Hobart Plan The plan and emphasises increasing housing diversity through medium-density typologies. There is a focus on urban consolidation and infill development rather than expanding into greenfield areas (70:30 split between infill and greenfield).

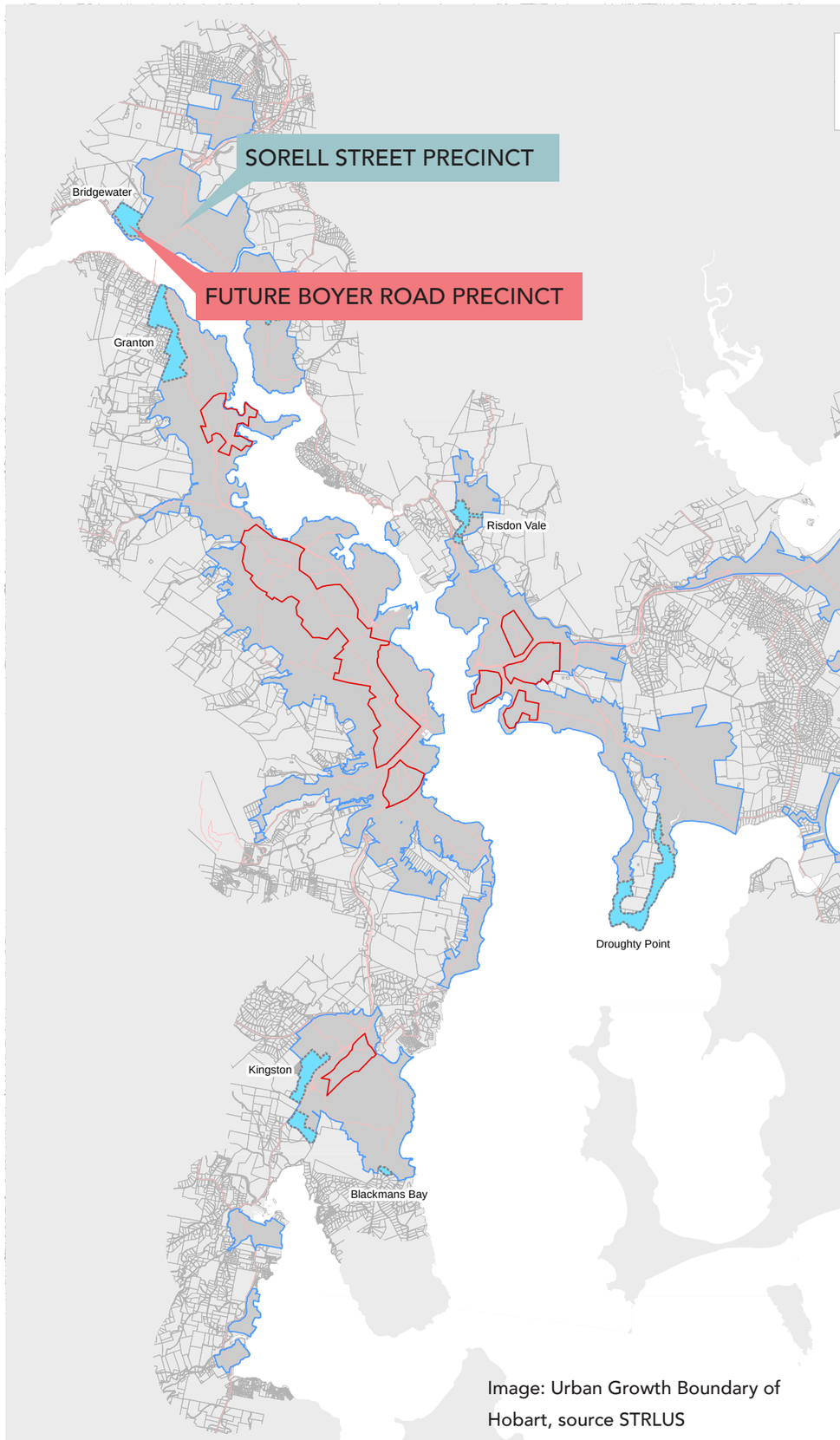


Image: Urban Growth Boundary of Hobart, source STRLUS

1.3 **ENGAGEMENT**
WHAT WE HEARD

A first round of community consultation was undertaken in July - August 2024. The general community was invited to provide feedback on three draft masterplan options for the site. Feedback was collected through a public workshop held on Wednesday 31st July and through written submissions.

Key infrastructure stakeholders were also contacted to provide feedback on the draft masterplan options.

Community feedback

Preferred ideas the community expressed support for:

- Street improvements with safe footpaths. Also a need for lighting in the area to encourage walking and improve safety at night.
- Increased street trees and greening.
- New community park and open space corridor along the Ashburton Creek.
- Protection of wildlife corridors and waterways from development.
- Protection of Aboriginal heritage.

Ideas that the community expressed mixed or negative support for:

- A number of residents of Tranquility Crescent and Serenity Drive expressed concern around the development. Particularly the impact on the amenity enjoyed by larger lifestyle lots in the area and impacts of a potential road connection of Tranquility Crescent and Samuel Street. Also concerns were raised around any removal of existing gum trees in the easement.
- Some community voiced concern around increased noise pollution and traffic that will impact the areas character.
- There was some concern around any potential development happening during the construction of the New Bridgewater Bridge (noting that the project is not anticipated to intersect with the Bridgewater Bridge works).

Infrastructure Provider feedback

Department of State Growth

- Support for improved pedestrian infrastructure to provide access to future bus stops planned as part of the Bridgewater Bridge Project.
- Option 1 layout preferred as road network provides passive surveillance to the open space and shared path network.

Tas Rail

- TasRail will not permit the proposed pedestrian link (or any type of recreational pathway) to be located with a rail corridor.
- Any pedestrian link (or other type of recreational pathway) proposed to be built on land adjoining a rail corridor will need to be subject to a comprehensive risk assessment designed to control and eliminate/mitigate risk. Based on experience elsewhere in the State, an outcome of the risk assessment will likely require a robust physical barrier to separate the in-compatible activity from the operational railway. Typically this will be a robust fence that cannot be climbed or cut.

1.4 **ANALYSIS**
OPPORTUNITIES + CHALLENGES

Site analysis undertaken of the Sorell Street Precinct revealed a number of opportunities and challenges for the Masterplan design. Managing these challenges requires a holistic approach, including an understanding of hydrology, land use planning and user requirements.

Topography and Aspect

The site is sloping with the highest points (40m) in the north and north east, sloping down towards Ashburton Creek (0-5m) in the south. The aspect of the site is largely south / south east with sweeping views of Mount Faulkner and kunanyi / Mt Wellington visible from Cobbs Hill Road and Samuel Street. The slopes move down to an area of flat, low lying ground along Sorell Street which is home to a freshwater wetland fed by Ashburton Creek. These low lying areas play a key role, dealing with runoff from the surrounding catchment.

The natural lines of Ashburton Creek and an unnamed tributary (from Weily Park Road) bisect the site with the Creek entering the area from the north, flowing under Cobbs Hill Road and down towards the River Derwent.

There is opportunity to respect the sites topography and ensure that development does not encroach upon the creek lines and ridgelines.

Aboriginal Heritage

An Aboriginal Heritage assessment of the site was undertaken by CHMA Pty Ltd and Rocky Sainty. Results of the field assessment were the recording of one Aboriginal Heritage Site. The recommendations of the assessment are mapped and outlined below.

Recommendation 1 - Location of the artefact to the west of the Creek.

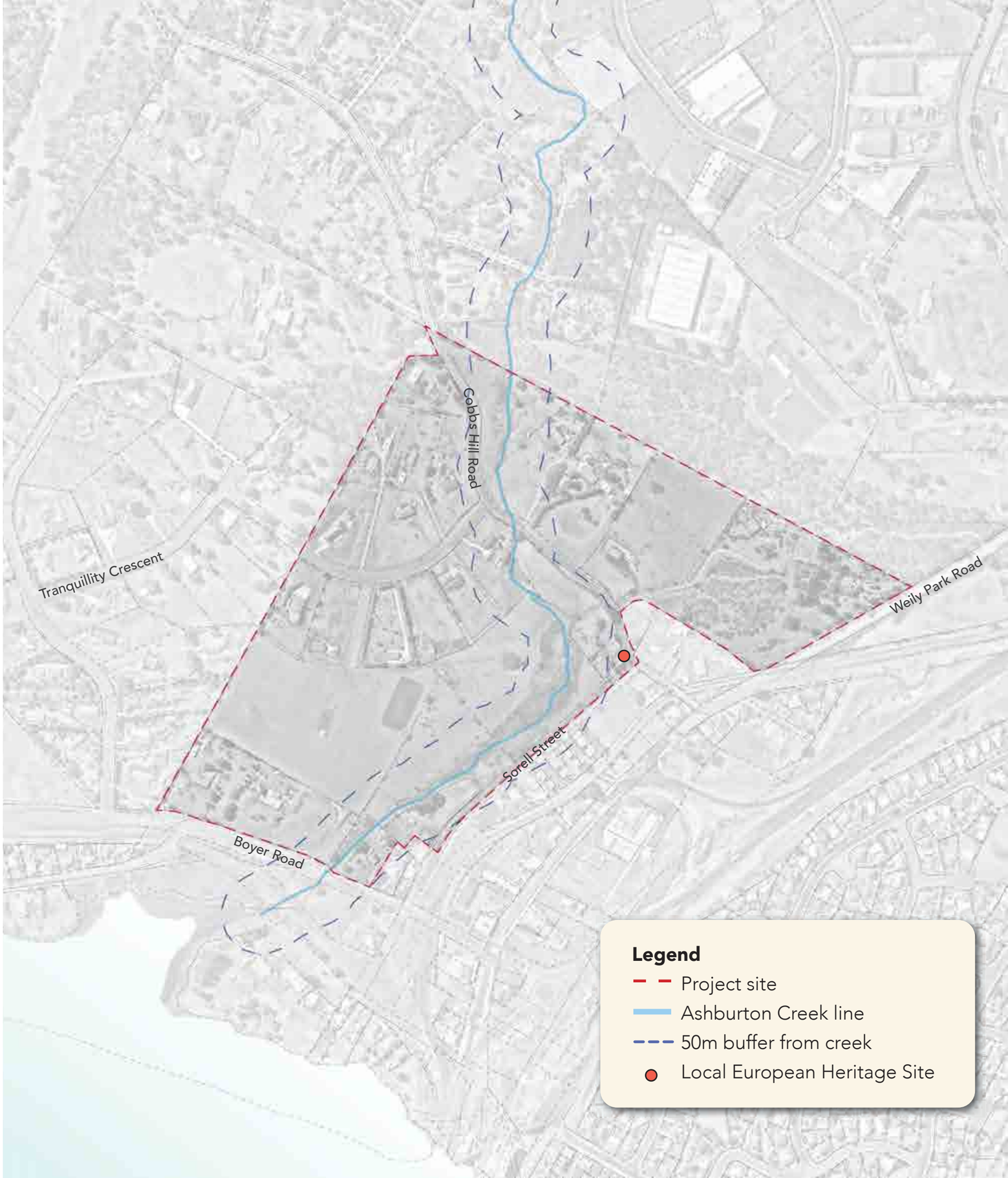
- Prior to any works commencing in this area, temporary high visibility protective barricading is to be erected around the identified boundaries of the site with a 5m buffer applied. There must be no soil disturbance within the barricaded zone.

Recommendation 2 - Ashburton Creek

- Ashburton Creek has been identified as a having an increased potential for undetected Aboriginal sites to occur along the margins of this creek. A preferred management option is to conserve the riparian margin (50m buffer) in open space. Any soil disturbances should be kept to a minimum.

Eurpoean Heritage

There is one site within the study covered by the Local Historical Heritage Code, Cottage - 25 Sorell Street



Hydrology

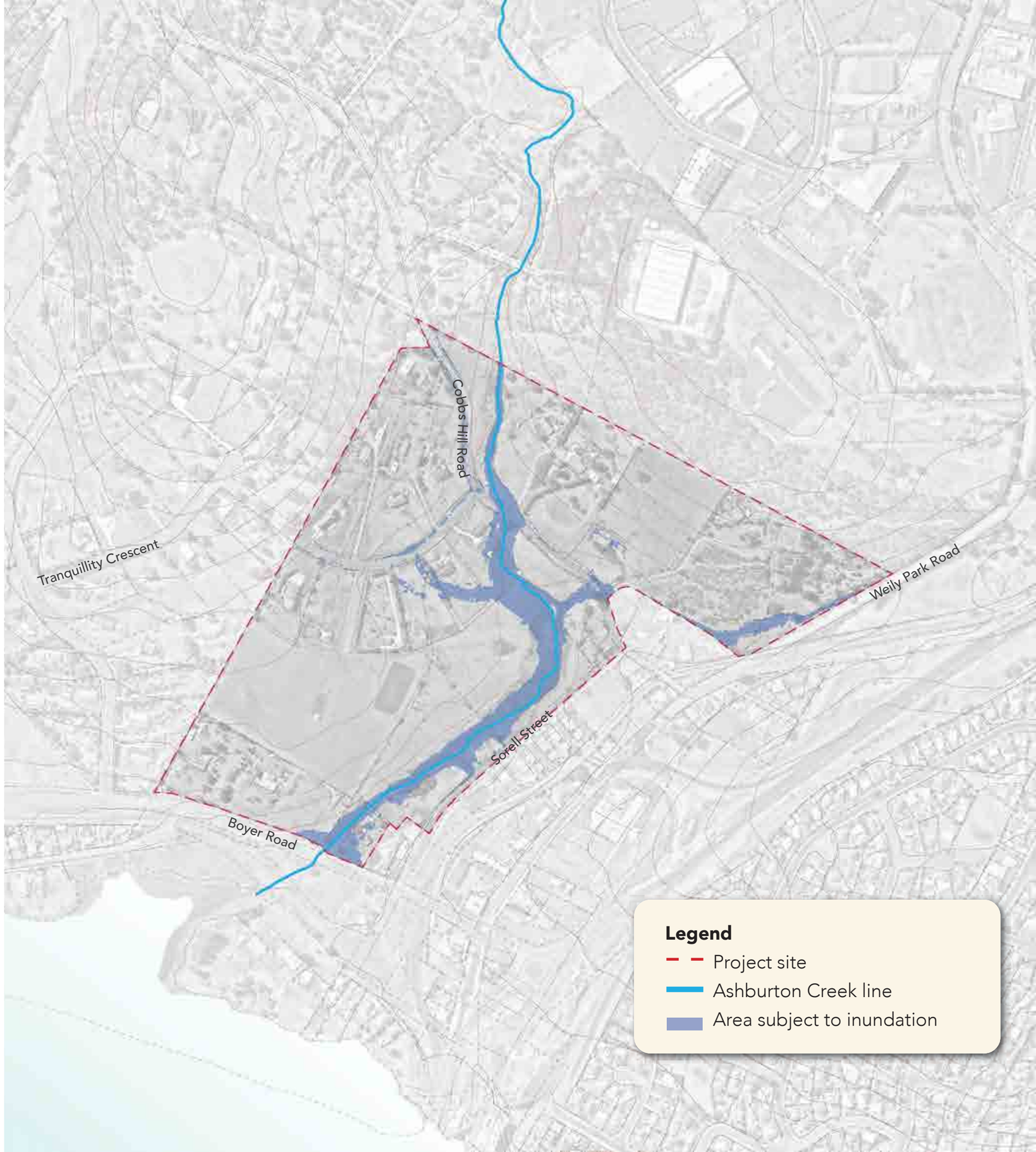
The Ashburton Creek and an unnamed tributary (from Weily Park Road) bisect the site from the north and east, flowing under Cobbs Hill Road and down towards the River Derwent.

The catchment area of the creek is large, encompassing 315ha. Areas of flatter terrain allow for freshwater wetlands fed by the Creek in the north and south. These wetland areas play a key role, dealing with runoff from the surrounding catchment.

Flood modelling indicates a significant portion of the site around Ashburton Creek is subject to inundation. There is potential to increase detention requirements from the industrial precinct in the north and/or convert part of the creek into a wider channel. However the benefit of these strategies may not be viable due to earthworks and civil requirements.

Due to degradation of the Creek from agriculture there is a key opportunity to improve the quality of the water corridors through the site and their flows into the Derwent.

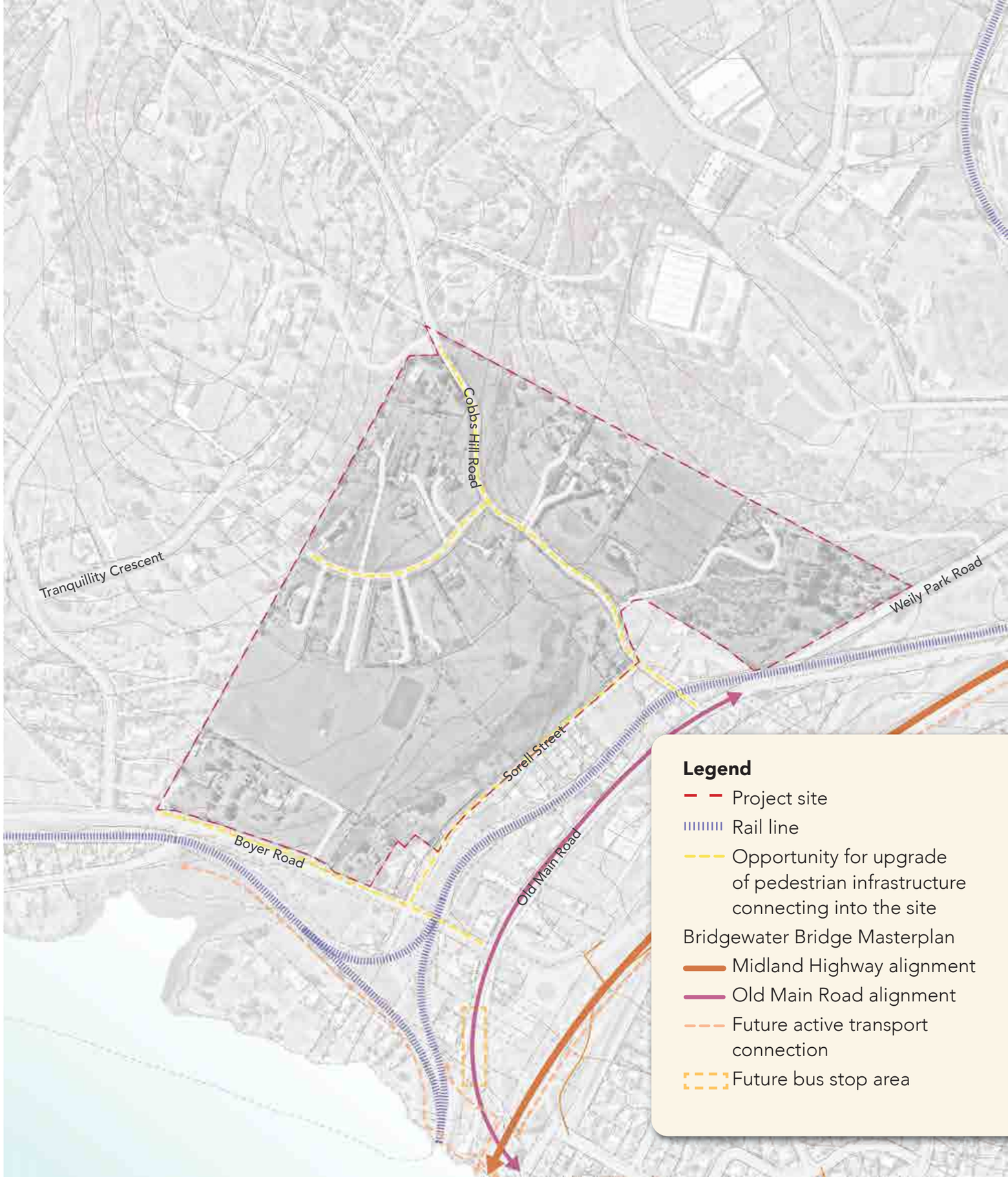
Approximate project area subject to inundation - 30,491m2



Movement and Access

The site well connected, it is in close proximity to Old Main Road and the Midland Highway which provides access to Hobart and beyond. The area is accessed from Old Main Road via Boyer Road in the south and Sorell Street and Cobbs Hill Rd in the south east and north. Some challenges and opportunities relating to site access include:

- TIA assessment by Hubble identified that the additional vehicle trips resulting from rezoning the land to general residential can be accommodated within the surrounding road networks.
- There are opportunities to connect the site into the future active and public transport network proposed in the New Bridgewater Bridge and Bridgewater Waterfront Masterplan.
- The slope of the site along Boyer Rd is steep and poses a challenge for vehicle access.
- There is opportunity to create pedestrian linkages and open space along Ashburton Creek for active transport use.

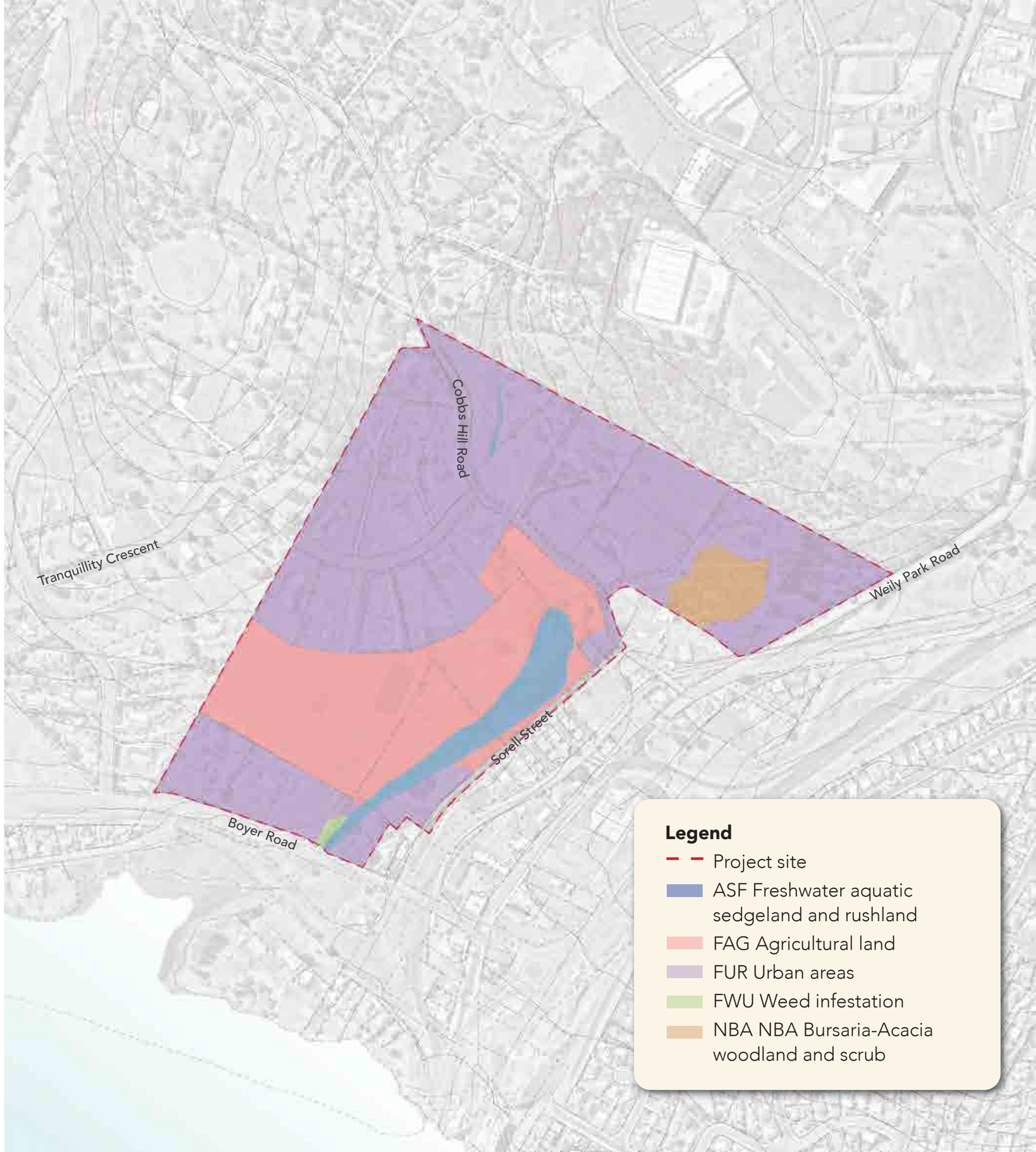


Ecology and Natural Values

The site is identified to contain natural values, detailed in the natural values report by North Barker. Vegetation communities identified on the site include ASF freshwater aquatic sedge land and rushland which is a state-listed threatened community.

Opportunities and challenges for rezoning the site include:

- To protect the natural values on the site there is opportunity to rezone the Ashburton Creek corridor and areas of threatened vegetation to Landscape Conservation Zone or Environmental Management Zone. Rezoning should incorporate areas of ASF and consider the extent of the waterway and coastal protection areas.
- Need to minimise erosion and sedimentation impacts and stormwater runoff impacts from any future development adjacent to the Creek.
- Opportunity for restoration of riparian and saltmarsh habitats to improve ecological conditions and provide linkages between the Derwent River to the south and the wetlands of the creek and riparian scrub to the north.



Utilities and Servicing

The site is fully serviced by water and sewer mains. No major constraints have been identified that would significantly inhibit any development of the land.

A portion of the site to the north east is partially covered by the Electricity Transmission Infrastructure Protection Code due to a substation facility buffer area from the adjacent Tas Networks land.

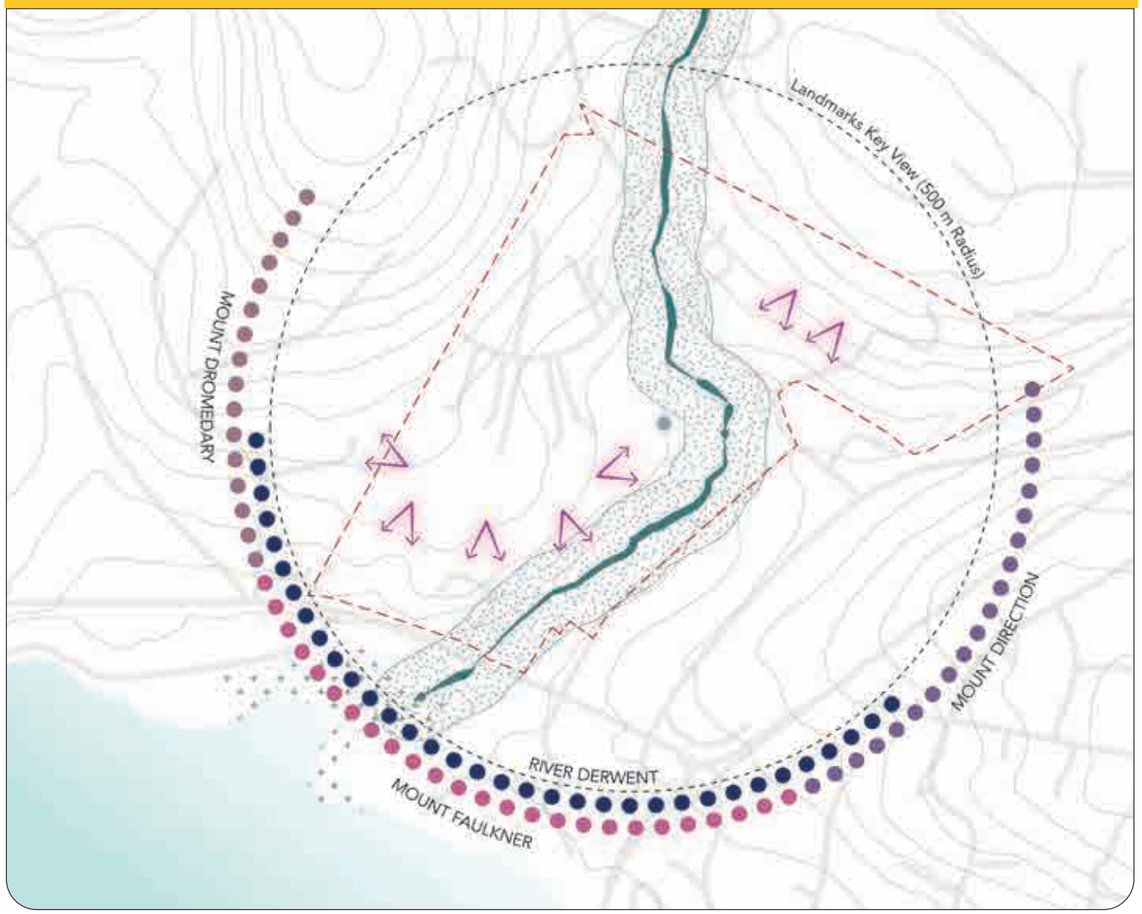
02 The Masterplan

2.1 **PRINCIPLES**
A WAY FORWARD

A series of principles has been developed to guide the masterplan development for the site, which consider the sites key features and constraints. The principles are intended to drive the best possible outcomes for future rezoning and the development of the site.

By integrating the following principles, Bridgewater will be resilient, livable, and sustainable for the growing community and future generations.

Principle1: Sensitivity to Site Context

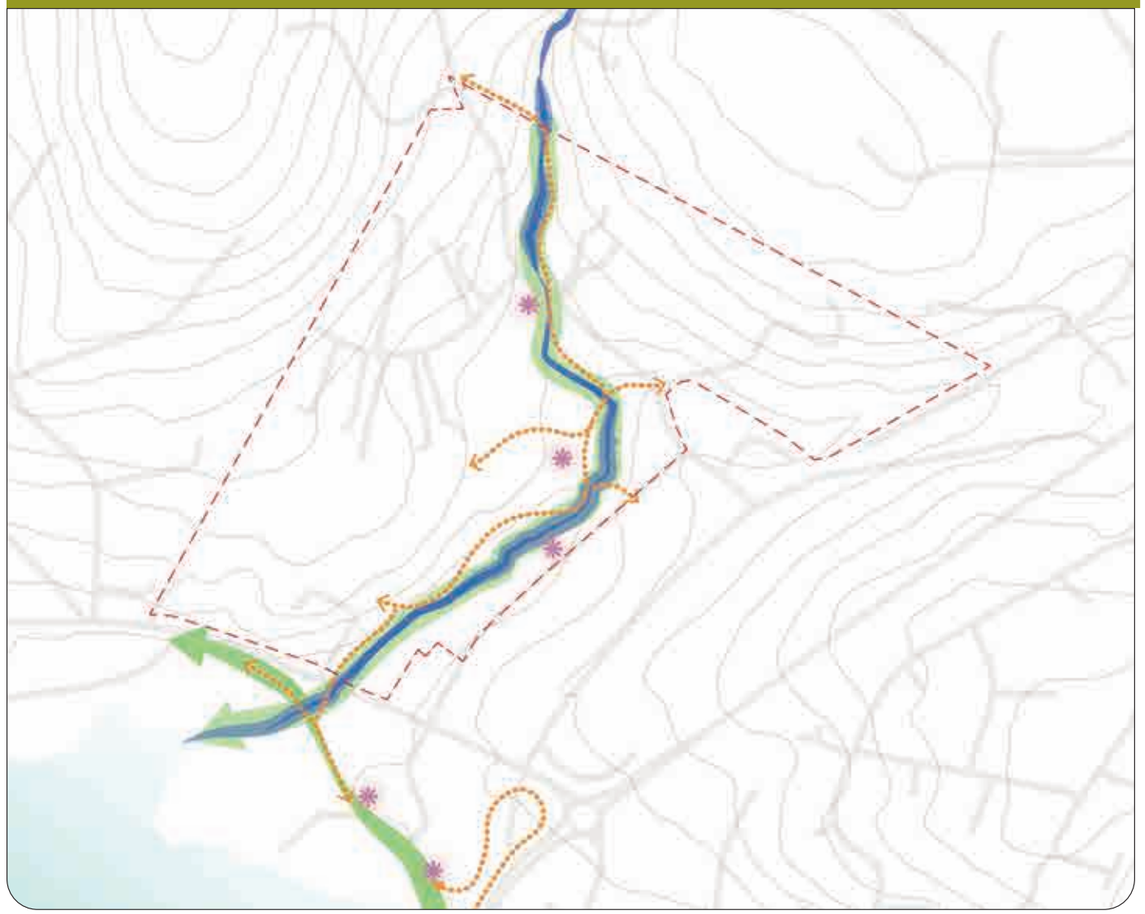


- Maintain views and visual linkages towards surrounding natural landmarks.
- Limit development intensity and encourage larger lot sizes towards the higher areas to maintain natural/rural character.
- Orient blocks to preserve site topography, allow for overland flows, and drainage to maintain wetland ecosystems.
- Preserve Aboriginal heritage on the site, and ensure creek connection is preserved and enhanced as a connection to Country.
- Preserve and enhance the Ashburton Creek's vegetation and ecology.

Principle 2: Accessible and Connected

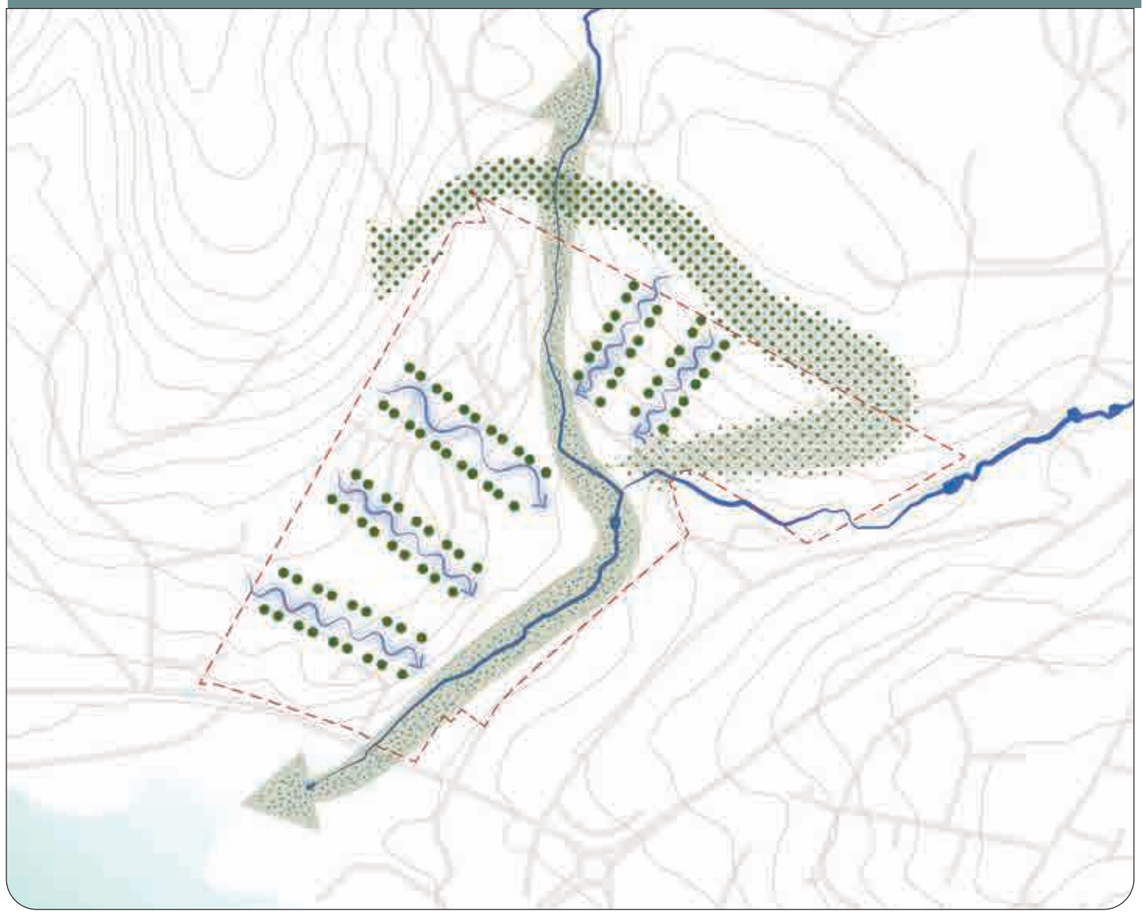
- Ensure access from the existing road network provides a safe and connected street network which avoids no-through roads and cul-de-sacs.
- Prioritise pedestrian access along the Creek and open space, and provide convenient connections to surrounding residential areas.
- Connect the new open space along Ashburton Creek to the Derwent River foreshore open space and trails proposed in the Bridgewater Bridge Masterplan.
- Ensure local streets within the site are traffic calmed and provided with safe footpaths, lighting (where appropriate) and street greening.

Principle 3: Healthy Neighbourhood



- Enhance the precinct's local identity by defining key moments along the Ashburton Creek Corridor for community amenities such as seating, play and exercise equipment.
- Ensure all new development has safe pedestrian accessibility to public open space.
- Provide moments of pause and play along the stream that contribute to health, recreational, educational, and cultural benefits.
- Encourage social opportunities by integrating an active recreation zone, and shared paths that connect to the open space along the Derwent River.

Principle 4: Restoring Green and Blue Ecology



- Enhance biodiversity by protecting the Ashburton Creek corridor as a biolinkage.
- Preserve and rehabilitate the Ashburton Creek with re-vegetation to restore natural hydro-processes and ecological processes of the wetlands and sedgelands.
- Provide street tree canopies and green verges to reduce heat and provide shade alongside all new roadways and footpaths.
- Ensure weed reduction and mitigation in all new development and in the open spaces.
- Integrate new bioretention areas along streets and public spaces, improving the transition between public and private spaces as well as reducing the dominance of grey infrastructure.

2.2 **MASTERPLAN**
A CONSIDERED APPROACH FOR RESIDENTIAL INFILL

The Sorell Street Residential Masterplan identifies a high-level plan for the site to inform future re-zoning.

Importantly it identifies the necessary community amenities, such as footpaths and public open space that are inclusive and contribute to the social and ecological harmony of the area. The Masterplan takes into consideration:

- A 5% public open space contribution to widen the creek corridor for community recreation and walking and cycling connections.
- Road frontage onto the public open space for improved safety, access and passive surveillance.
- A proposed road network utilising existing access and delivering lot legibility and feasibility.

SKETCH PLAN (1:5000 @ A3)

This plan has been prepared for demonstration purposes only.

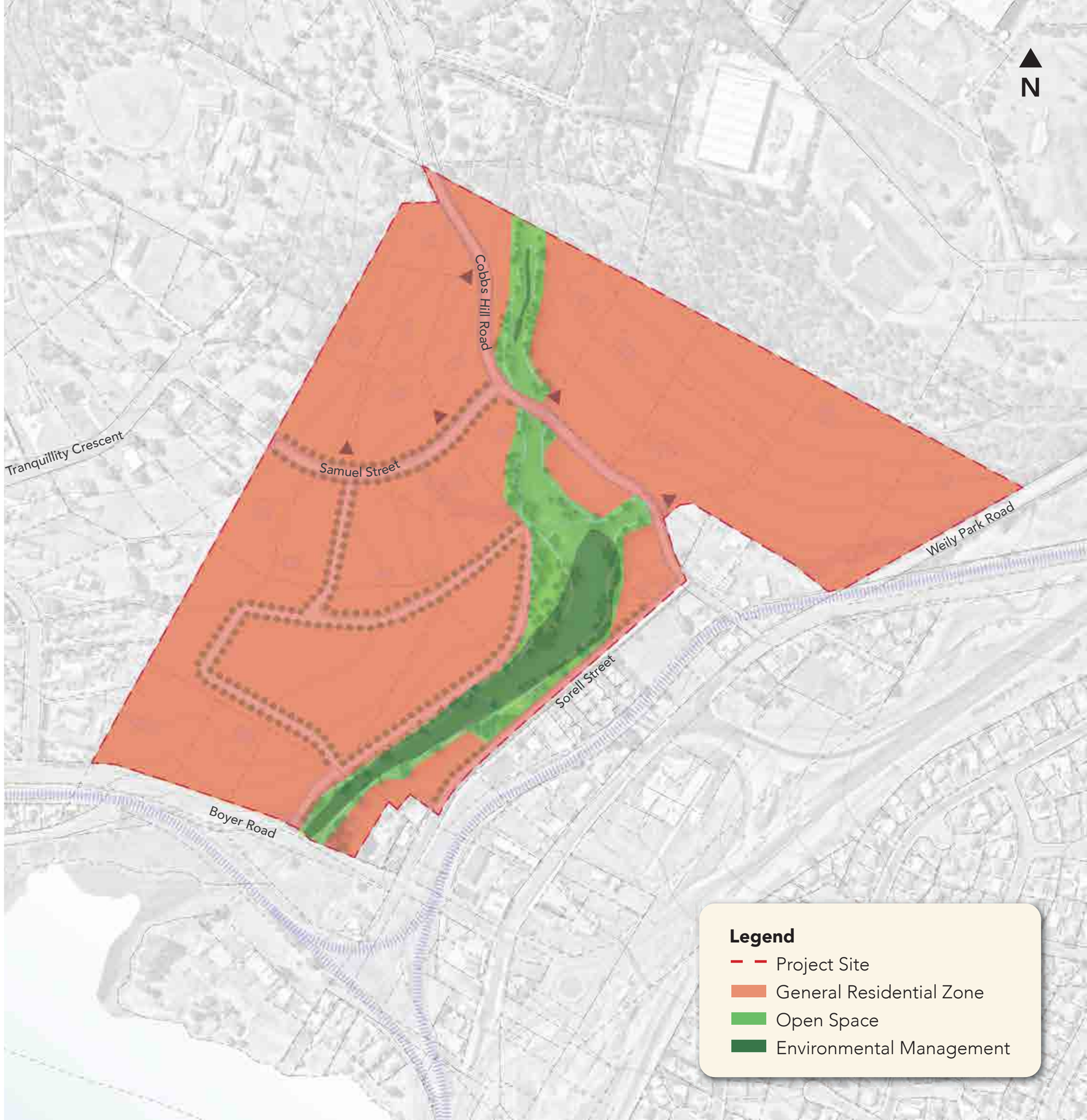
The proposed masterplan seeks to create a precinct that has high community amenity, and is supported by a connected public green space along the Ashburton Creek that retains and supports wildlife, cultural heritage, recreation, the movement of people and stormwater management.

2.3 **ZONING**
FACILITATING SYMPATHETIC DEVELOPMENT

The Sorell Street Precinct Masterplan identifies a high-level future plan for the site.

The zoning layout seeks to uphold the four principles of sensitivity to site context, accessible and connected, healthy neighbourhoods, and restoring green and blue ecology.

A priority for future development within the site will be to protect and retain the Creek corridor as a place of biodiversity and heritage. Future development will also provide community amenities, such as footpaths and open space facilities that are inclusive and contribute to the social and ecological harmony of the area.



SKETCH PLAN (1:5000 @ A3)

This plan has been prepared for demonstration purposes only.

03 Design Recommendations

3.1 **STREETS**
A SAFE STREET HIERARCHY FOR ALL

A well-planned street hierarchy will facilitate traffic flow, enhance safety, and improve the overall functionality of the site and its connections to the local area and region.

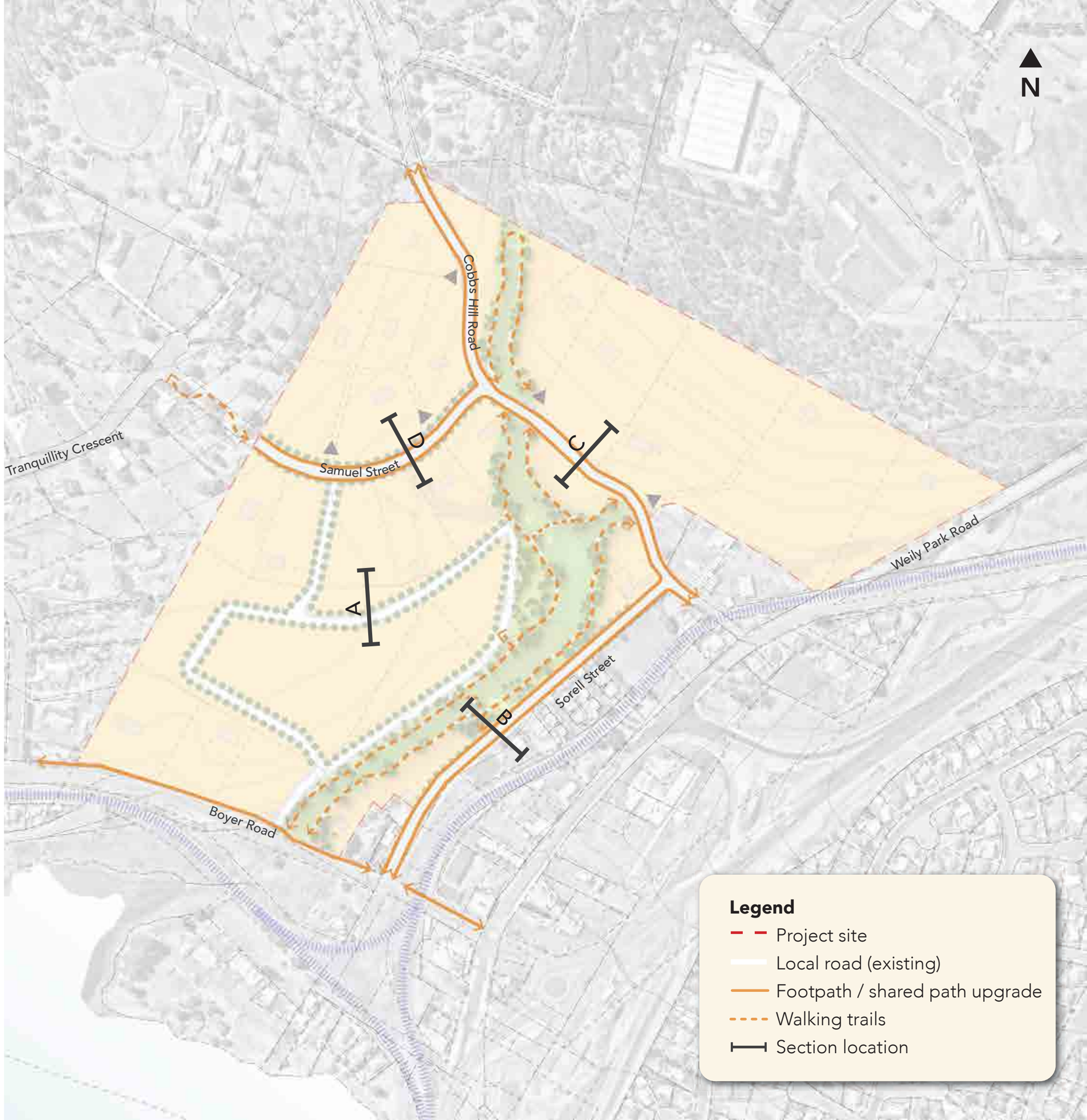
The local road network should focus on efficient movement, minimises congestion, and safe, accessible routes for all users. Future developments should avoid the creation of cul-de-sac's and no through roads. By planning for an additional site access point from Boyer Road, the street network will ensure efficient movement and access and reduce impact on the Cobbs Hill Road and Main Road intersection.

Shared paths and walking trails will support the street network making walking and cycling a enjoyable way of getting around locally.

This structured approach helps balance the needs of pedestrians, cyclists, and vehicles, contributing to a more livable and connected community where people can move easily and safely throughout their neighbourhoods.

SKETCH PLAN (1:5000 @ A3)

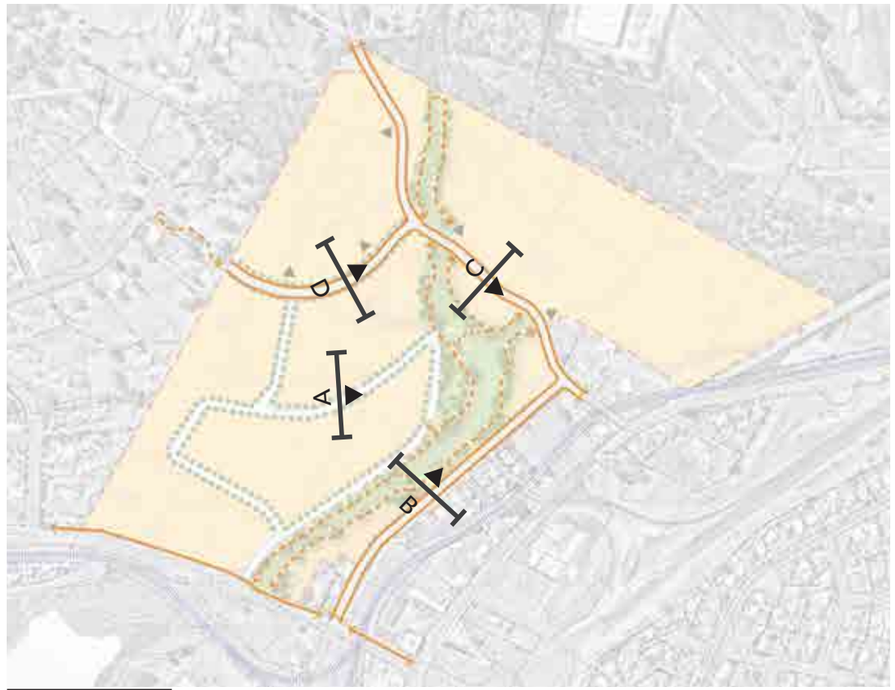
This plan has been prepared for demonstration purposes only.



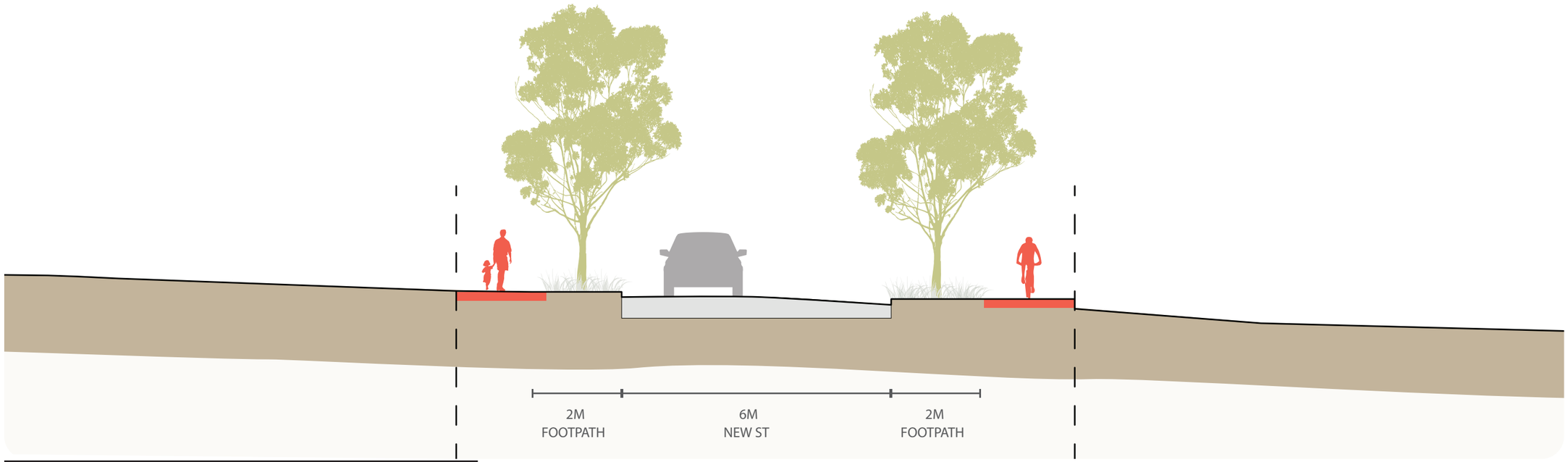
STREET SECTIONS

Safe and accessible streets are vital for supporting communities. They foster social connections, promote physical activity, and ensure equitable access for all abilities and modes including walking, cycling and driving.

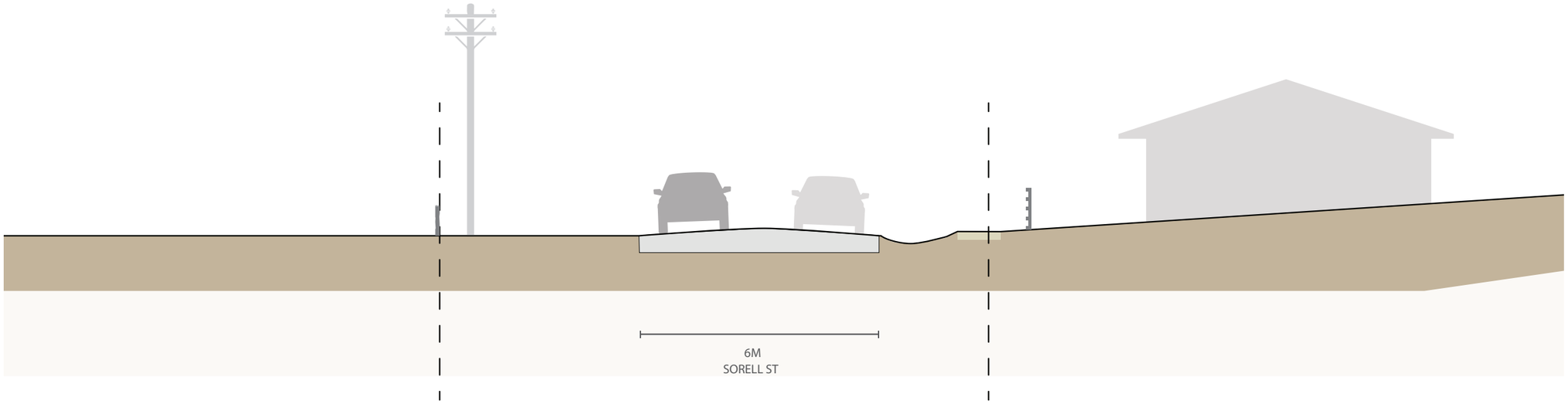
Existing streets will require upgrades and new streets will be required. These will improve the accessibility, character and environmental performance by introducing trees, planting and footpaths to strengthen the social fabric of the growing community.



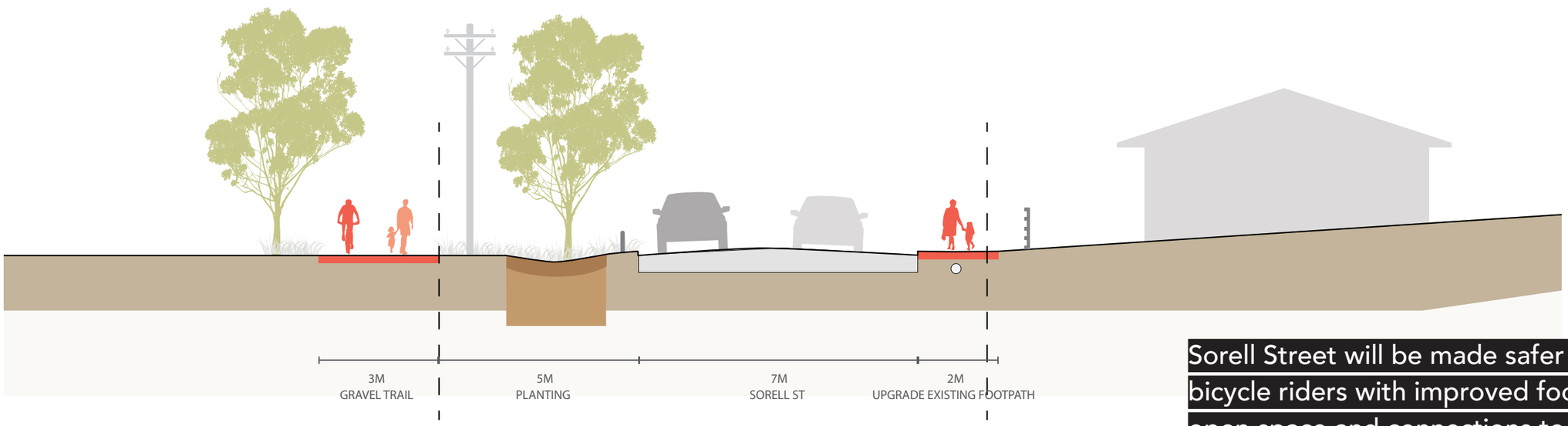
KEY PLAN



SECTION A - New Local Street Proposed

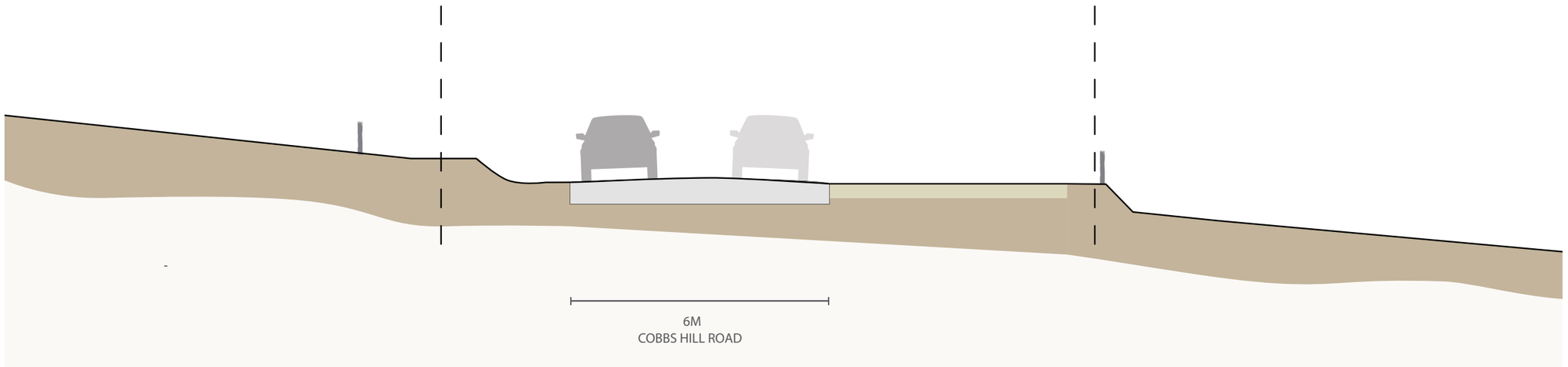


SECTION B - Sorell Street Existing

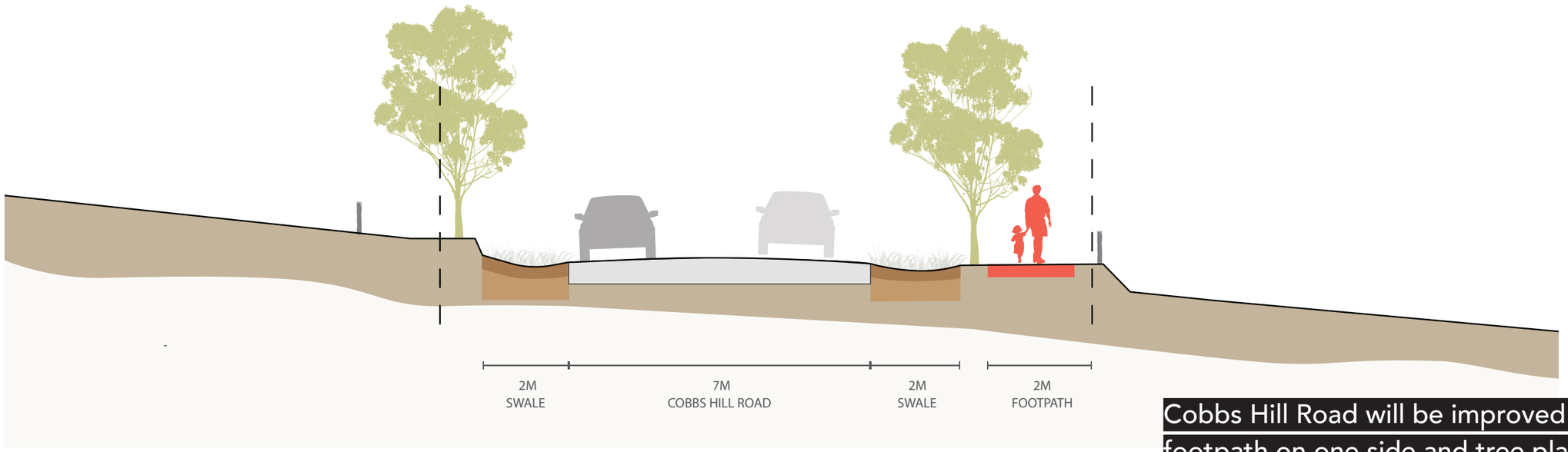


SECTION B - Sorell Street Proposed

Sorell Street will be made safer for pedestrians and bicycle riders with improved footpaths, frontage to open space and connections to a 3m wide gravel trail along the linear park corridor.

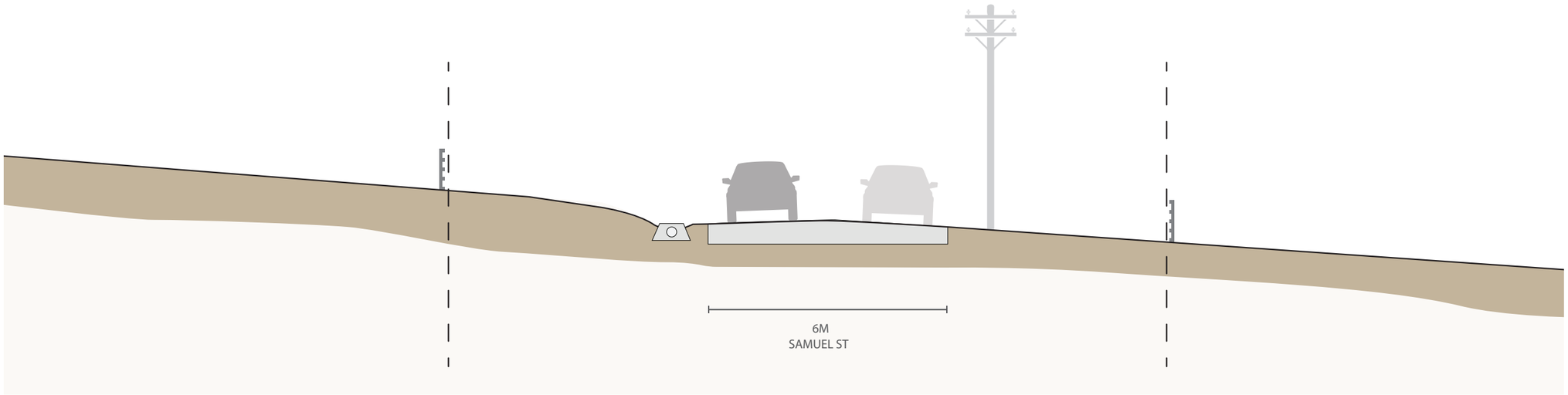


SECTION C - Cobbs Hill Road Existing

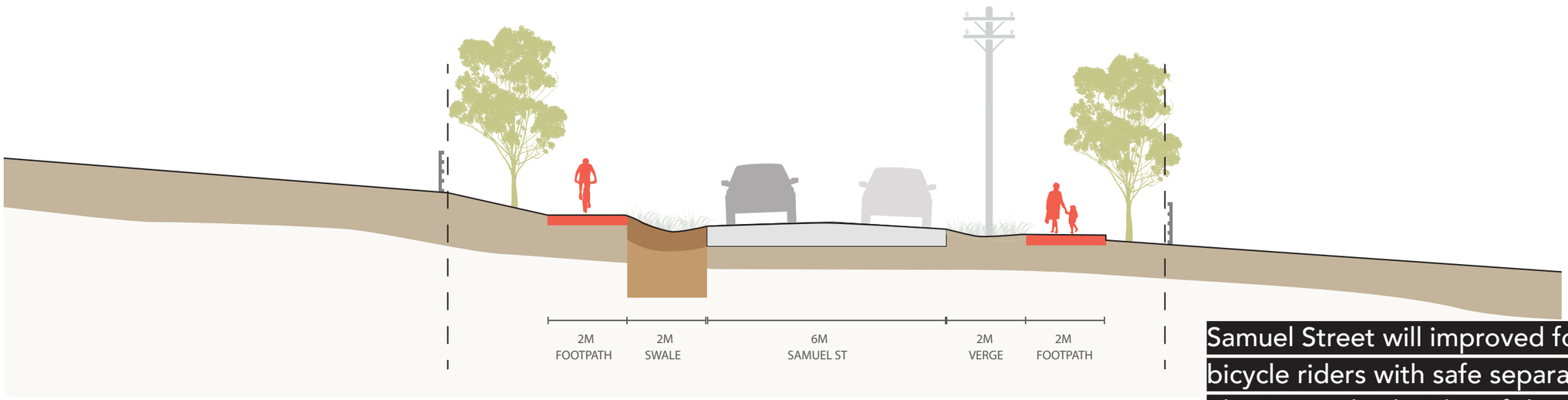


Cobbs Hill Road will be improved with a separated footpath on one side and tree planting to provide shade and slow traffic.

SECTION C - Cobbs Hill Road Proposed



SECTION D - Samuel Street Existing



Samuel Street will improved for pedestrians and bicycle riders with safe separated footpaths and tree planting on both sides of the street.

SECTION D - Samuel Street Proposed

3.2 **OPEN SPACE**
PLACES FOR PEOPLE AND NATURE TO FLOURISH

Open space is crucial for supporting communities as they provide essential areas for recreation, social interaction, and connection to nature.

Ashburton Creek provides the foundation for open space across the site offering residents a place to relax, exercise, and engage in community activities, promoting physical and mental well-being.

As a linear park the Creek will enhance the environmental quality of the area by providing native plantings that support biodiversity, improve air quality, and help manage stormwater.

The linear park will offer opportunities for exercise, play, dog walking, bike riding, picnicking, and socialising contributing significantly to the livability of the community.

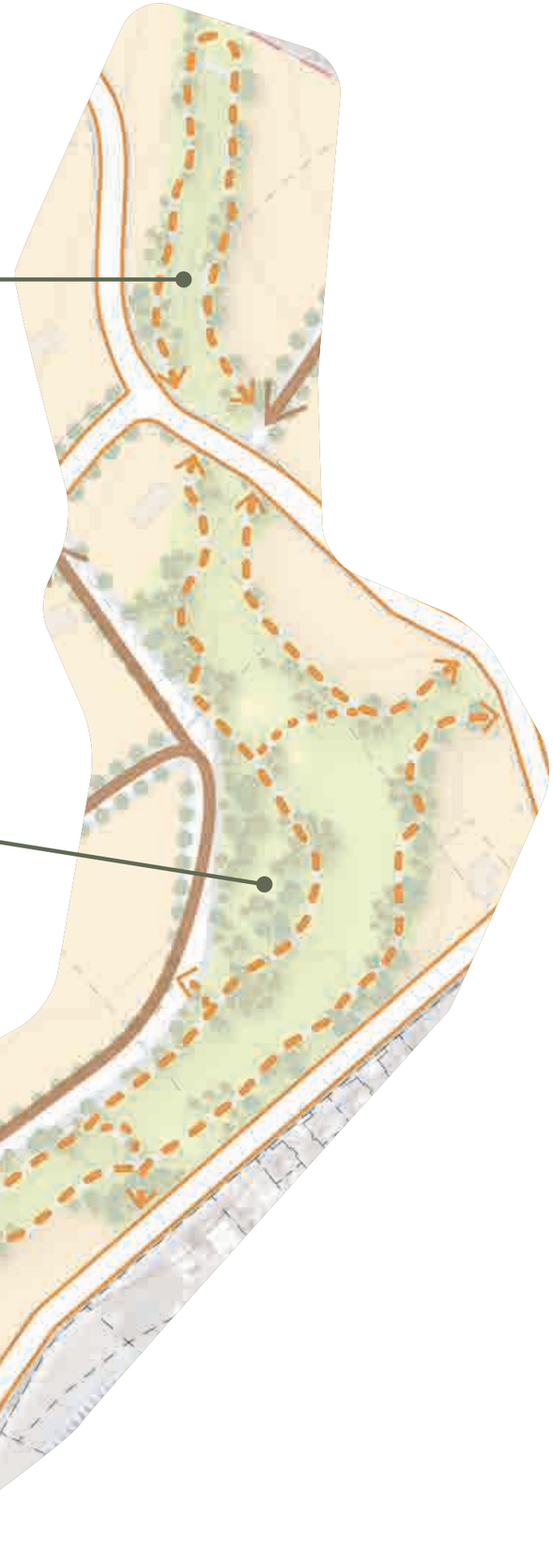


Image top: improved biodiversity values of the creek providing connections to nature.

Image middle: areas for play and socialising that reference the local character and tell stories.

Image bottom: Active walking trails and shared paths for access and recreation.

3.3 **HOUSING**
SUPPORT HOUSING OPTIONS IN A RURAL SETTING

General Residential Zone permits a minimum lot size of 450m², with most dwellings consisting of detached or semi-detached housing. In select areas, such as those adjacent to open space, terrace housing may be allowed. The following recommendations aim to ensure high-quality residential outcomes:

- Well-Designed: Encourage high-quality, attractive architecture that enhances the residential character. Focus on well-scaled, articulated dwellings with appropriate building separation and clearly visible entries.
- Coherent: In multi-dwelling developments, create a sense of individual identity for each dwelling.
- Quality Materials: Use durable, natural, and familiar materials to provide continuity with existing buildings. Favour textures and colours that align with a residential palette, such as bricks and durable timber cladding.
- Residential Setting: Preserve large front and rear garden areas to maintain continuous green streetscapes and consistent rear yards within street blocks.
- Canopy Trees and Greenery: Maximize the retention and planting of canopy trees and extensive soft landscaping.
- Access and Parking: Minimize the visual impact of vehicle access ways, garages, and parking on streetscapes.
- Managing Overlooking: Design building layouts to reduce opportunities for overlooking neighbouring properties.
- Universal Design: Create dwellings that are accessible and functional for a wide range of household types and physical abilities.
- Environmental Sustainability: Incorporate design strategies to minimize the environmental impact of new dwellings.
- Interfaces: Minimize the visual impact of double-storey dwellings when located near existing single-storey homes. Avoid tall back fences facing public streets or open spaces.
- Slope: Work with the land's natural topography to minimize extensive earthworks, preserve the site's natural drainage patterns, maintain soil stability, and reduce the need for engineering solutions like retaining walls. Use terracing and incorporate plantings to screen retaining walls where level changes are needed.

Image left: Rocklily Way, Kingston - design variety utilising coherent materials.

Image middle: simple, quality materials responding to a rural setting. Managing levels through terracing.

Image right: meet contemporary universal design standards whilst referencing local housing typologies.

04 Next Steps

4.1 **NEXT STEPS**
A ROAD MAP FORWARD

The Masterplan is be a culmination of community and stakeholder inputs, and an early step towards seeing development occur.

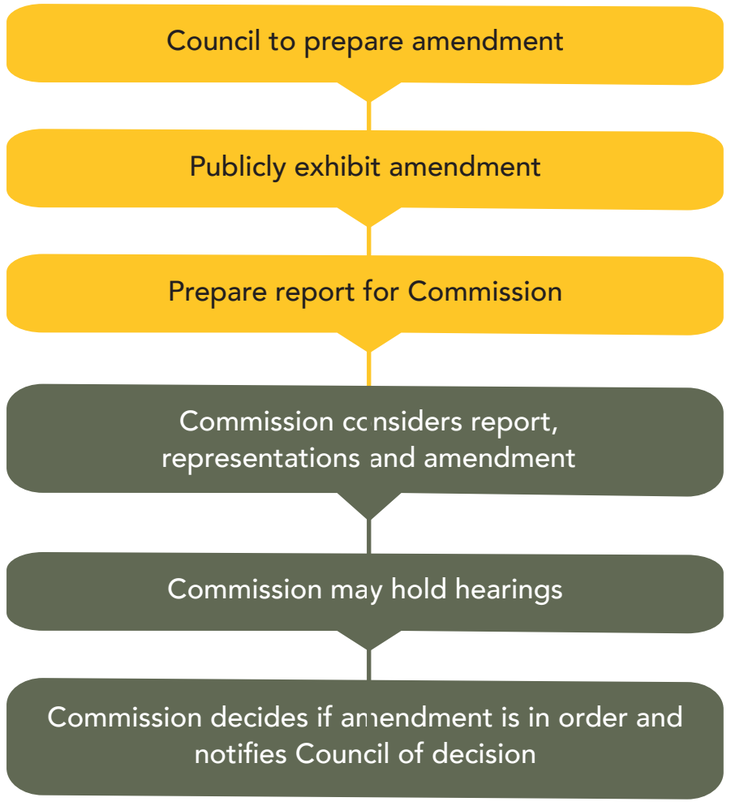
Draft to Final Masterplan

To complete the Masterplan, engagement with the community to seek feedback. The final Masterplan will be presented to Council for endorsement.

Planning Scheme Amendment

Following Council endorsement, Council will lodge a planning scheme amendment as per the process illustrated.

- Brighton Council
- Tasmania Planning Commission



city making + liveability

REALMstudios Pty Ltd
ABN 39165483330

enquiries@realmstudios.com

www.**REALM**studios.com

Postal
PO Box 2385
Richmond
Melbourne, VIC 3121

Hobart
89 Macquarie Street
Hobart
Tasmania 7000
alaric.hellawell@
realmstudios.com
M +61 (0)431 454 492

TRAFFIC ASSESSMENT

LAND REZONING FOR NEW RESIDENTIAL SUBDIVISION, BRIDGEWATER

Hubble Traffic

April 2024

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Version	Date	Reason for Issue
Draft	April 2024	Draft issued

Table of Contents

1. Introduction

Brighton Council (Council) has engaged Hubble Traffic to undertake an independent traffic assessment, to consider the traffic impact of additional residential traffic generated from rezoning of land, which is situated around Sorell Street and Cobbs Hill Road, Bridgewater.

The purpose of this traffic assessment is to quantify the current Level of Service on the surrounding local road network and determine the traffic capacity for the network to absorb additional traffic flow generated by the land rezoning. This assessment considers the change in road layout caused by the construction of the new Bridgewater Bridge.

This traffic assessment considers the traffic impact from rezoning land from Rural Living Zone A to General Residential, with the development using existing road infrastructure it can be considered as an infill residential project.

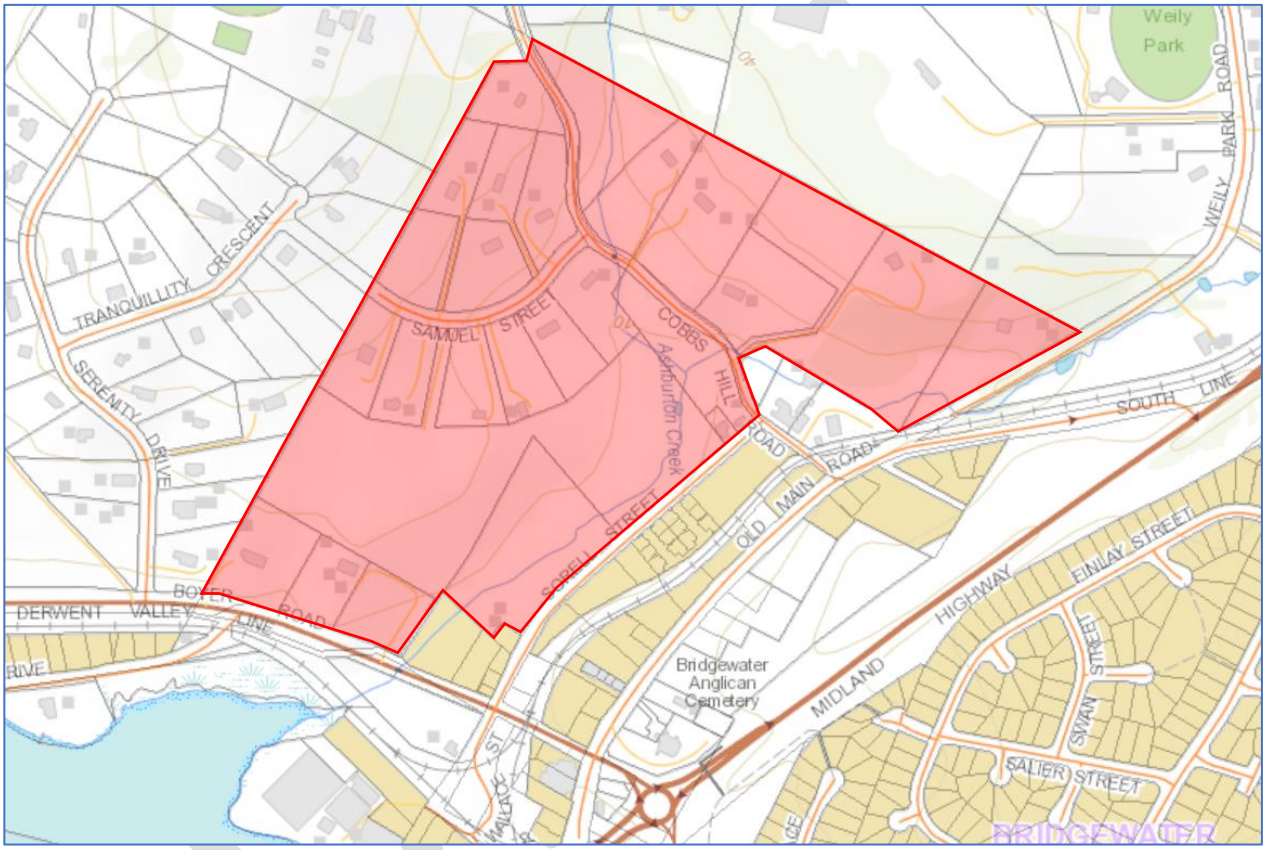
The State Government has advised that land located outside the Urban Growth Boundary, which shares a common boundary with the Urban Growth Boundary can be considered for rezoning. Stipulations of the extension of the urban growth boundary include; a logical extension, can be accommodated by the existing transport system, does not reduce the level of service of the existing road network, and would provide for an efficient and connected extension of the existing passenger and active transport services network.

2. Project site and description

The land under consideration for rezoning is highlighted red in diagram 2, and includes areas west of Sorell Street, north of Boyer Road, and north of Cobbs Hill Road and Samuel Street. For the purpose of this assessment this area will be the development site.

This development site is situated within undulating terrain, with existing rural residential properties, and vacant land that is mostly cleared of trees.

Diagram 2.0 – Development site



3. Traffic terminology used within this analysis

Austroads Guide to Traffic Management Part 12 – Traffic Impacts of Developments (Published 2020), defines the contents of traffic impact assessments, and recognises the Roads and Traffic Authority RTA Guideline for Traffic Generating Developments (RTA Guide), as a comprehensive reference guide on traffic generation within Australia.

The RTA Guide is the primary document used in this traffic impact assessment and specifies that traffic assessments are based on evaluating the traffic performance during the weekday peak hour periods.

Traffic performance at junctions, intersections, and roundabouts, can be quantified using traffic modelling software, with SIDRA the recommended software package in Australia.

3.1 Level of service for road links

Traffic performance of mid-block road links can be quantified by Level of Service (LOS), which is a qualitative measure describing operational conditions within a traffic stream, including perception by road users. The RTA Guide contains six levels from A to F, with LOS A representing the best operating conditions and LOS F the worst, with table 3.1 providing a brief description of each level.

Table 3.1 – Level of service for links

LOS A	Level of service A is a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.
LOS B	Level of service B is in the zone of stable flow and drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream, although the general level of comfort and convenience is a little less than with level of service A.
LOS C	Level of service C is also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.
LOS D	Level of service D is close to the limit of stable flow and is approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.
LOS E	Level of service E occurs when traffic volumes are at or close to capacity, and there is virtually no freedom to select their desired speeds and to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause flow breakdown.
LOS F	Level of service F is in the zone of forced flow. Flow breakdown occurs, and excessive queuing and delays result.

3.2 Performance criteria for urban links

Traffic performance of urban roads can be assessed using directional peak hour traffic flows, with the RTA Guide providing a table of LOS performance based on peak hour traffic flow, as shown in extract 3.2. For the surrounding local road network, there is one traffic lane in each direction, which means directional hourly flow under 200 vehicles per hour, represents the highest level of traffic performance, at LOS A.

Extract 3.2 – RTA Guide for urban roads

Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

3.3 Performance criteria for highway links

Boyer Road between the Midland Highway and Sorell Street is part of the State Road network, and for the purpose of this assessment will be assessed as being a highway link. For non-urban roads, the RTA Guide quantifies the traffic performance based on two-way peak hour flows, with lane capacity effected by the terrain and presence of heavy vehicles.

For the purpose of this analysis, Boyer Road terrain is considered flat, and a maximum heavy vehicle content is assumed, with columns highlighted red representing the LOS to be used for this road.

Extract 3.3 – RTA Guide for non-urban links

Table 4.5
peak hour flow on two-lane rural roads (veh/hr)
(Design speed of 100km/hr)

Terrain	Level of Service	Percent of Heavy Vehicles			
		0	5	10	15
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

3.4 Performance criteria for multi-lane road links

Austroads Guide to Road Design part 3 on Transport Study and Analysis Methods (AGRD), provides information on traffic capacity for multi-lane roads.

Multi-lane roads have two or more lanes for use by traffic in each direction, the lanes can either be divided by a physical barrier, or undivided where there is no physical separation. Intersections are generally controlled, with roundabouts or traffic signals, and have typical lane width of 3.6 metres.

A freeway is a divided road with two or more lanes for traffic travelling in each direction, with no at-grade intersections, and full control access from abutting property.

The traffic performance of Bridgewater Bridge will be assessed as part of this analysis, as the bridge has a relatively short length of road it will be assessed as a multi-lane road and not a freeway.

Traffic capacity is strongly influenced by flowing traffic conditions, as the Bridgewater Bridge will operate with grade separated interchanges, the highest traffic flow conditions can be expected. For the purposed of this analysis, the highest lane capacity will be used, as shown in red in Extract 3.4. The flow rate in the table represents the flow for each individual traffic lane.

Extract 3.4 – Lane capacity for multi-lane links with uninterrupted flow

Table 5.5: LOS criteria for multi-lane highways

Free-flow speed	Criteria	A	B	C	D	E
100 km/h	Maximum density (pc/km/ln)	7	11	16	22	25
	Average speed (km/h)	100.0	100.0	98.4	91.5	88.0
	Maximum volume to capacity ratio (v/c)	0.32	0.50	0.72	0.92	1.00
	Maximum service flow rate (pc/h/ln)	660	1080	1550	1980	2200
90 km/h	Maximum density (pc/km/ln)	7	11	16	22	26
	Average speed (km/h)	90.0	90.0	89.8	84.7	80.8
	Maximum volume to capacity ratio (v/c)	0.30	0.47	0.68	0.89	1.00
	Maximum service flow rate (pc/h/ln)	600	990	1430	1850	2100
80 km/h	Maximum density (pc/km/ln)	7	11	16	22	27
	Average speed (km/h)	80.0	80.0	80.0	77.6	74.1
	Maximum volume to capacity ratio (v/c)	0.28	0.44	0.64	0.85	1.00
	Maximum service flow rate (pc/h/ln)	550	900	1300	1710	2000
70 km/h	Maximum density (pc/km/ln)	7	11	16	22	28
	Average speed (km/h)	70.0	70.0	70.0	69.6	67.9
	Maximum volume to capacity ratio (v/c)	0.26	0.41	0.59	0.81	1.00
	Maximum service flow rate (pc/h/ln)	290	810	1170	1550	1900

3.5 Traffic performance for interchange ramps

Traffic performance of interchange ramps is assessed as an uninterrupted flow, where traffic is not impacted by abutting properties. While interrupted flow is significantly lower, as it takes in to consideration the impact generated from properties that have direct road frontage, such as vehicles entering and leaving driveways, on-street parking or unparking, with both causing inconvenience to through traffic.

The flow rate of ramps is influenced by the geometric configuration, with curved ramps reducing the operating speed and lane capacity. The AGRD provides flow rates for free flowing ramps based on the operating speed and represents maximum capacity. With both the southbound on-ramp and northbound off-ramp having a curved alignment, the operating speed is expected to be in the range of 30 to 50 km/h, with Extract 3.5 indicating the maximum flow rate is expected to be 1900 vehicles per hour for a single ramp.

Extract 3.5 – AGRD flow rate for interchange ramps

Table 5.7: Approximate capacity of ramp roadways in passenger cars/hour

Free-flow speed of ramp, SFR (km/h)	Capacity (pc/h)[1]	
	Single-lane ramps	Two-lane ramps
> 80	2200	4400
> 65–80	2100	4200
> 50–65	2000	4000
≥ 30–50	1900	3800
< 30	1800	3600

Extract 3.5 provides a maximum flow capacity for ramps but does not provide a level of service for the ramps. Therefore, the lane flows within Extract 3.4 for a 70 km/h operating speed will be used.

For the purpose of assessing the traffic performance (LOS) of the ramps, the single lane ramp flows in the table below will be used.

Table 3.5 – Estimated flow rates for single lane ramps

Level of service	A	B	C	D	E
Flow rate	290	810	1170	1550	1900

3.6 Traffic performance of ramp junctions

Section 5.4.2 of AGRD provides advice on evaluating the traffic performance of both off and on-ramp junctions, in respect to diverge and merge areas. The traffic performance (LOS) can be quantified by using density of the merge area, which is calculated using a linear relationship with the peak 15 minute ramp flow (V_R), with the flow in the two kerb-side lanes (V_{12}), and the acceleration lane length (L_A).

Merge density is calculated as $D_R=3.402 + 0.00456V_R + 0.0048V12 – 0.01278L_A$

The merge density relates to LOS, as specified in table 3.6, which will be used in this analysis.

Table 3.6 – LOS for freeway merge and diverges

Table 5.9: LOS criteria for freeway merge and diverge segments

LOS	Density (pc/km/ln)
A	≤ 6
B	> 6–12
C	> 12–17
D	> 17–22
E	> 22
F	Demand exceeds capacity

3.7 Traffic performance at junctions, intersections, and roundabouts

The traffic performance of junctions, intersections, and roundabouts can be estimated using a variety of analytical and computational techniques, with this assessment using the SIDRA software package. The performance of intersections is commonly described by the Degree of Saturation (DOS) of the critical traffic movements, a measure of the volume/capacity ratio or degree, to which the available intersection capacity is utilised. Other terms used, Level of service (LOS) which is based on the average stopped delay in seconds, and maximum queue length in metres. The table below provides a reference to the level of service for the various traffic controls based on the RTA Guide.

Table 3.7 - Level of service for intersections and roundabouts

Level of service	Average delay per vehicle (secs/vehicle)	Traffic Signals and Roundabouts	Give Way and Stop controls
A	<14	Good operation	Good operation
B	15 to <28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to <42	Satisfactory	Satisfactory, but crash study required
D	43 to <56	Operating near capacity, acceptable for State Roads	Near capacity and crash study required
E	57 to <70	At capacity for signals, will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control modes

*Average delay per vehicle exceeding 70 seconds indicates traffic exceeds the site capacity.

3.8 Impact to residential amenity

A new development, or extension to residential development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide has considered this matter and provided an environmental performance standard, which can be used to evaluate the likely impact on residential amenity. The extract below is from the RTA Guide and relates to urban environments, providing acceptable and maximum peak hour goals, based on two-way peak hour flows.

Extract 3.8 – RTA Guide on residential amenity

Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

3.9 Preferred level of service for safe and efficient traffic performance

Road authorities generally design new road projects to open and be operational at LOS A or B, with traffic performance reducing as incremental traffic growth occurs.

As new road infrastructure is expensive, it is important to maximise the available road capacity, and it is acceptable for State Roads to operate at LOS C and D during weekday peak periods.

LOS A and B at give way control junctions provides for acceptable delays, with the junctions operating with spare capacity.

4. Existing traffic flows on the surrounding local road network

It is important to understand the traffic performance of the surrounding road network, this is best achieved by undertaking peak hour traffic surveys at key junctions and intersections. Peak hour traffic surveys were conducted during January 2024, to determine the current level of service for the links and intersections of the surrounding road network, likely to be affected by traffic generated by the proposed rezoning.

In addition to manual peak hour surveys collected, traffic data was collected from other resources including the Traffic Impact Assessment for the Bridgewater Bridge upgrade, and Department of State Growth (Department) State Road network traffic database. Data obtained from these sources, provided traffic flow at each of the key junctions and intersections for both the morning and evening weekday peak hours, and is available in appendix A.

From this data directional traffic flows for links within the network was established for both peak hour periods. The link data indicates the local streets (Sorell, Samuel, and Cobbs Hill Road) are lightly trafficked, with less than 50 two-way vehicle movements in the peak hour periods.

During the manual surveys, it was observed:

- MacDonalds fast food outlet located on the northeast corner of the intersection of Old Main Road and Boyer Road roundabout generated significant traffic movements in both the peak hour periods, estimated between 100 and 140 trips in each peak hour period.
- The temporary office and works depot for the Bridgewater Bridge is located off Old Main Road north of Boyer Road and generated a moderate number of vehicle movements. Although these movements will cease once the bridge is completed, the traffic flows have not been adjusted for this reduced activity.
- The bottle Shop located on the southwest corner of the Old Main Road and Boyer Road roundabout, was a moderate traffic generator in the evening peak hour period, estimated to generate 80 two-way trips in the evening peak hour period.

All these traffic generators increased the traffic flow using the Old Main Road and Boyer Road roundabout.

5. Analysis of the traffic performance of the local road network

The traffic performance of the links on the surrounding road network has been quantified using the RTA Guide for urban links (extract 3.2), with the results provided in table 5.0A.

Traffic analysis determined the local roads are lightly trafficked during the peak periods, operating at the highest level of traffic performance LOS A. While traffic flows on Boyer Road (State Road) are slightly higher, they are still providing a high level of traffic performance. The section of Boyer Road between Old Main Road and the Midland Highway has the highest traffic flows, and is operating at LOS B.

This analysis demonstrates that the surrounding road network has spare traffic capacity to accommodate an increase in traffic from future developments. LOS A and B means the traffic flow is stable, motorists are virtually unaffected by the presence of others in the traffic flow, and there are sufficient gaps for vehicles to enter and leave the road, without impacting other vehicles. This level of service provides motorists with excellent driving conditions.

Table 5.0A – Level of Service of the surrounding links

Road owner	Road	Criteria	Morning peak hour			Evening Peak hour		
			EB or NB	WB or SB	Two-way	EB or NB	WB or SB	Two-way
Local road network	Sorell Street	Flow	**10**	**13**	**23**	**26**	**16**	**42**
		LOS	A	A		A	A	
	Cobbs Hill Road	Flow	**2**	**5**	**7**	**3**	**4**	**7**
		LOS	A	A		A	A	
	Old Main Road (north of Boyer Road)	Flow	**151**	**101**	**252**	**108**	**157**	**265**
		LOS	A	A		A	A	
	Old Main Road (south of Boyer Road)	Flow	**2**	**1**	**3**	**38**	**40**	**78**
		LOS	A	A		A	A	
State Road	Boyer Road (west of Sorell Street)	Flow	**193**	**91**	**284**	**135**	**261**	**396**
		LOS	A			A		
	Boyer Road (east of Sorell Street)	Flow	**207**	**106**	**320**	**169**	**289**	**458**
		LOS	A			A		
	Boyer Rd (Old Main Rd to Highway)	Flow	**317**	**260**	**577**	**287**	**383**	**670**
		LOS	B			B		

SIDRA traffic modelling has been used to quantify the traffic performance of intersections, junctions, and roundabouts within the surrounding road network. Modelling has not been provided for the junctions of Cobbs Hill Road with Sorell Street, and Old Main Road with Cobbs Hill Road, as both are very lightly trafficked and assumed to be operating at the highest level of traffic performance, LOS A.

Traffic modelling demonstrates all junctions, intersections and roundabouts are providing motorists with the highest level of traffic performance, with all movements operating at LOS A. This demonstrates there is spare traffic capacity to absorb additional traffic movements from future development.

Table 5.0B – Traffic modelling of the State Road junctions

Junction intersection roundabout	Period	Total	DOS	Worst Delay	Worst LOS	Max queue length
Sorell Street with Boyer Road	Morning	311	0.100	6.9 secs	A	0.5 metres
	Evening	448	0.151	7.8 secs	A	1.4 metres
Old Main Rd and Boyer Road roundabout	Morning	550	0.180	8.9 secs	A	6.6 metres
	Evening	760	0.268	9.8 secs	A	11.5 metres
Boyer Road with Midland Highway	Morning	2085	0.385	12.5 secs	A	16.5 metres
	Evening	2102	0.417	12.2 secs	A	18.2 metres

The third method to quantify traffic performance is residential amenity of local streets, using the RTA Guide extract 3.5. The RTA Guide indicates that a local street carrying less than 300 two-way traffic movements in the peak hour, is not considered to be causing adverse amenity to the surrounding residential properties.

Table 5.0C demonstrates the two-way traffic flow on the current local streets is well below the threshold to cause adverse impact, with spare traffic capacity. State Roads are not considered a local street and have been excluded from this part of the assessment.

Table 5.0C – Level of traffic flow for residential amenity for local roads

Road and link	Road type	Maximum	Morning	Evening	Comment
Sorell Street	Local	300 two-way vehicles per peak hour	23	42	All local roads comply with RTA environment standards
Cobbs Hill Road			7	7	

This analysis demonstrates motorists are currently receiving a high level of traffic performance, with all nodes and links operating at LOS A or B. This traffic performance is shown in a diagrammatic format in diagrams 5.0A and 5.0B.

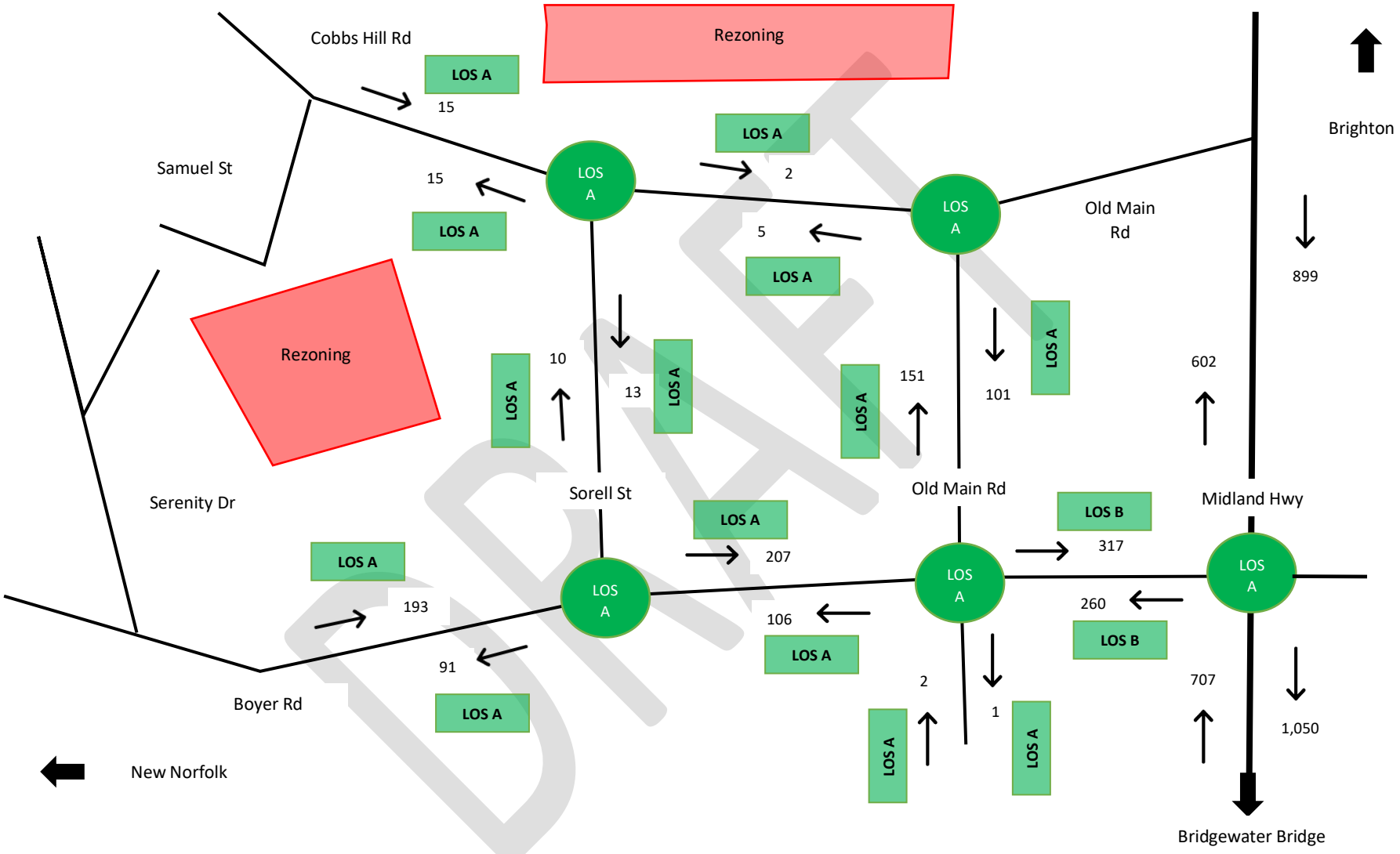


Diagram 5.0A – Morning peak hour traffic performance

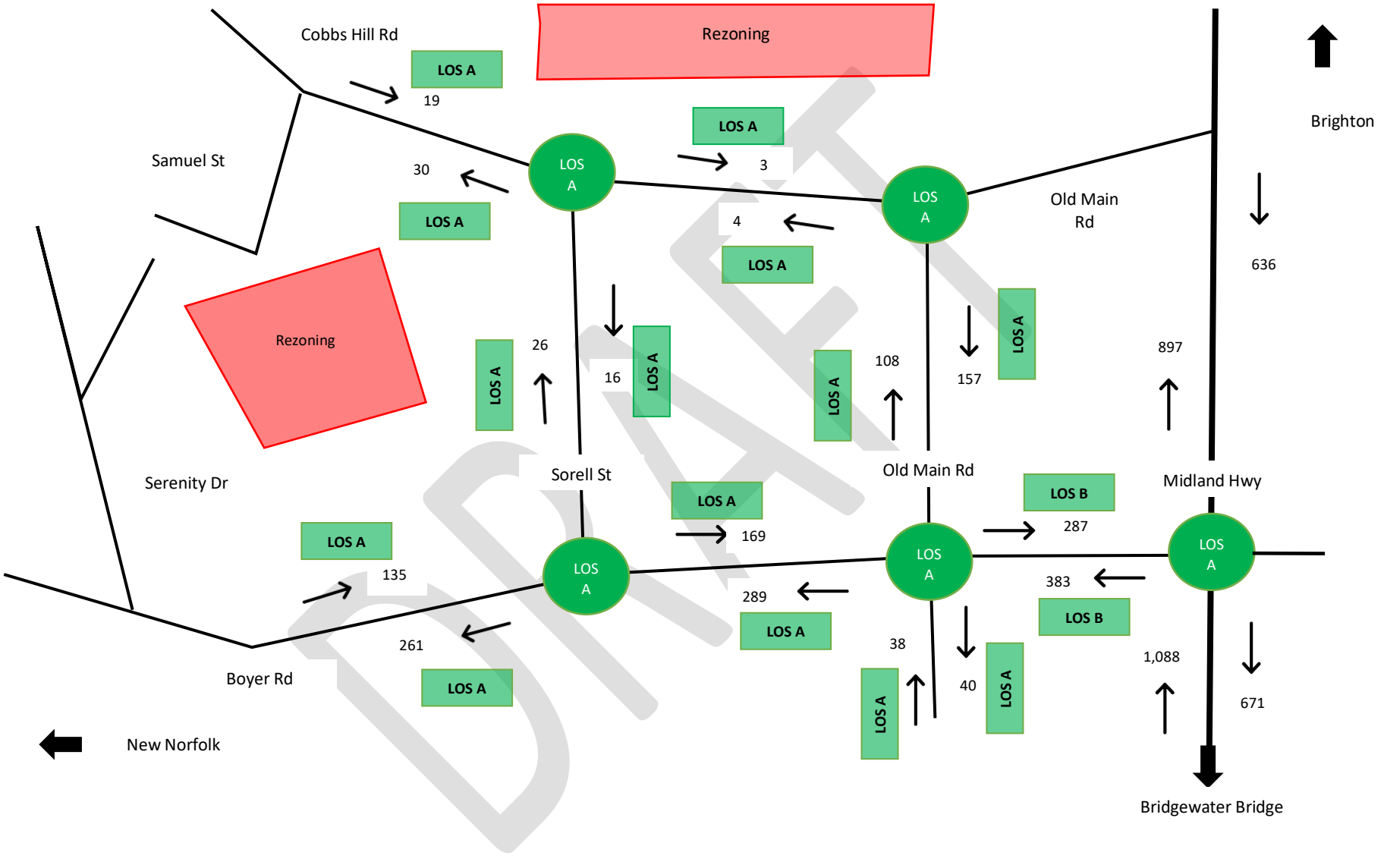


Diagram 5.0B – Evening peak hour traffic performance

6. Alternative transport modes

The surrounding road network east of Sorell Street has footpaths that connect to the Midland Highway and a pedestrian overpass to the residential area east of the highway. As the land has a relatively flat terrain, walking and cycling are a viable transport option.

Public transport services operate within the Bridgewater and Brighton area, with the closest bus stops to the development site located along Midland Highway, opposite McDonalds. High frequency bus services are provided along this bus route, making public transport an alternative transport option, reducing the reliance on private vehicles.

Diagram 6.0A – Public transport service

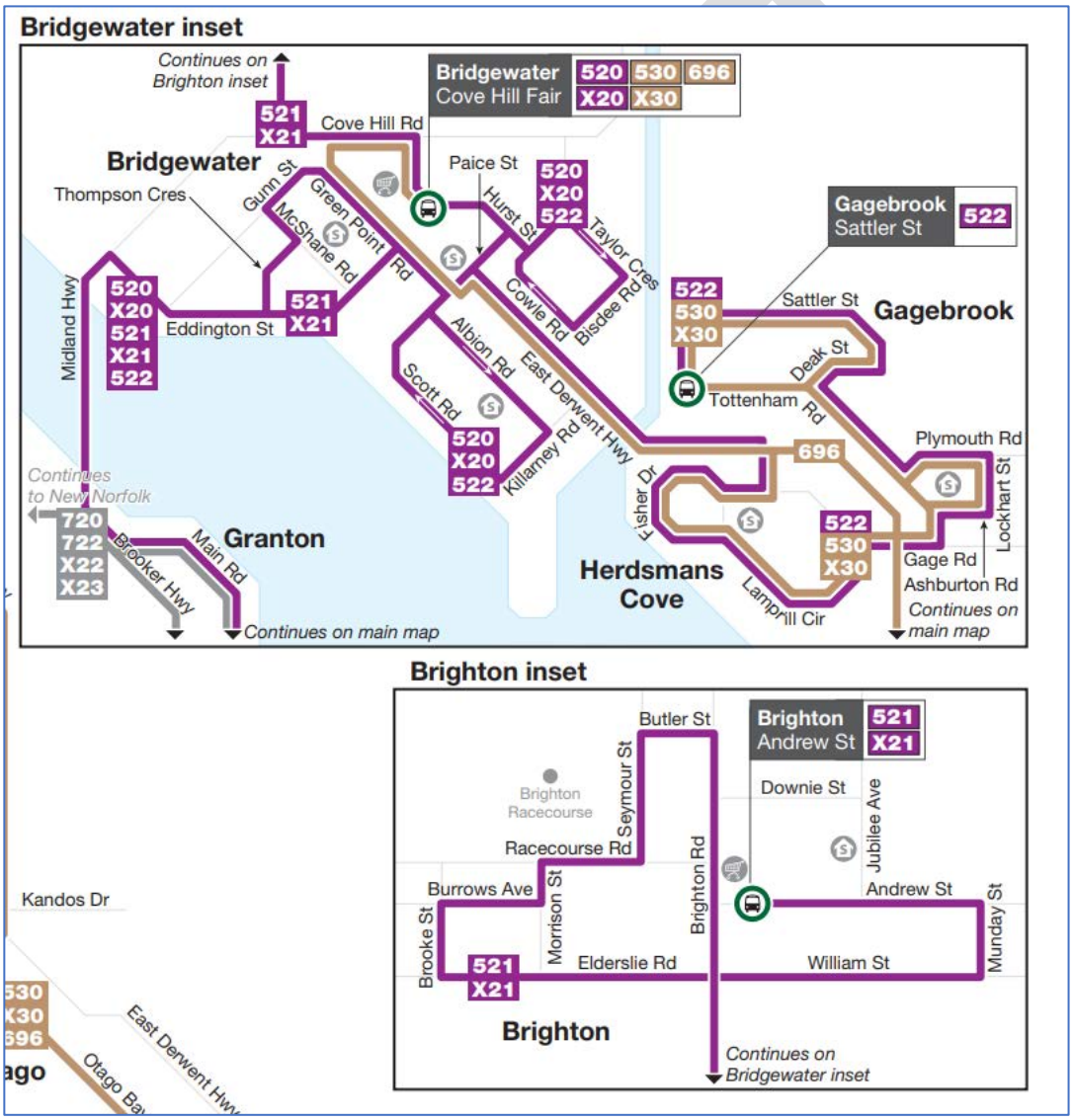


Diagram 6.0B – Timetable of services

MONDAY TO THURSDAY																			
ROUTE NUMBER	522	X20	520	X21	X20	X21	X20	X21	X20	521	X20	X20	521	X20	521	X20	X20	521	X20
	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am	pm
BRIGHTON TERMINUS (ANDREW ST)	-	-	-	6:39	-	7:06	-	7:39	-	8:45	-	-	9:45	-	10:45	-	-	11:45	-
BURROWS AVE / BROOKE ST IN	-	-	-	6:46	-	7:13	-	7:46	-	8:51	-	-	9:51	-	10:51	-	-	11:51	-
BRIGHTON CENTRAL	-	-	-	6:52	-	7:19	-	7:52	-	8:56	-	-	9:56	-	10:56	-	-	11:56	-
GAGEBROOK TERMINUS IN	5:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAMPRILL CIRCLE/FISHER DR	5:38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BRIDGEWATER (COVE HILL SHOPS)	5:43	6:28	6:43	6:59	7:11	7:26	7:42	7:59	8:09	9:02	9:01	9:31	10:02	10:31	11:02	11:01	11:31	12:02	12:01
COWLE RD/BISDEE RD	5:45	6:31	6:46	-	7:14	-	7:45	-	8:12	-	9:04	9:34	-	10:34	-	11:04	11:34	-	12:04
SCOTT RD/KILLARNEY RD	5:49	6:36	6:51	-	7:19	-	7:50	-	8:17	-	9:09	9:39	-	10:39	-	11:09	11:39	-	12:09
BRIDGEWATER PLAZA GREENPOINT RD	5:51	6:39	6:54	7:01	7:22	7:28	7:53	8:01	8:20	x9:06	9:12	9:42	x10:06	10:42	x11:06	11:12	11:42	x12:06	12:12
GUNN ST/FINLAY ST	5:52	6:40	6:56	-	7:23	-	7:55	-	8:22	-	9:13	9:43	-	10:43	-	11:13	11:43	-	12:13
GRANTON (MAIN RD)	6:01	6:48	7:05	7:09	7:31	7:36	8:06	8:11	8:32	-	9:22	9:52	-	10:52	-	11:22	11:52	-	12:22
CLAREMONT, MAIN RD/AMBER ST	6:09	6:58	7:14	7:18	7:41	7:46	8:16	8:21	8:40	-	9:30	10:00	-	11:00	-	11:30	12:00	-	12:30
GLENORCHY STOP H	6:20	-	7:28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GLENORCHY STOP J	-	7:08	-	-	7:54	-	8:31	-	8:55	-	9:44	10:14	-	11:14	-	11:44	12:14	-	12:44

7. Construction of the new Bridgewater Bridge

The Bridgewater Bridge is currently being replaced with a dual divided carriageway structure that provides a higher river clearance, situated slightly east of the existing alignment. The new road layout will include a grade separated interchange to accommodate vehicles leaving and entering from the surrounding area. The new road layout incorporates the following ramps:

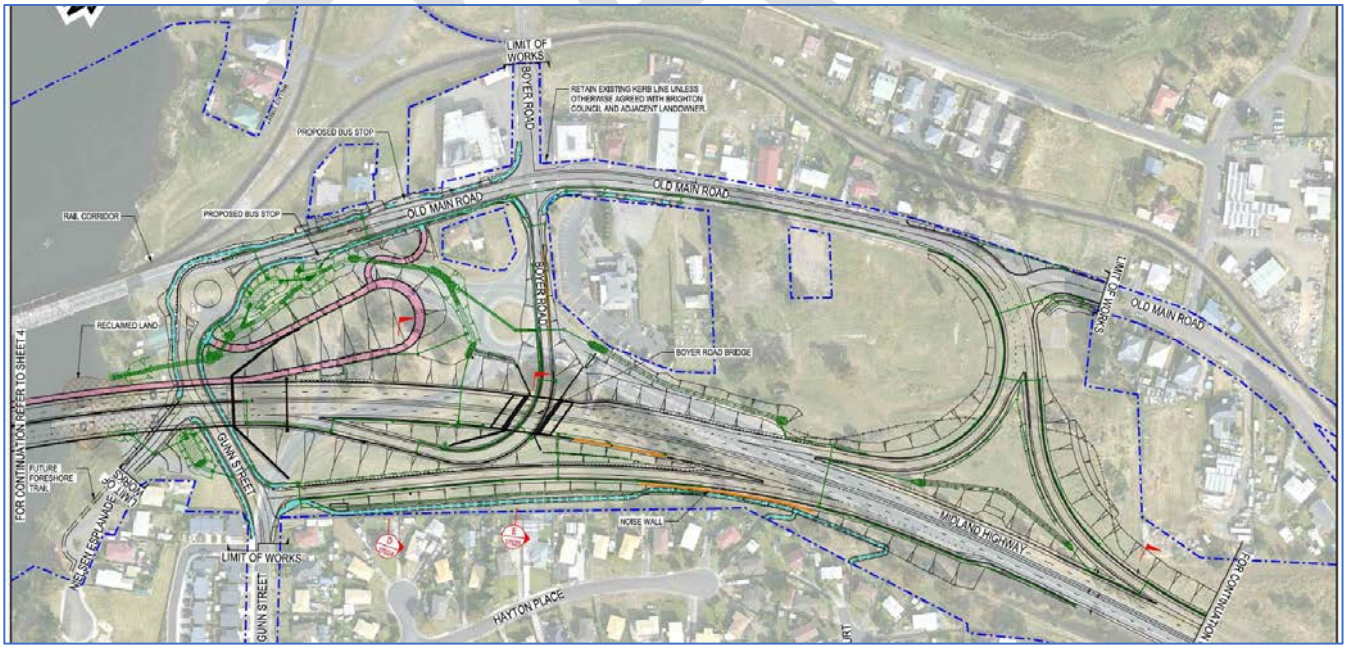
- northbound off-ramp connecting to Old Main Road,
- southbound off-ramp connecting to Gunn Street, with Gunn Street extended underneath the bridge to connect to the current Old Main Road cul-de-sac, and
- southbound on-ramp from Boyer Road joining the southbound carriageway as a merge lane.

These ramps form an integral part of the grade separated interchange and will significantly alter the traffic flows on the surrounding road network, particularly on Old Main Road. It would be logical for the roads forming the grade separated interchange to be become part of the State Road network. For example, Old Main Road and the extension of Gunn Street, commencing at the southbound off-ramp to Old Main Road.

The current traffic flow has been reassigned to the new Bridgewater Bridge layout, based on the layout shown in diagram 7.0, with the level of traffic performance for each of the links and nodes recalculated.

For the purpose of this traffic assessment, the reassigned traffic flows on the new road layout are considered as the base model. The predicted traffic flows, level of traffic performance for the links, and nodes is provided in diagrams 7.0A and 7.0B.

Diagram 7.0 – Department of State Growth proposed road layout for the new Bridgewater Bridge



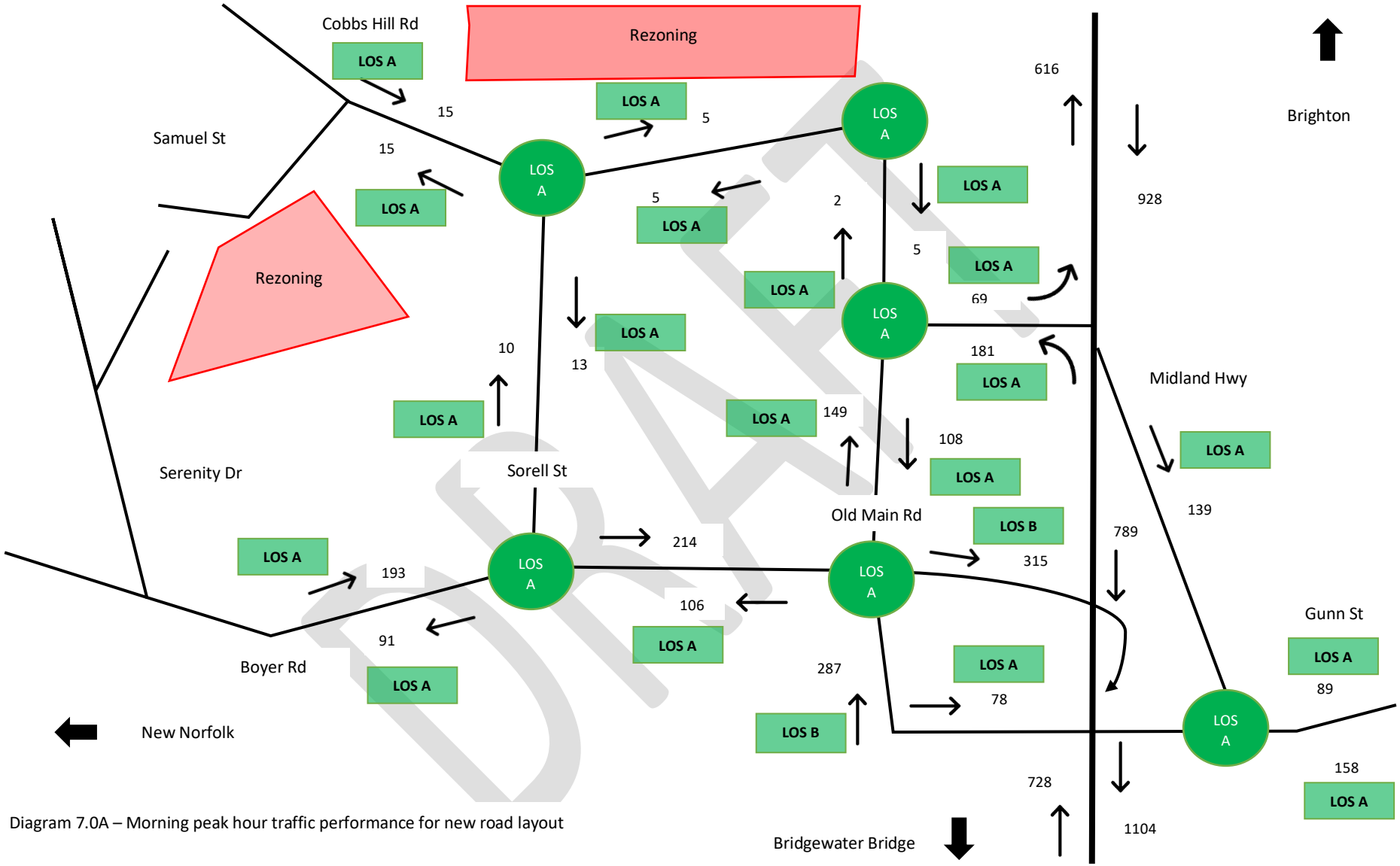


Diagram 7.0A – Morning peak hour traffic performance for new road layout

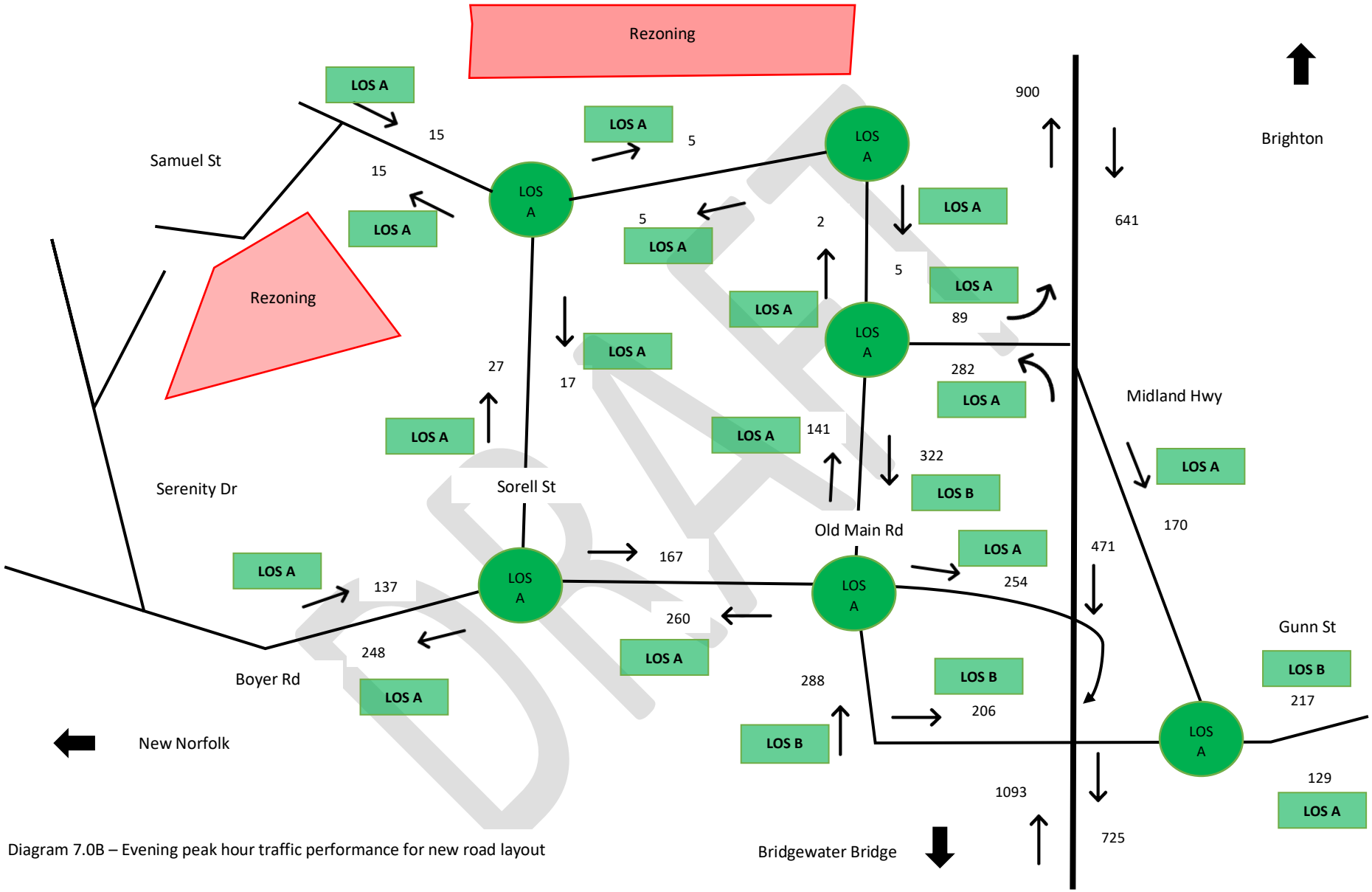


Diagram 7.0B – Evening peak hour traffic performance for new road layout

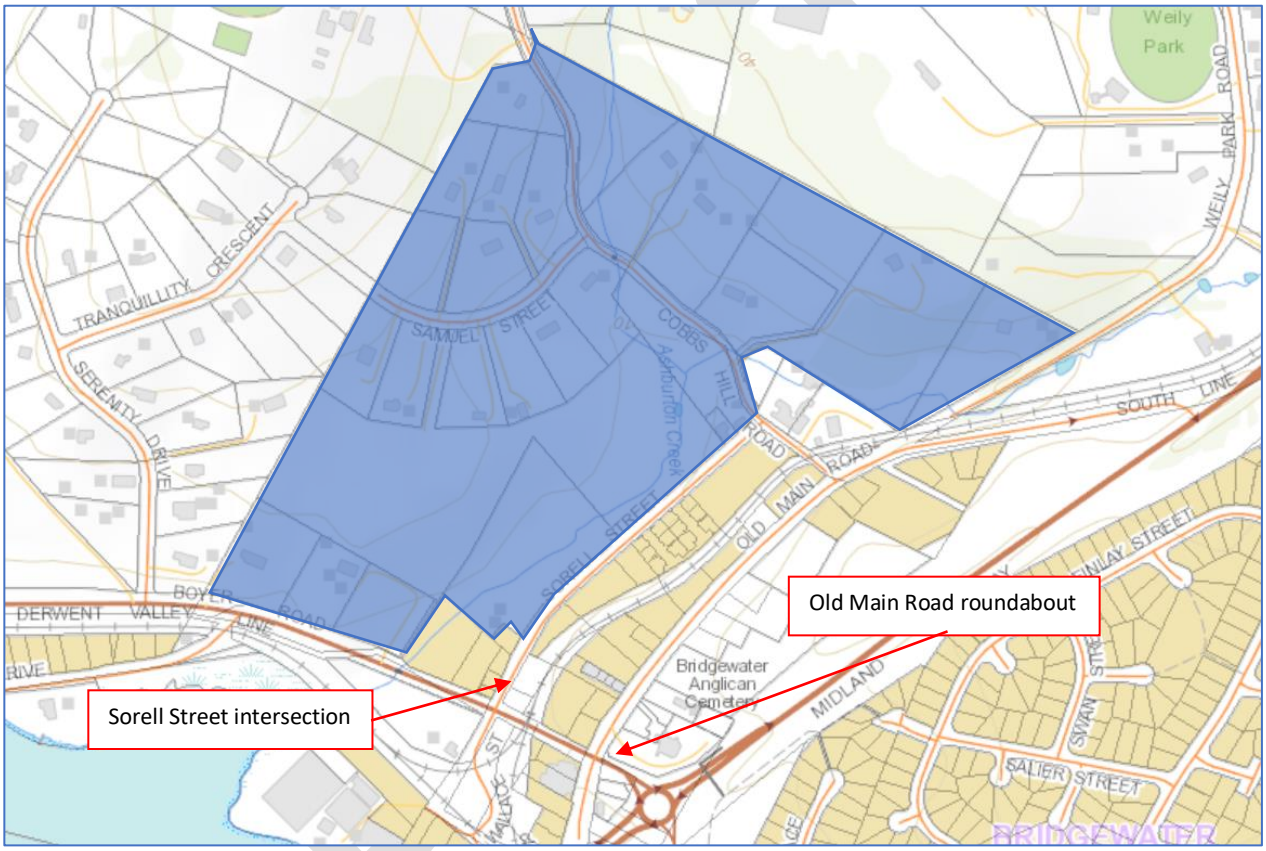
8. Traffic assessment of rezoning the development site

This section analyses the impact from additional traffic generated from rezoning of land within the development site, as shown in the diagram below.

There is approximately 28 hectares of land, which is expected to generate 10 urban dwellings per hectare, providing a total of 280 dwellings. This takes into consideration the land constraints, topography, current dwellings, and the need for future internal road infrastructure to service the new lots.

Additional traffic generated by the development will use the existing local street network and State Roads to connect to the Midland Highway, which includes the Bridgewater Bridge.

Diagram 8.0 – Development site, with connection to the surrounding road network



8.1 Traffic generation rate

The RTA Guide provides traffic generation rates for a residential dwelling, where section 3.3.1 indicates each urban residential property is likely to generate 7.4 daily vehicle trips, with 0.78 of these trips expected in each of the weekday peak hour periods. An additional 280 residential dwellings are predicted to generate 2,072 daily trips, with 218 of these trips expected in each of the weekday peak hour periods.

Table 8.1 – Prediction of vehicular trips

Type	Number of dwellings	Generation rate	Daily trips	Weekday peak hour trips
Residential	280	7.4 daily trips, with 0.78 trips in the peak hour periods	2,072	218

8.2 Assignment of peak hour trips to the surrounding road network

It is common with urban residential dwellings that 90 percent of trips leave the property in the morning peak, with the opposite occurring in the evening. The new trips have been assigned to the surrounding local road network, based on the new road layout associated with the new Bridgewater Bridge.

With the new road layout, the function of Old Main Road will change from a local road to a collector road, as an integral part of the grade separated interchange. The proximity of the northbound off-ramp to Cobbs Hill Road will reduce travel distance for local residents, which is expected to make Cobbs Hill Road the preferred route for motorists from Samual Street, Cobbs Hill Road, and a portion of Sorell Street. This assessment predicts that 56 percent of the additional traffic from the development site is likely to use Cobbs Hill Road in the morning peak, with a higher portion of 70 percent in the evening peak.

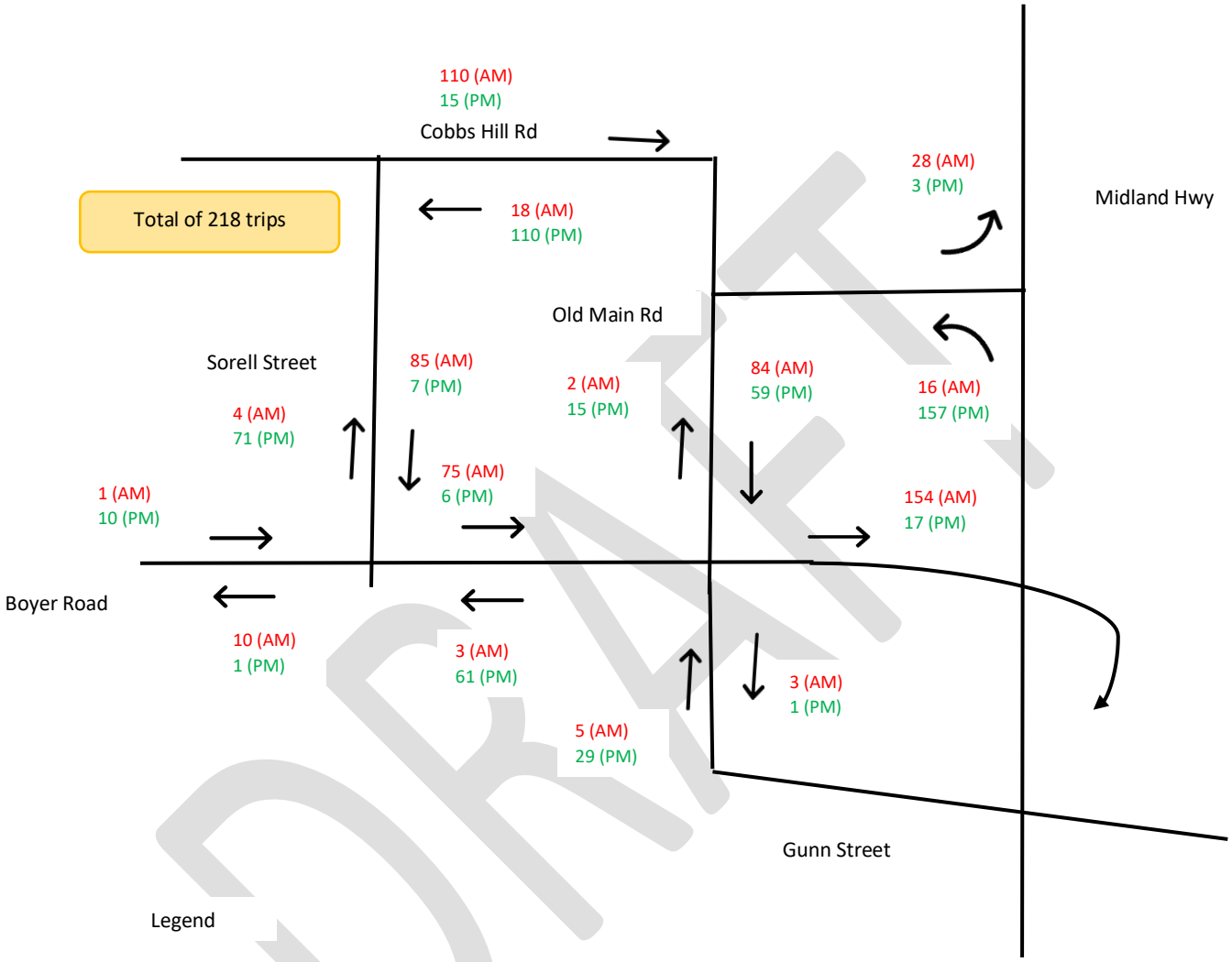
Based on the current trip distribution, the majority or 85 percent of the additional trips are likely to commute to the south, five percent of trips to the west towards New Norfolk, and ten percent to the north (which includes East Derwent Highway), as shown in Table 8.2A.

Table 8.2A – Predicted trip distribution to surrounding road network

Peak hour period	Sorell Street (56%)				Cobbs Hill Road				Total
	Leaving (56%)		Arriving		Leaving		Arriving		
	West	East	West	East	South	North	South	North	
Morning	10	76	1	3	84	26	16	2	218
Evening	1	6	10	61	12	3	15	110	218

Predicted trip distribution is also demonstrated in Diagram 8.2, with figures in red representing the morning peak hour and green the evening peak hour.

Diagram 8.2 – Assignment of additional trips from rezoning



108 (AM) - Number of trips in morning peak hour
109 (PM) – Number of trips in the evening peak hour

8.3 Impact of new trips on the local road network

The increase in traffic flow on the new road layout has been analysed using the same traffic methodology, including traffic modelling at the nodes. Tables 8.3A and 8.3B demonstrate the increase in directional traffic flow, and the predicted level of traffic performance for the links, and table 8.3C demonstrates traffic modelling results for the nodes.

In the morning peak hour, the two-way traffic flow on Cobbs Hills Road is predicted to have the highest increase from 7 to 138, however the road will continue to operate LOS A. Similarly, the two-way traffic flow in Sorell Street is predicted to increase from 23 to 112, and continue to operate at LOS A.

Due to Old Main Road being an integral part of the grade separation, there will be an increase in traffic flow, with predicted two-way flow to increase from 252 to 344, with the road predicted to continue to operate at LOS A, based on directional flows being under 200 vehicles per hour.

The southbound off-ramp will not adversely impact the traffic flow along Gunn Street east of the ramp, which will continue to operate at LOS A in the morning and LOS B during the evening.

For the State Road network, the two-way traffic flow on Boyer Road between Sorell Street and Old Main Road is predicted to increase from 320 to 398, but not cause a reduction in traffic efficiency. The southbound on-ramp is predicted to carry 469 vehicles in the morning, with motorists provided with an efficient flow with this ramp expected to operate at LOS B.

Table 8.3A – Comparison of traffic conditions - existing with rezoning (morning)

Road	Criteria	Existing traffic conditions			Future traffic conditions		
		EB or NB	WB or SB	Two-way	EB or NB	WB or SB	Two-way
Sorell Street	Flow	10	13	23	**14**	**98**	**112**
	LOS	A	A		A	A	
Cobbs Hill Road	Flow	2	5	7	**115**	**23**	**138**
	LOS	A	A		A	A	
Old Main Road	Flow	152	101	252	**152**	**192**	**344**
	LOS	A	A		A	A	
Boyer Rd (Sorell to Old Main)	Flow	214	106	320	**289**	**109**	**398**
	LOS	A			A		
Boyer On-ramp	Flow	315			**469**		
	LOS	A			B		
Gunn Street (SB off-ramp to Boyer Rd)	Flow	287	78	365	**292**	**80**	**372**
	Los	B	A		B	A	

Table 8.3B – Comparison of traffic conditions - existing with rezoning (evening)

Road	Criteria	Existing traffic conditions			Future traffic conditions		
		EB or NB	WB or SB	Two-way	EB or NB	WB or SB	Two-way
Sorell Street	Flow	17	27	40	**98**	**74**	**172**
	LOS	A	A		**A**	**A**	
Cobbs Hill Road	Flow	5	5	10	**20**	**115**	**135**
	LOS	A	A		**A**	**A**	
Old Main Road	Flow	141	322	463	**156**	**381**	**537**
	LOS	A	B		A	B	
Boyer Rd (Sorell to Old Main)	Flow	169	276	445	**220**	**337**	**557**
	LOS	A			**B**		
Boyer On-ramp	Flow	254			**356**		
	LOS	A			B		
Gunn Street (SB off-ramp to Boyer Rd)	Flow	288	206	494	**302**	**208**	**510**
	Los	B	B		B	B	

Tables 8.3A and 8.3B compare the traffic flow and performance when the additional 218 vehicular trips are generated by the development site, demonstrating no adverse traffic impact is expected on the surrounding road links during the weekday peak hour periods. This analysis demonstrates the surrounding road network has spare traffic capacity.

Traffic modelling of the surrounding nodes demonstrates the additional 218 trips in the peak hour periods is not expected to cause any reduction in traffic performance, with motorists to continue to receive the highest level of traffic performance, LOS A.

Table 8.3C – Summary of traffic modelling with rezoning

Junction intersection roundabout	Period	Total	DOS	Worst Delay Delay	Worst LOS	Max queue length
Sorell Street with Boyer Road	Morning	399	0.100	7.3 secs	A	2.1 metres
	Evening	525	0.185	8.3 secs	A	4.3 metres
Old Main Rd and Boyer Road new layout	Morning	789	0.340	8.3 secs	A	11.4 metres
	Evening	945	0.301	10.3 secs	A	9.1 metres
Old Main Road and highway off-ramp	Morning	465	0.129	7.7 secs	A	3.6 metres
	Evening	612	0.172	9.6 sec	A	3.2 metres
Gunn Street and southbound off-ramp	Morning	380	0.132	6.7 Secs	A	3.2 metres
	Evening	531	0.206	7.3 secs	A	5.2 metres

8.4 Impact on residential amenity from new trips

The RTA Guide for residential amenity on locals streets indicates two-way traffic flow of less than 300 vehicles per peak hour is acceptable, from a residential amenity perspective. Table 8.4 compares the two-way trips between the existing conditions and when the rezoning is generating additional traffic trips.

Although the existing traffic flow on Gunn Street east of the southbound off-ramp is predicted to exceed 300 vehicles in the evening peak, the rezoning is not expected to increase the traffic flow on this road, and therefore will not cause adverse impact to residential amenity.

Table 8.4 demonstrates new trips from the rezoning is not expected to cause a deterioration in residential amenity to the surrounding local roads.

Table 8.4 – Comparison of two-way traffic flow between existing and future trips

Road and link	Maximum	Morning peak hour		Evening peak hour	
		Existing	Future	Existing	Future
Sorell Street	300	23	**112**	26	**172**
Cobbs Hill Road		7	**137**	7	**135**
Gunn Street east of the off-ramp		247	**249**	346	**350**

8.5 Summary of peak hour traffic performance of rezoned area

Results of the traffic analysis of the surrounding road network is provided in the following diagrams 8.5A and 8.5B.

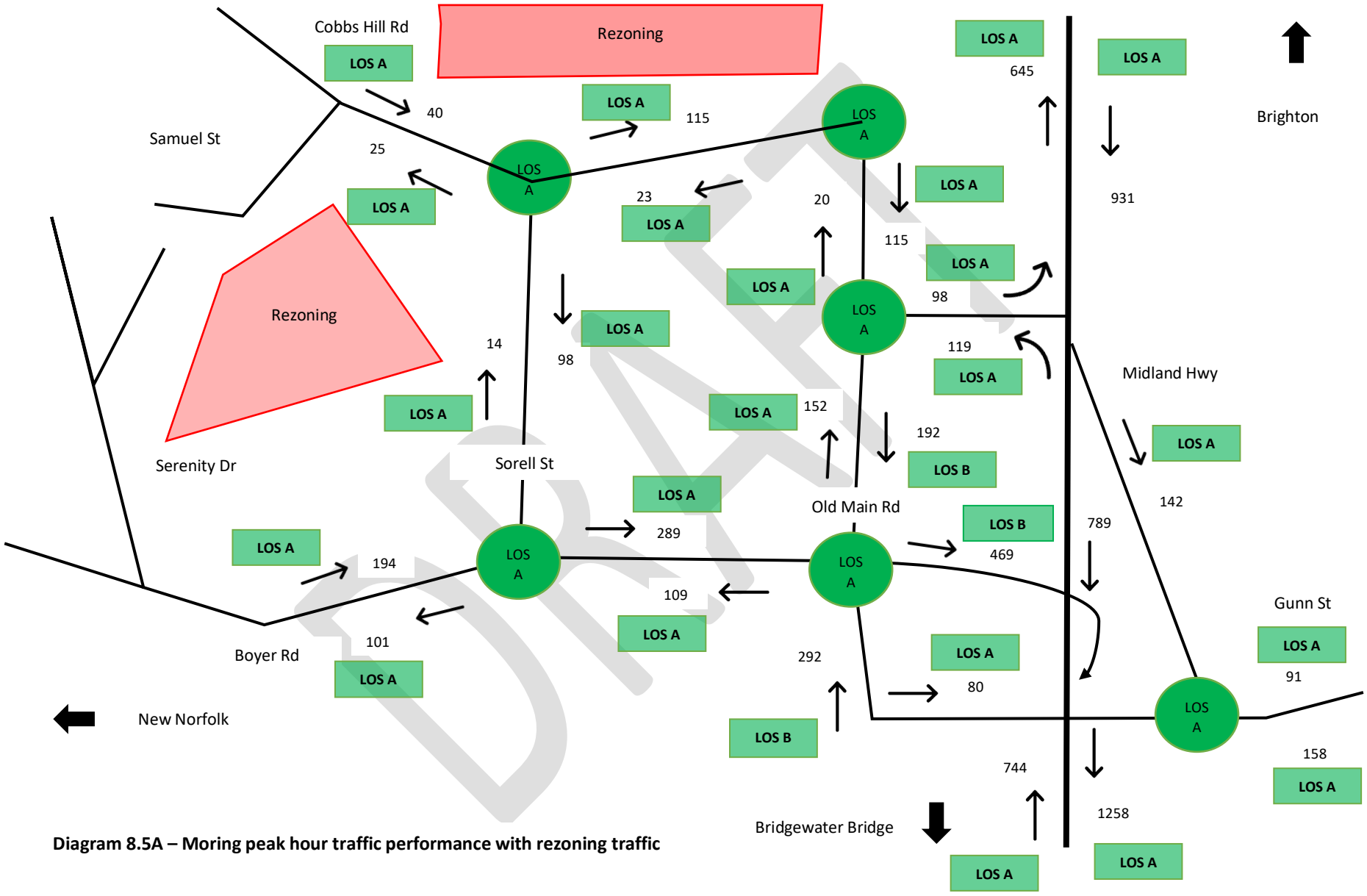


Diagram 8.5A – Moring peak hour traffic performance with rezoning traffic

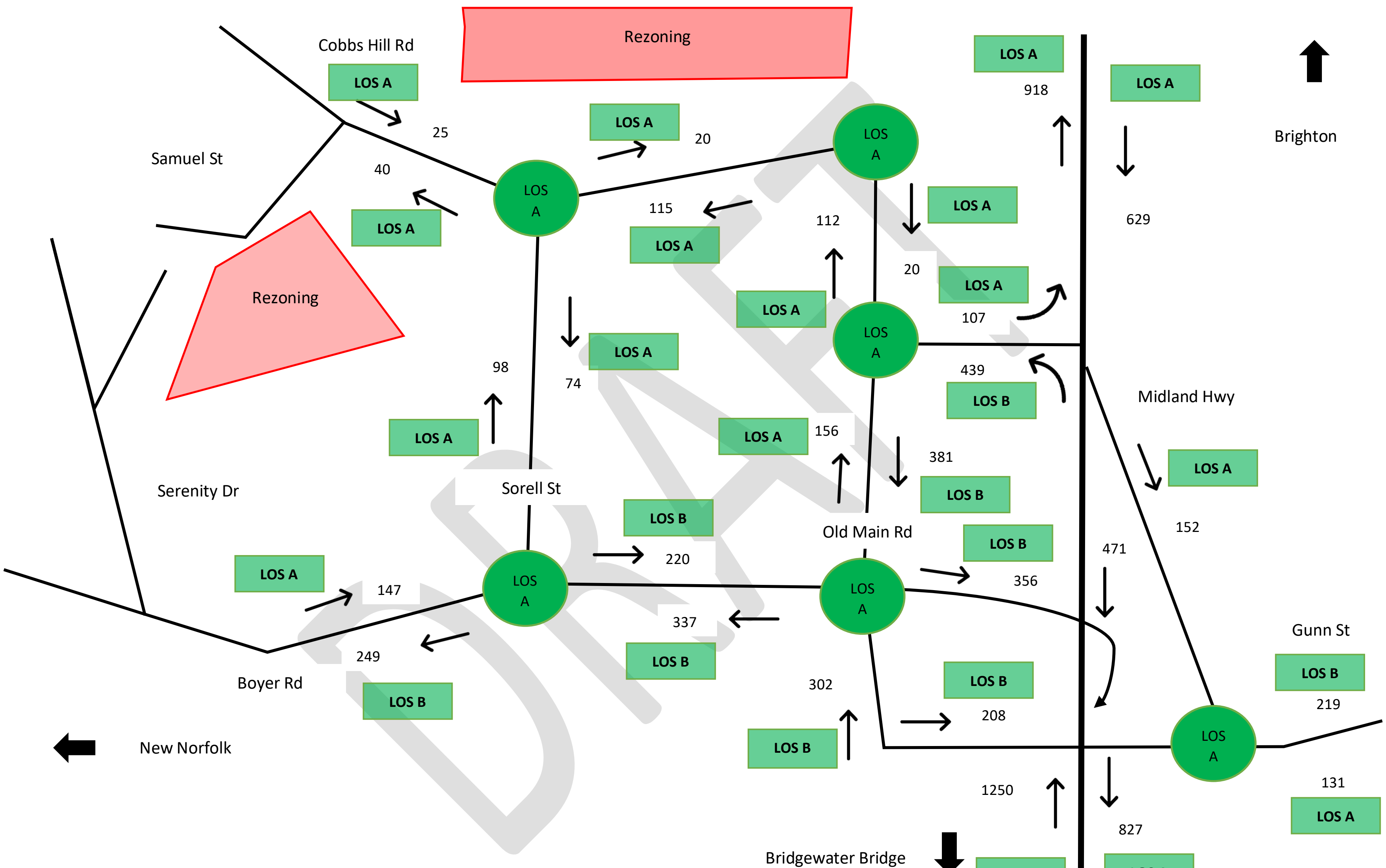


Diagram 8.5B – Evening peak hour traffic performance with rezoning traffic

9. Traffic efficiency impact to the State Road network

Rezoning of the land will intensify the traffic flow on the State Road network, along Boyer Road between the highway and Sorell Street and the Bridgewater Bridge. Table 9.0A demonstrates Boyer Road has sufficient spare traffic capacity to absorb the additional traffic, without adversely impacting traffic efficiency, with motorists continuing to receive an acceptable level of performance of LOS A or B.

Table 9.0A – Comparison of traffic conditions on Boyer Road

Peak hour period	Link	Existing traffic conditions		Future traffic conditions	
		Two-way flow	LOS	Two-way flow	LOS
Morning	Highway to Sorell St	313	A	398	A
	West of Sorell St	284	A	295	A
Evening	Highway to Sorell St	458	A	557	B
	West of Sorell St	396	A	396	A

Traffic capacity on the new Bridgewater Bridge will significantly increase, with the single traffic lane being replaced with dual lanes, all lanes will operate with uninterrupted traffic flow. The traffic performance on the bridge is expected to operate at LOS A, with sufficient spare traffic capacity to accommodate significant future traffic growth.

Table 9.0B – Comparison of traffic conditions on Bridgewater Bridge

Peak hour period	Existing conditions		Future traffic conditions with rezoning			
			Northbound carriageway		Southbound Carriageway	
	Northbound	Southbound	Flow	LOS	Flow	LOS
Morning	707	1058	744	A	1258	A
Evening	1088	671	1250	A	827	A

Density of traffic within the diverge and merge areas has been calculated using the formula in section 3.6, with the density ratio being less than 6. This means the merge and diverge areas are expected to operate at LOS A, providing motorists with the highest level of traffic performance.

10. Road standard of the surrounding local road network

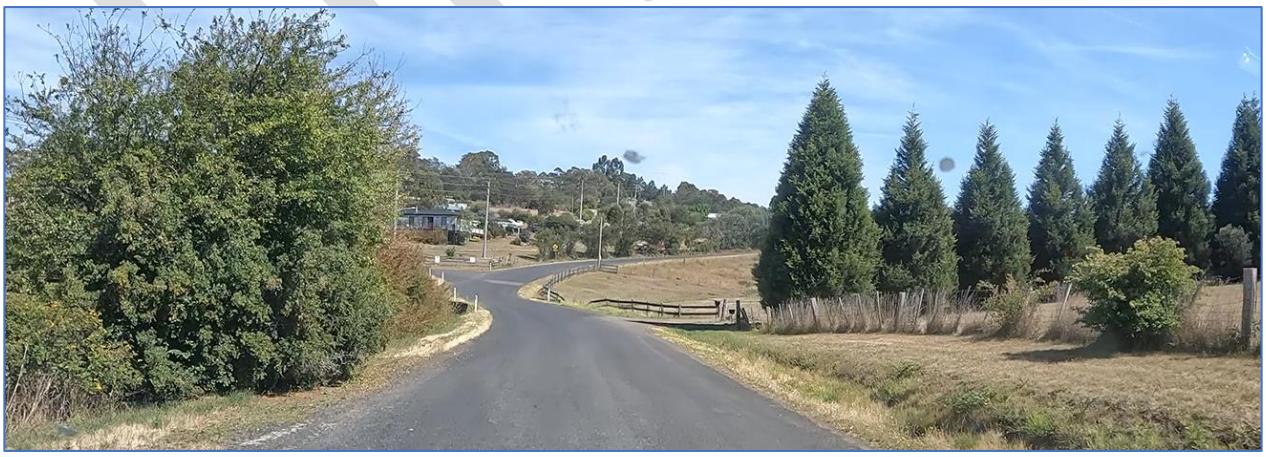
Sorell Street is built to a rural standard, with sealed pavement of sufficient width to accommodate two-way traffic, grassed verges, and gravel footpath along the eastern side. The road has a generally straight alignment and is situated on a mostly flat gradient. A posted speed limit of 50 km/h applies.

Along the eastern side of the road, where urban residential development has already occurred, the street has been upgraded to an urban standard, with concrete kerb and channelling, and a concrete footpath.

Photograph 10.0A – Sorell Street standard

Cobbs Hill Road has a rural road construction standard, and sealed bitumen surface of sufficient width to accommodate two-way traffic. The road has a generally straight alignment, with some long sweeping horizontal curves, and is situated within undulating terrain. A posted speed limit of 50 km/h applies.

Photograph 10.0B – Cobbs Hill Road standard



The road reserve of the section of Cobbs Hill Road between Sorell Street and Old Main Road is quite constrained, with established development along both sides. The road crosses a railway line that is controlled by flashing lights, there is no kerb and gutter, with the bitumen road surface in poor condition in some locations. The road alignment is generally straight, on relatively flat terrain.

Photograph 10.0C – Cobbs Hill Road between Sorell Street and Old Main Road

At the time of the site inspection, Old Main Road was undergoing road works to accommodate the infrastructure changes associated with the Bridgwater Bridge. At the completion of infrastructure changes, the road is expected to be constructed to an urban standard, with a sealed bitumen surface, concrete kerb and channel, concrete footpath, and sufficient road width to accommodate two-way traffic and on-street parking.

Photograph 10.0D – Old Main Road

Overall, the site inspection found no impediment with the surrounding local road network to prevent the rezoning to occur. It is assumed that the rezoning will include upgrading the local road network to urban standard, complying with LGAT standard drawings for an urban environment.

11. Road standard of Boyer Road

Boyer Road is part of the State Road Network and is classified as a Category 5 – Other Roads, which are primarily used as access roads for private properties and as low frequency heavy vehicle transport routes.

The road has been constructed to an urban standard from the signalised railway crossing to the Midland Highway, while between the signalised railway crossing to Sorell Street the road is or a rural standard.

Photograph 11.0A - Boyer Road standard between Midland Highway and Sorell Street

The site inspection found the road infrastructure no impediment to prevent the rezoning to occur. The intersection of Sorell Street and Boyer Road is controlled by give way signs and there is sufficient sight distance at the intersection for vehicles to turn in a safe and efficient manner. The intersection is covered by a 60 km/h speed limit.

Photograph 11.0B – Intersection of Sorell Street and Boyer Road

12. Conclusion

Rezoning the 28 hectares of land to general residential is predicted to generate an additional 218 vehicle trips in the weekday peak hour periods.

Extensive traffic analysis has demonstrated these additional peak hour trips can be accommodated within the surrounding road network, without causing a reduction in traffic performance, or adverse impact to residential amenity for the existing residential properties. The local road network will continue to operate at LOS A, which provides the highest level of traffic efficiency, with minimal traffic delays and queues. The State Highway network will also provide motorists with a high level of traffic efficiency of LOS A or B.

The traffic analysis has taken into consideration the road infrastructure changes that will occur with the completion of the new Bridgewater Bridge, and demonstrated the new traffic layout will have sufficient capacity to absorb the traffic increase. The dual traffic lanes on the bridge are expected to provide motorists will a high level of traffic efficiency, and there will be ample traffic capacity to accommodate significant future traffic growth.

The Bridgewater Bridge project includes grade separated interchanges, which will intensify the traffic flow at the Old Main Road and Boyer Road intersection, and its critical this intersection is managed by appropriate traffic control. As Old Main Road will become an integral part of the grade interchange, and be extended to Gunn Street, this road should become part of the State Road network.

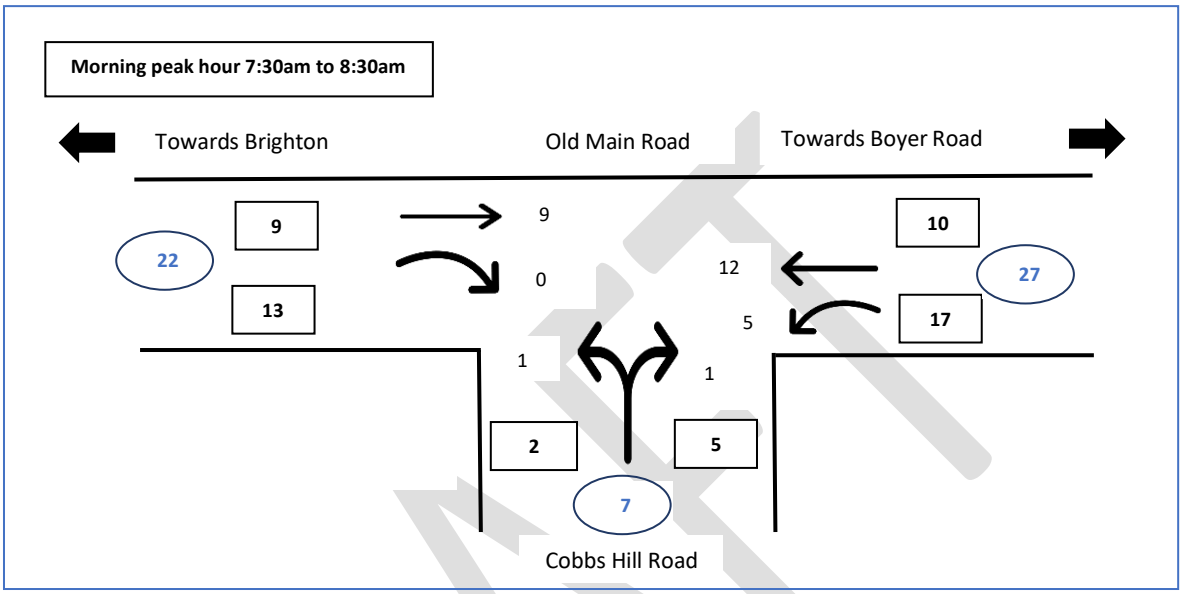
The Bridgewater Bridge project includes grade separated interchanges, which will intensify the traffic flow at the Old Main Road and Boyer Road intersection, with appropriate traffic control management necessary. Old Main Road will become an integral part of the grade interchange, which will be extended to Gunn Street, and it is recommended that this road become part of the State Road network.

This traffic assessment found no traffic engineering reason rezoning should not proceed.

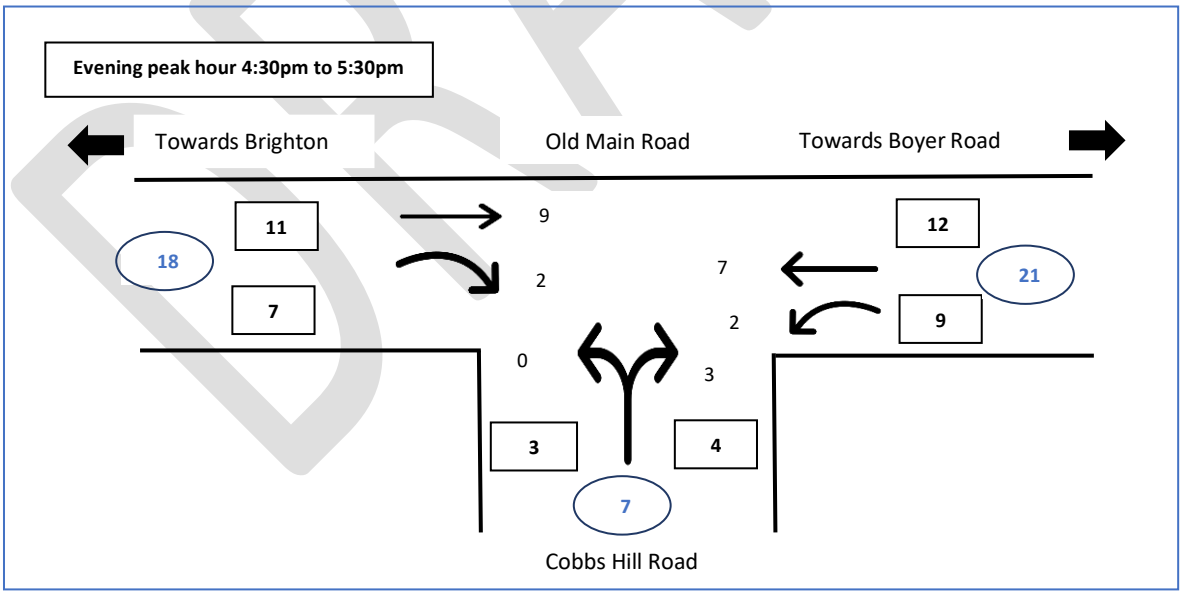
13. Appendix A – Existing traffic flows on surrounding road network

13.1 Old Main Road and Cobbs Hill Road

Morning peak hour traffic flow (7:30am to 8:30am)

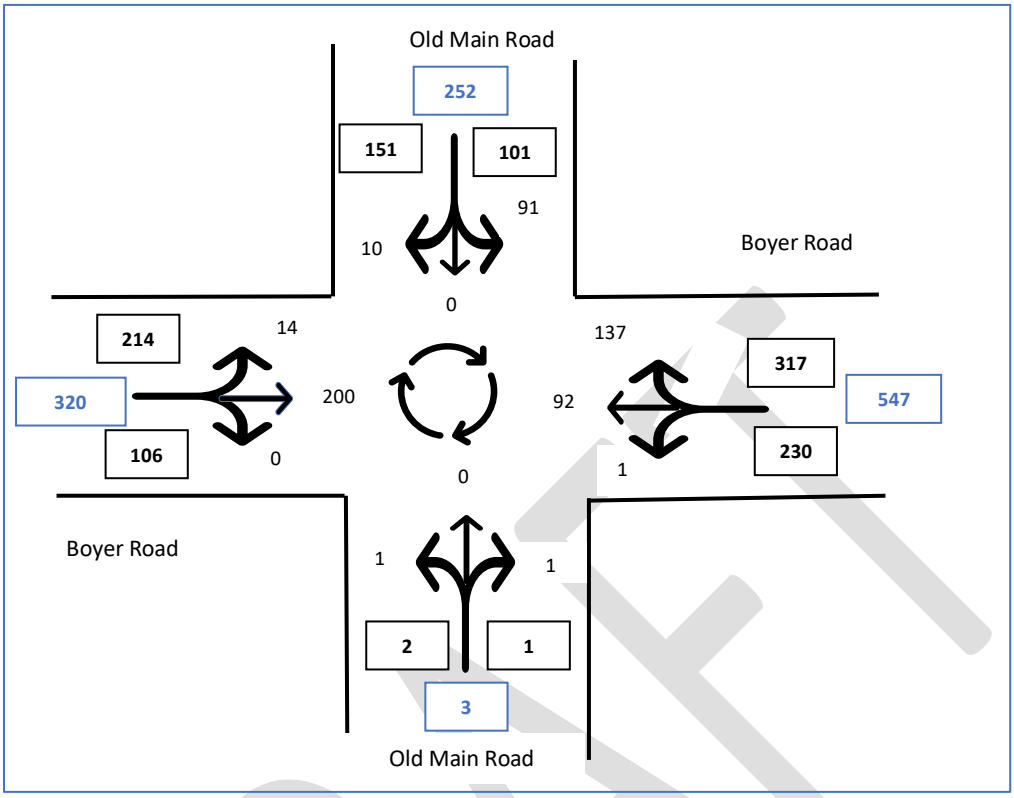


Evening peak hour traffic flow (4:30pm to 5:30pm)

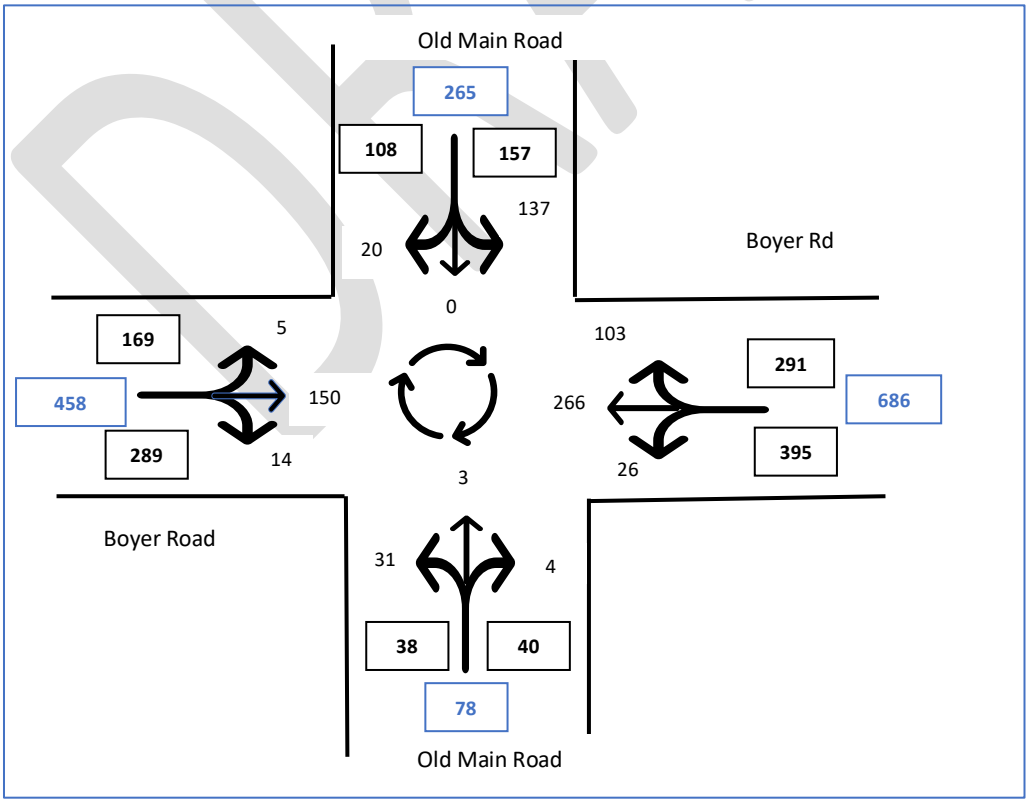


13.2 Boyer Road and Old Main Road adjusted

Morning peak hour traffic flow (7:45am to 8:45am)

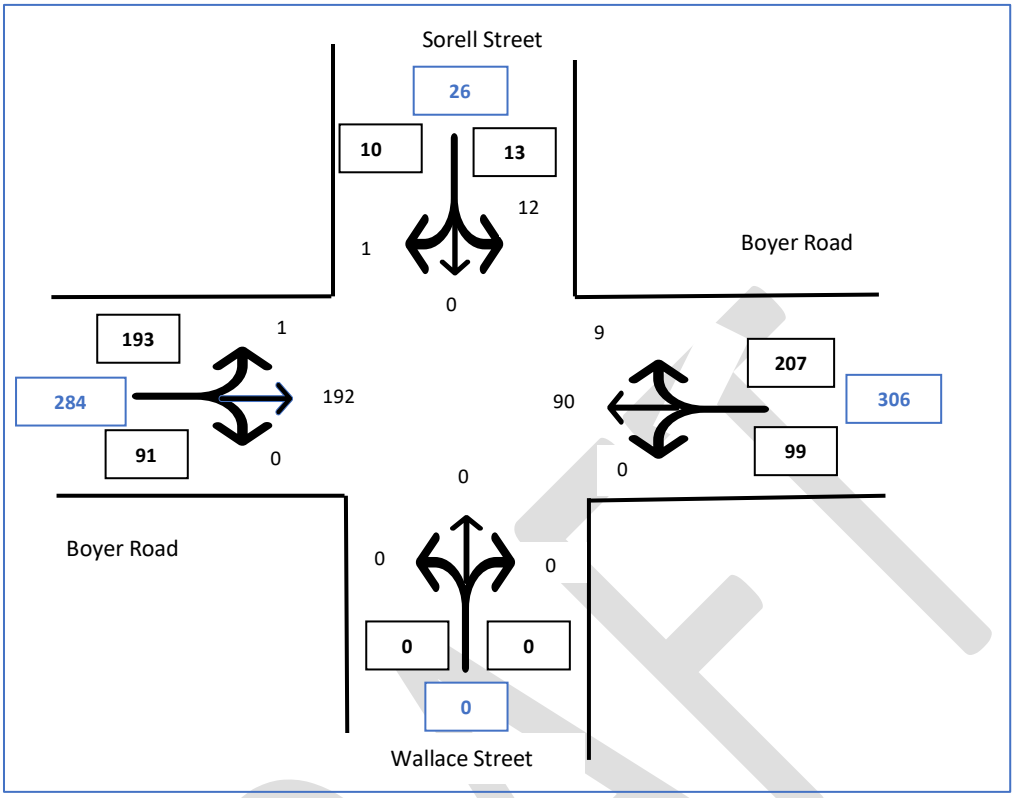


Evening peak hour traffic flow (4:30pm to 5:30pm)

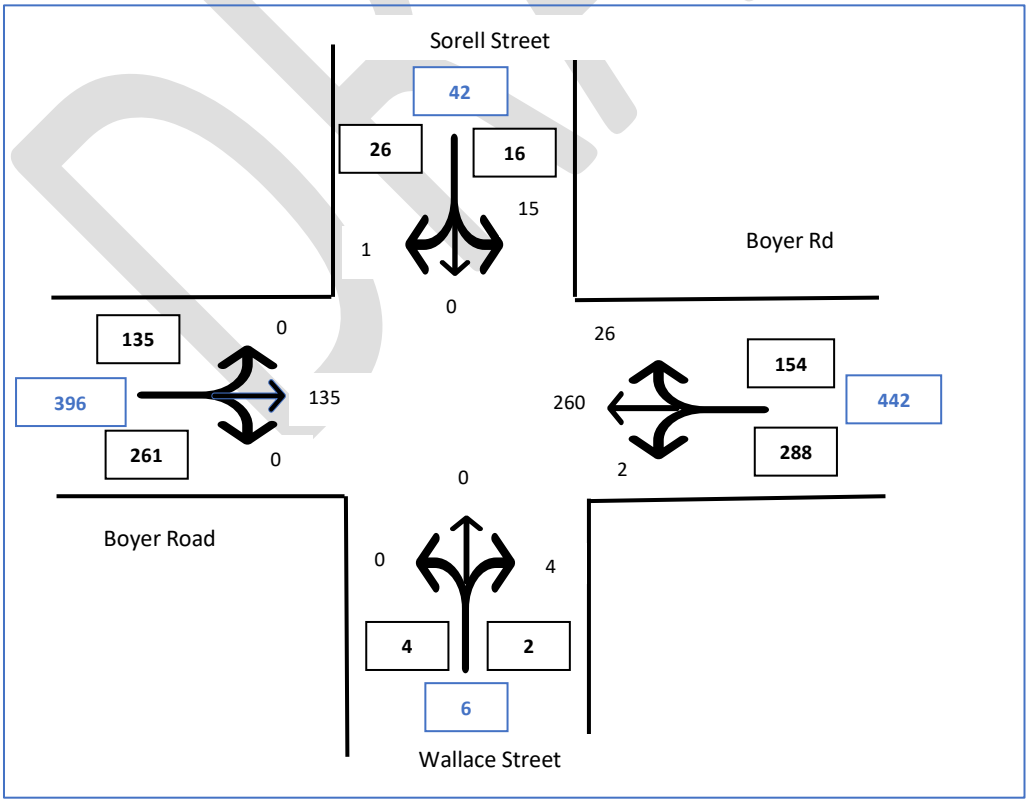


13.3 Boyer Road, Sorell Street and Wallace Street adjusted

Morning peak hour traffic flow (7:45am to 8:45am)

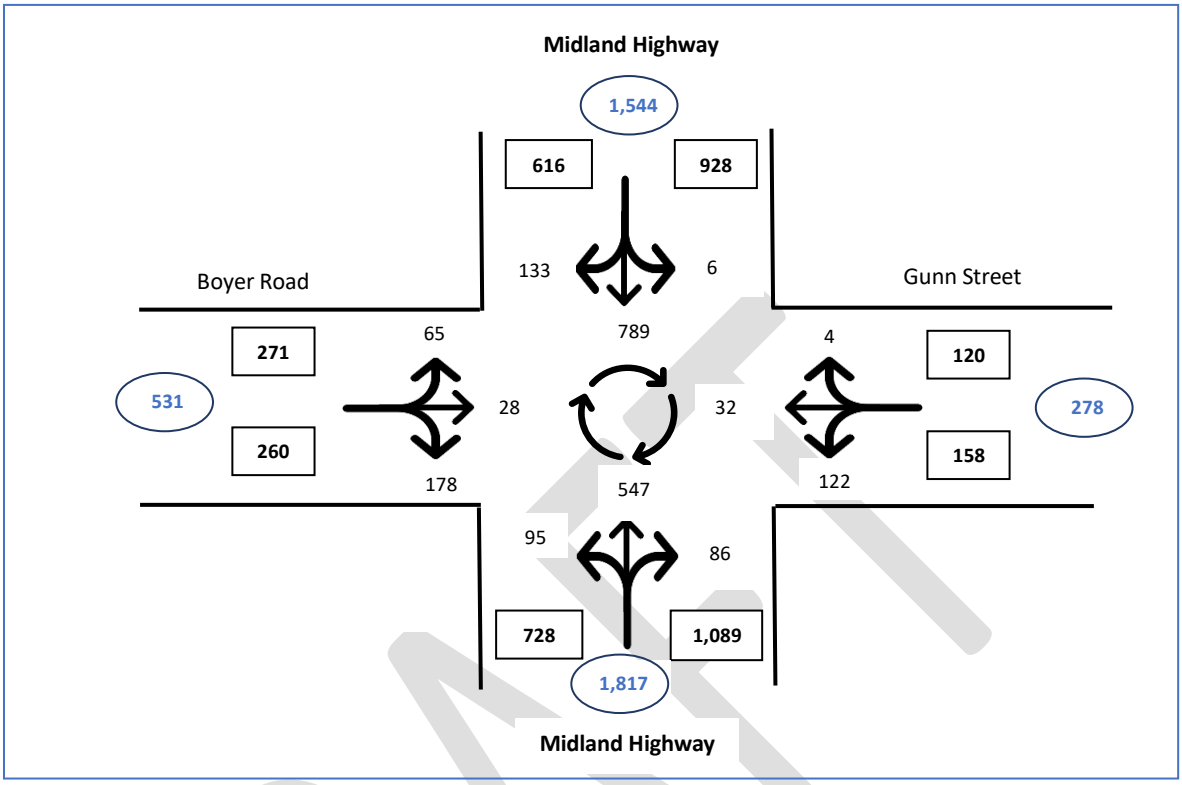


Evening peak hour traffic flow (4:30pm to 5:30pm)

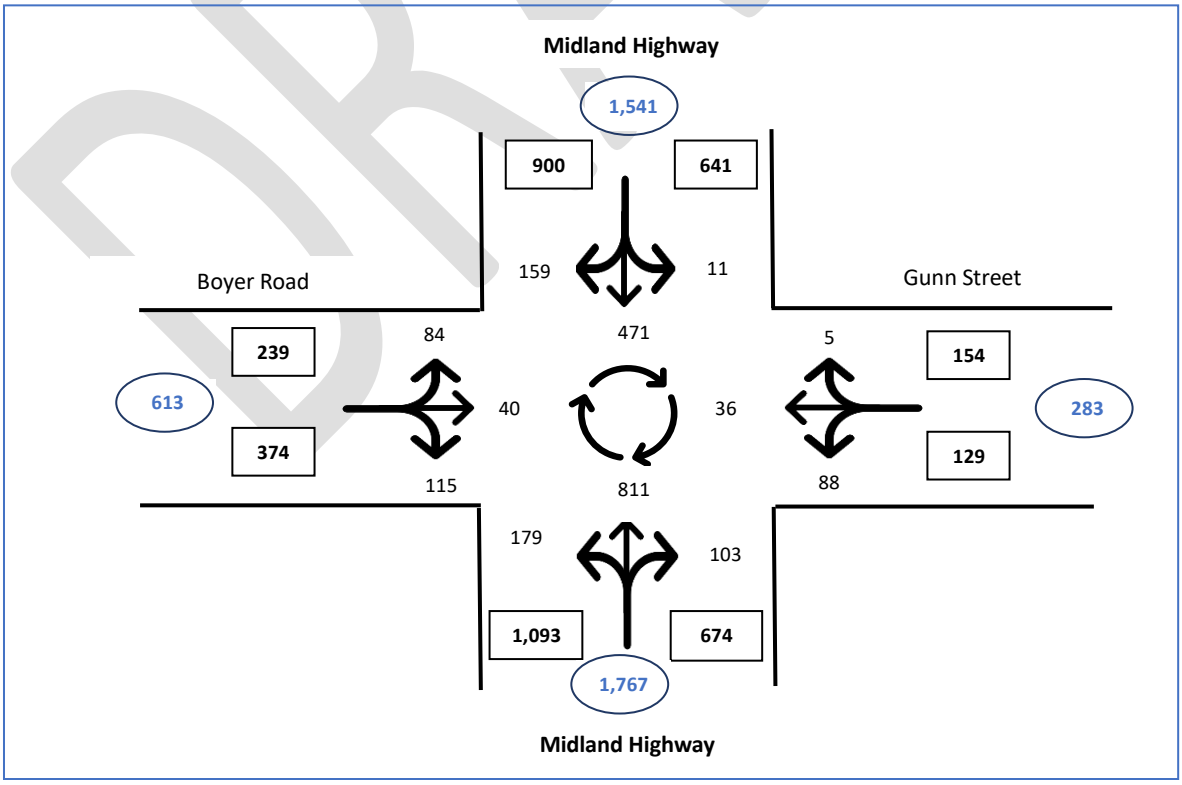


13.4 Midland Highway, Boyer Road and Gunn Street adjusted

Morning peak hour traffic flow (7:45am to 8:45am)



Evening peak hour traffic flow (4:30pm to 5:30pm)



14. Appendix B – Traffic modelling with rezoning traffic operating

Intersection of Sorell Street and Boyer Road

MOVEMENT SUMMARY

Site: 101 [Boyer Rd and Sorell St - Morning existing - with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Wallace Street								
1	L2	1	0.0	0.003	5.8	LOS A	0.0	0.1
2	T1	1	0.0	0.003	5.2	LOS A	0.0	0.1
3	R2	1	0.0	0.003	7.3	LOS A	0.0	0.1
Approach		3	0.0	0.003	6.1	LOS A	0.0	0.1
East: Boyer (Highway)								
4	L2	1	0.0	0.055	6.1	LOS A	0.1	0.6
5	T1	90	0.0	0.055	0.1	LOS A	0.1	0.6
6	R2	12	0.0	0.055	6.1	LOS A	0.1	0.6
Approach		103	0.0	0.055	0.9	NA	0.1	0.6
North: Sorell								
7	L2	87	0.0	0.076	6.1	LOS A	0.3	2.1
8	T1	1	0.0	0.076	5.4	LOS A	0.3	2.1
9	R2	10	0.0	0.076	7.0	LOS A	0.3	2.1
Approach		98	0.0	0.076	6.2	LOS A	0.3	2.1
West: Boyer (New Norfolk)								
10	L2	2	0.0	0.100	5.6	LOS A	0.0	0.1
11	T1	192	0.0	0.100	0.0	LOS A	0.0	0.1
12	R2	1	0.0	0.100	5.7	LOS A	0.0	0.1
Approach		195	0.0	0.100	0.1	NA	0.0	0.1
All Vehicles		399	0.0	0.100	1.8	NA	0.3	2.1

MOVEMENT SUMMARY

Site: 101 [Boyer Rd and Sorell St - Evening with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Wallace Street								
1	L2	1	0.0	0.008	6.3	LOS A	0.0	0.2
2	T1	1	0.0	0.008	6.3	LOS A	0.0	0.2
3	R2	4	0.0	0.008	8.3	LOS A	0.0	0.2
Approach		6	0.0	0.008	7.6	LOS A	0.0	0.2
East: Boyer (Highway)								
4	L2	2	0.0	0.185	6.1	LOS A	0.6	4.3
5	T1	247	0.0	0.185	0.2	LOS A	0.6	4.3
6	R2	87	0.0	0.185	6.0	LOS A	0.6	4.3
Approach		336	0.0	0.185	1.8	NA	0.6	4.3
North: Sorell								
7	L2	21	0.0	0.019	6.0	LOS A	0.1	0.5
8	T1	1	0.0	0.019	6.4	LOS A	0.1	0.5
9	R2	2	0.0	0.019	8.3	LOS A	0.1	0.5
Approach		24	0.0	0.019	6.2	LOS A	0.1	0.5
West: Boyer (New Norfolk)								
10	L2	11	0.0	0.082	5.6	LOS A	0.0	0.1
11	T1	147	0.0	0.082	0.0	LOS A	0.0	0.1
12	R2	1	0.0	0.082	6.3	LOS A	0.0	0.1
Approach		159	0.0	0.082	0.4	NA	0.0	0.1
All Vehicles		525	0.0	0.185	1.6	NA	0.6	4.3

MOVEMENT SUMMARY

Site: 101 [New layout Old Main and Boyer - Morning with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Gunn Street								
1	L2	62	0.0	0.166	6.0	LOS A	0.8	5.6
2	T1	106	0.0	0.166	0.4	LOS A	0.8	5.6
3	R2	122	0.0	0.166	6.2	LOS A	0.8	5.6
Approach		290	0.0	0.166	4.0	NA	0.8	5.6
North: Old Main Road								
7	L2	89	0.0	0.108	5.8	LOS A	0.4	2.7
8	T1	54	0.0	0.108	0.3	LOS A	0.4	2.7
9	R2	49	0.0	0.108	6.0	LOS A	0.4	2.7
Approach		192	0.0	0.108	4.3	NA	0.4	2.7
West: Boyer (New Norfolk)								
10	L2	48	0.0	0.340	6.2	LOS A	1.6	11.4
11	T1	230	0.0	0.340	7.1	LOS A	1.6	11.4
12	R2	29	0.0	0.340	8.3	LOS A	1.6	11.4
Approach		307	0.0	0.340	7.1	LOS A	1.6	11.4
All Vehicles		789	0.0	0.340	5.3	NA	1.6	11.4

MOVEMENT SUMMARY

Site: 101 [New layout Old Main and Boyer - Evening with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Gunn Street								
1	L2	144	0.0	0.182	6.0	LOS A	0.8	5.6
2	T1	73	0.0	0.182	0.6	LOS A	0.8	5.6
3	R2	100	0.0	0.182	6.4	LOS A	0.8	5.6
Approach		317	0.0	0.182	4.9	NA	0.8	5.6
North: Old Main Road								
7	L2	40	0.0	0.228	6.3	LOS A	1.2	8.4
8	T1	162	0.0	0.228	0.7	LOS A	1.2	8.4
9	R2	180	0.0	0.228	6.3	LOS A	1.2	8.4
Approach		382	0.0	0.228	3.9	NA	1.2	8.4
West: Boyer (New Norfolk)								
10	L2	85	0.0	0.301	5.9	LOS A	1.3	9.1
11	T1	120	0.0	0.301	8.4	LOS A	1.3	9.1
12	R2	41	0.0	0.301	10.3	LOS A	1.3	9.1
Approach		246	0.0	0.301	7.9	LOS A	1.3	9.1
All Vehicles		945	0.0	0.301	5.3	NA	1.3	9.1

Northbound off-ramp, Old Main Road and Cobbs Hill Road

MOVEMENT SUMMARY

▽ Site: 101 [NB Off-ramp -Old Main Rd - Morning with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Interchange off-ramp								
1a	L1	183	0.0	0.096	5.3	LOS A	0.0	0.0
3a	R1	14	0.0	0.008	5.0	LOS A	0.0	0.2
Approach		197	0.0	0.096	5.3	NA	0.0	0.2
NorthEast: RoadName								
24a	L1	26	0.0	0.129	5.5	LOS A	0.5	3.6
26	R2	89	0.0	0.129	7.7	LOS A	0.5	3.6
Approach		115	0.0	0.129	7.2	LOS A	0.5	3.6
NorthWest: RoadName								
27	L2	1	0.0	0.086	5.6	LOS A	0.4	2.9
29a	R1	152	0.0	0.086	4.8	LOS A	0.4	2.9
Approach		153	0.0	0.086	4.8	NA	0.4	2.9
All Vehicles		465	0.0	0.129	5.6	NA	0.5	3.6

MOVEMENT SUMMARY

▽ Site: 101 [NB Off-ramp -Old Main Rd - Evening with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Interchange off-ramp								
1a	L1	329	0.0	0.172	5.3	LOS A	0.0	0.0
3a	R1	110	0.0	0.061	5.0	LOS A	0.3	2.0
Approach		439	0.0	0.172	5.2	NA	0.3	2.0
NorthEast: RoadName								
24a	L1	4	0.0	0.023	5.4	LOS A	0.1	0.6
26	R2	12	0.0	0.023	9.6	LOS A	0.1	0.6
Approach		16	0.0	0.023	8.5	LOS A	0.1	0.6
NorthWest: RoadName								
27	L2	1	0.0	0.096	5.9	LOS A	0.5	3.2
29a	R1	156	0.0	0.096	5.1	LOS A	0.5	3.2
Approach		157	0.0	0.096	5.1	NA	0.5	3.2
All Vehicles		612	0.0	0.172	5.3	NA	0.5	3.2

Southbound off-ramp with Gunn Street

MOVEMENT SUMMARY

▽ Site: 101 [SB Off-ramp - Gunn St - Morning with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Gunn Street								
5	T1	158	0.0	0.081	0.0	LOS A	0.0	0.0
Approach		158	0.0	0.081	0.0	NA	0.0	0.0
North: SB off-ramp								
7	L2	11	0.0	0.132	5.8	LOS A	0.5	3.2
9	R2	131	0.0	0.132	6.7	LOS A	0.5	3.2
Approach		142	0.0	0.132	6.6	LOS A	0.5	3.2
West: Old Main Rd Extension								
11	T1	80	0.0	0.041	0.0	LOS A	0.0	0.0
Approach		80	0.0	0.041	0.0	NA	0.0	0.0
All Vehicles		380	0.0	0.132	2.5	NA	0.5	3.2

MOVEMENT SUMMARY

▽ Site: 101 [SB Off-ramp - Gunn St - Evening with rezoning]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Gunn Street								
5	T1	131	0.0	0.067	0.0	LOS A	0.0	0.0
Approach		131	0.0	0.067	0.0	NA	0.0	0.0
North: SB off-ramp								
7	L2	11	0.0	0.206	6.3	LOS A	0.7	5.2
9	R2	188	0.0	0.206	7.3	LOS A	0.7	5.2
Approach		199	0.0	0.206	7.2	LOS A	0.7	5.2
West: Old Main Rd Extension								
11	T1	207	0.0	0.106	0.0	LOS A	0.0	0.0
Approach		207	0.0	0.106	0.0	NA	0.0	0.0
All Vehicles		537	0.0	0.206	2.7	NA	0.7	5.2

northbarker
ECOSYSTEM SERVICES

Samuel St/Sorell St Rezoning, Bridgewater
NATURAL VALUES CONSIDERATIONS

16th February 2024

For Brighton Council

BCC001

313 Macquarie Street, Hobart Tasmania, 7000

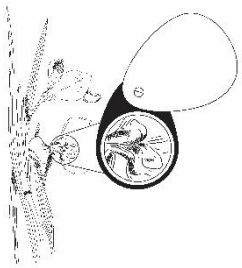
03 62319788

admin@northbarker.com.au www.northbarker.com.au

ACKNOWLEDGEMENTS

Project	Samuel St/Sorell St Rezoning
Location	Bridgewater
Proponent	Brighton Council
Client Contact	Jo Blackwell
Report and Photos	Ian Jenkinson
NBES Project Manager	Grant Daniels (gdaniels@northbarker.com.au
Mapping	Eric Hong
NBES Job Code	BCC001

Version	Date	Author & Comments	Position
V0.1	10/01/2024	Drafted by Ian Jenkinson	Graduate Ecologist
V0.2	1/02/2024	Reviewed by Jared Parry*, Kelly Simpson* and Sabine Borgas (editorial)	*Senior Ecologists
V1.0	2/02/2024	Delivered to client by Grant Daniels	Managing Director
V1.1	16/02/2024	Minor mapping edits. Delivered to client by Grant Daniels	Managing Director



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1. PROJECT DETAILS

1.1. BACKGROUND

Brighton Council (the Council) is investigating potential options to rezone an area approximately 30 ha in size, around Samuel Street and Sorell Street in Bridgewater (Figure 1).

The project area, the area defined by the Council to be rezoned, is currently zoned entirely as Rural Living (Zone 11) under the Tasmanian Planning Scheme (Figure 2). The project area consists of a mixture of rural-living blocks and agricultural land. The agricultural land runs through the middle of the project area and is presently used for livestock (sheep) grazing. The project area is intersected by Ashburton Creek, for which the Council is also investigating options to rezone it separately to the rest of the project area.

The Council is considering two options with regards to the potential rezoning of the project area:

1. Rezone the entirety of the area to General Residential (Zone 8); or
2. Rezone the area as a mixture of General Residential (Zone 8) and Low Density Residential (Zone 10).

Council have indicated that Ashburton Creek will be rezoned as Open Space (Zone 29) due to the high level of catchment flows which can occur along the creek. Rezoning the creek as Open Space will prevent future unsuitable development, such as residential dwellings, within the creek corridor.

Brighton Council have engaged North Barker Ecosystem Services (NBES) as part of the planning process to provide information on any constraints associated with existing natural values in the area and the implications any changes to the zoning would have if the area around Samuel and Sorell streets, Bridgewater, were to be rezoned. As part of this process, NBES has completed a natural values assessment (NVA) of the project area (Figure 1) to inform the Council of existing values and potential implications of the rezoning.

1.2. METHODS

The assessment was informed by the *Guidelines for Natural Values Surveys*[1]. Field surveys were undertaken by NBES on the 18th of December, 2023.

Native and non-native vegetation (including modified land) was mapped in accordance with units defined in TASVEG 4.0[2]. The site was surveyed using a meandering area search technique[3]. All location data was recorded with a handheld GPS and/or GPS mobile app (± 5 m accuracy).

Additional survey effort was applied to habitats suitable for threatened species and/or vegetation communities (listed under the Tasmanian *Threatened Species Protection Act 1995* [TSPA], the Tasmanian *Nature Conservation Act 2002* [NCA], and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* [EPBCA]), and to 'declared' weeds listed under the Tasmanian *Biosecurity Act 2019* (BA) and associated *Biosecurity Regulations 2022*, and Weeds of National Significance (WoNS) under the *Australian Weed Strategy 2017–2027.*

Botanical nomenclature follows the current census of Tasmanian plants[4].

The Natural Values Atlas (NVA) database was consulted for records of threatened species and vegetation types within a 5 km radius. The possibility of the project area supporting threatened natural values known from within this radius has been considered in the interpretation of results and discussion.

[1] DPIPWE (2015)
[2] Kitchener and Harris (2013)
[3] Goff *et al.* (1982)
[4] de Salas and Baker (2023)

1.3. LIMITATIONS

The field survey was undertaken in early summer. Values that are seasonal or require specific germination triggers may have been absent or undetectable. Fauna habitat, including the presence of hollows and nests, was assessed from ground level only.

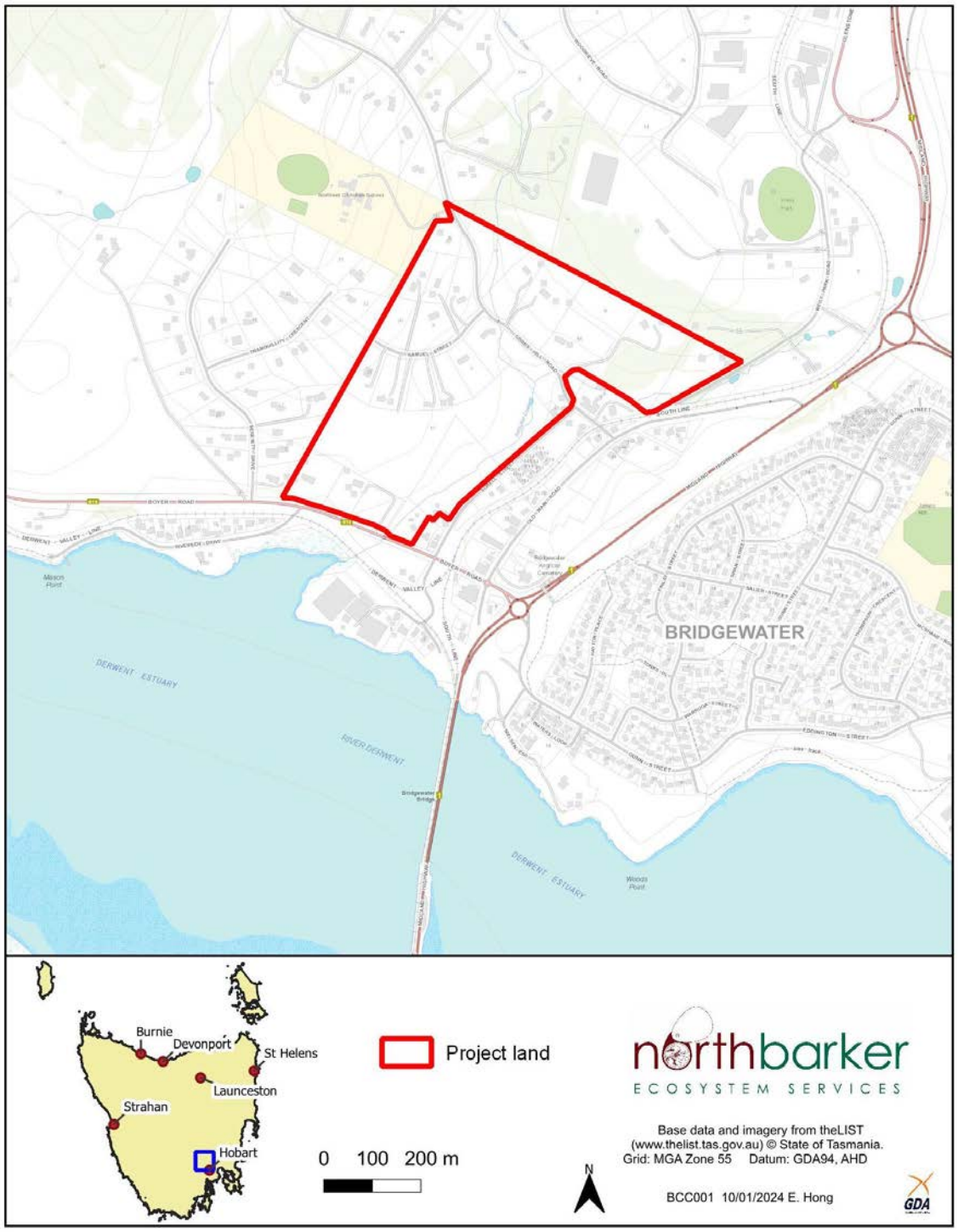

Figure 1: Locality of the project area

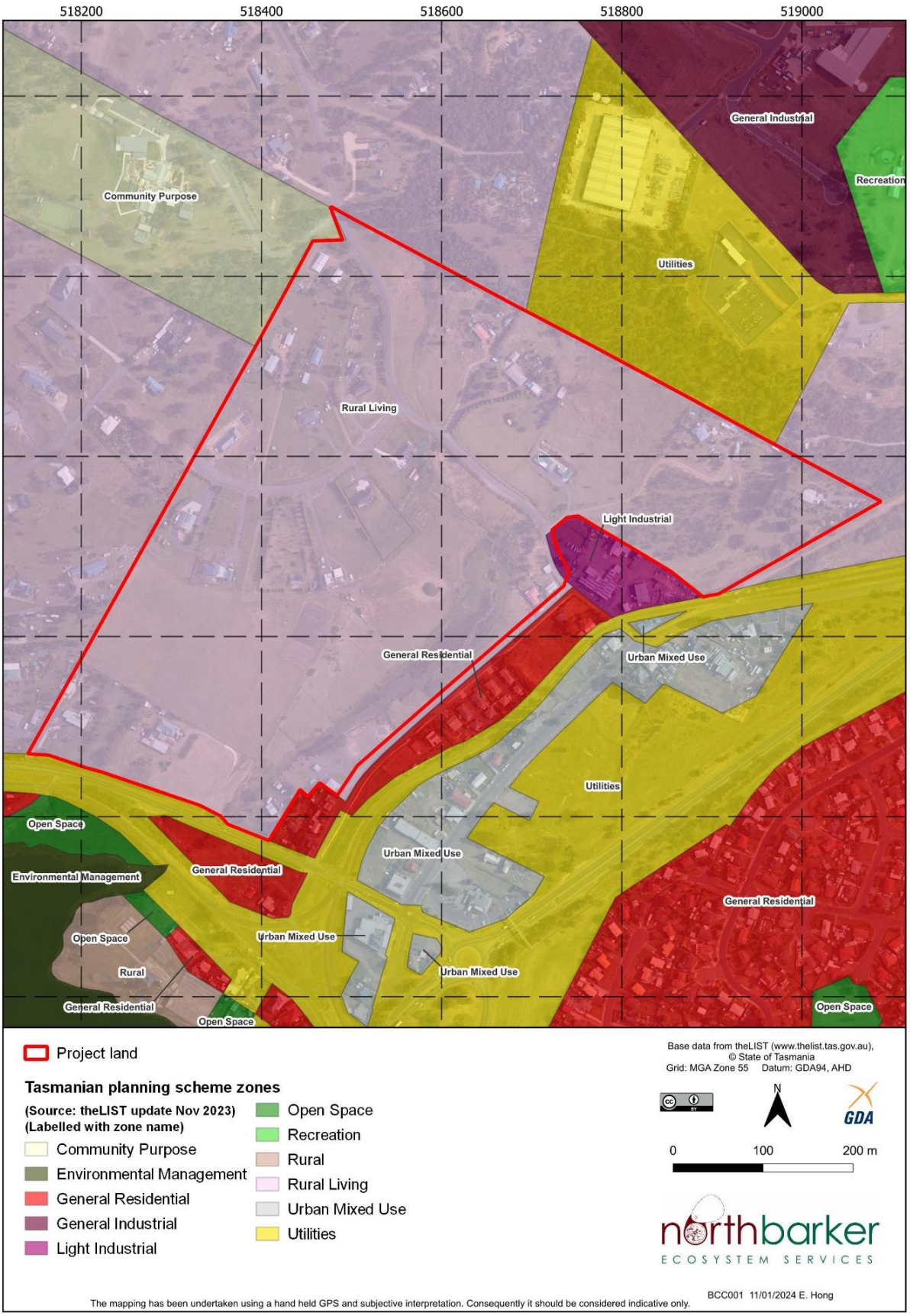

Figure 2: Current zoning of the project area

2. SITE VALUES

2.1. VEGETATION COMMUNITIES

The project area comprises mostly modified land, with some areas of remnant native vegetation in poor condition. One NCA listed threatened ecological community, 'wetlands', is present in the project area. No EPBCA listed communities are present in the project area. The distribution of vegetation is displayed in Figure 3.

2.1.1. Freshwater aquatic sedgeland and rushland (ASF)

This native vegetation community is present along Ashburton Creek in two separate locations, covering a total of 1.45 ha (5 % of the project area). The community is characterised by the dominance of sedges, such as *Schoenopletcus pungens*, and rushes, such as *Juncus kraussii* (Plate 1). Both species are abundant in the community. Cover of floating aquatic species, such as *Lemna disperma*, was low at the time of survey due to the low water level with the exception of a few standing pools.

The larger area of ASF mapped to the west of Sorell Street is freely accessible to livestock and, as such, is in poor condition (Plate 2). There is evidence of grazing and trampling of vegetation by livestock across the entire patch. Weeds, such as spear thistle (*Cirsium vulgare*), and the BA declared weed, slender thistle (*Carduus pycnocephalus*), are widespread and encroaching into this community from adjacent paddock areas.

The small area of ASF to the east of Cobbs Hill Road, whilst currently not being accessible to livestock, is in similarly poor condition, with weeds, such as wild teasel (*Dipsacus fullonum*), abundant (Plate 3).

Despite the poor condition, mapped areas of this community meet the criteria established under Schedule 3A of the NCA, to be classified as the threatened ecological community "Wetlands" (Appendix A). These patches satisfy the criteria as the "*vegetation is dominated by native sedges, rushes and occasionally tussock grasses in an area inundated by fresh (not brackish and never highly saline) water for some or most of the year*"[5].

Beyond the mapped areas of ASF, the riparian corridor of Ashburton Creek has been modified to an extent that it is no longer definable as a native vegetation community[6]. The creek line has been modified into different forms, such as culverts and lawns (Plate 4).

Plate 1: ASF wetlands present along the Ashburton Creek, to the west of Sorell Street

[5] Department of Natural Resources and Environment (2022)
[6] Kitchener and Harris (2013)

Plate 2: The ASF wetland (dark green and brown in the middle of the paddock) is freely accessible to stock and shows signs of grazing, trampling and weed infestations throughout

Plate 3: Weeds, such as wild teasel (brown plants on the edge of the pool), are common around the edges of the ASF

Plate 4: Part of Ashburton Creek which has been entirely modified

2.1.2. *Bursaria–Acacia* woodland and scrub (NBA)

This native vegetation community is found at one location, covering 0.92 ha (3.2 % of the project area), in the north-east corner of the project area, north of the Council Depot on Cobbs Hill Road (Figure 3).

The community is dominated by *Bursaria spinosa* in the shrub and tree layer, with a mixture of native and exotic grasses and herbs in the understorey (Plate 5). Native grasses, such as *Themeda triandra, Rytidosperma caespitosum* and *Austrostipa stuposa*, and native herbs, such as *Oxalis perennans* and *Convolvulus angustissimus* subsp. *angustissimus* are widespread ground covers; however, introduced grasses, such as *Dactylis glomerata* and *Holcus lanatus*, and introduced herbs, such as *Linum trigynum* and *Centaurium erythraea*, are equally widespread and more dominant in some parts of the community.

The overall condition of this community is generally poor to moderate with several slashed tracks present through the patch (Plate 6) and the woody weed, sweet briar (*Rosa rubiginosa*) also widespread in the understorey.

This community can form part of an EPBCA listed critically endangered ecological community if certain criteria are satisfied[7]. However, the patch of NBA present in the project area does not satisfy these criteria[8] as:

- it does not have sufficient diversity of wildflower species;
- more than 20 % of the plant species present are introduced; and
- it has more than 30 % solid crown cover of *Bursaria spinosa* (Plate 7).

Plate 5: Typical composition of the NBA

[7] NBA can form part of the EPBCA-listed community "Lowland Grasslands of Tasmania" if condition criteria are met; Department of the Environment, Water, Heritage and the Arts (2010)

[8] Department of the Environment, Water, Heritage and the Arts (2010)

Plate 6: One of the slashed tracks through the NBA

Plate 7: Cover of *Bursaria spinosa* is ~60 % in the NBA patch

2.1.3. Modified land (FUR, FAG & FWU)

The project area comprises mostly modified land, with approximately 26.48 ha (92 % of the project area) mapped as rural living blocks (FUR), agricultural land (FAG) and weed infestation (FWU) (Figure 3). These mapping units are described below.

Urban areas (FUR)

There are multiple lots within the project area that are currently occupied by private residences. These lots contain a mixture of built infrastructure, such as sheds and houses, and planted gardens/lawns (Plate 8).

The roadsides in these areas are dominated by introduced grasses, such as *Dactylis glomerata* and *Panicum capillare*, and introduced herbs, such as *Helminthotheca echioides* and *Malva sylvestris*. Many declared weeds are present in these areas as well, including blackberry, fennel, and gorse, which were often found to be mown on the roadside (Plate 9).

Plate 8: Private residences on Samuel Street

Plate 9: Mown gorse was found on the roadside of Samuel Street

Agricultural Land (FAG)

The central part of the project area between Samuel Street and Sorell Street is currently used as agricultural land and consists of cleared paddocks (Plate 10). Livestock (sheep) grazing was the main land use observed in the area mapped as FAG (Plate 11).

The area is heavily modified with vegetation intensively grazed, with only weeds with defensive spines, such as African boxthorn (BA declared), slender thistle (BA declared) and sweet briar, and those that are unpalatable, such as espartillo (*Amelichloa caudata*) (BA declared), forming larger plants (Plate 12).

The composition of the vegetation is dominated by introduced pasture grasses, such as *Avena* sp., *Hordeum* sp., *Dactylis glomerata* and *Cynosurus* spp., and agricultural weeds, such as capeweed (*Arctotheca calendula*), spear thistle (*Cirsium vulgare*) and sweet briar.

Although some native species are present, including *Convolvulus angustissimus* subsp. *angustissimus* and *Dodonaea viscosa*, they are present in low abundance and make a negligible contribution to the vegetation cover. Native species in the FAG area occur in greatest numbers around the edges of the ASF wetland, where the ASF transitions to FAG.

Plate 10: Typical composition of the FAG

Plate 11: Sheep are the main livestock grazing in the FAG areas

Plate 12: Plant species with defensive thorns or spines, such as sweet briar and African boxthorn (pictured), remain ungrazed

Weed Infestation (FWU)

Weed species are widespread and abundant across the project area. One small patch around Ashburton Creek, to the north of Boyer Road, is dominated by declared weeds to such an extent that it is categorised as a weed infestation (FWU;[9] Plate 13). This infestation covers 0.06 ha and comprises the declared weeds African boxthorn, blackberry, fennel, white weed and prickly pear. Prickly pear (*Opuntia stricta*; Plate 14) (BA Declared) is not found anywhere else in the project area.

Plate 13: View of the FWU from Boyer Road

Plate 14: Prickly pear and white weed in the FWU

[9] Kitchener and Harris (2013)

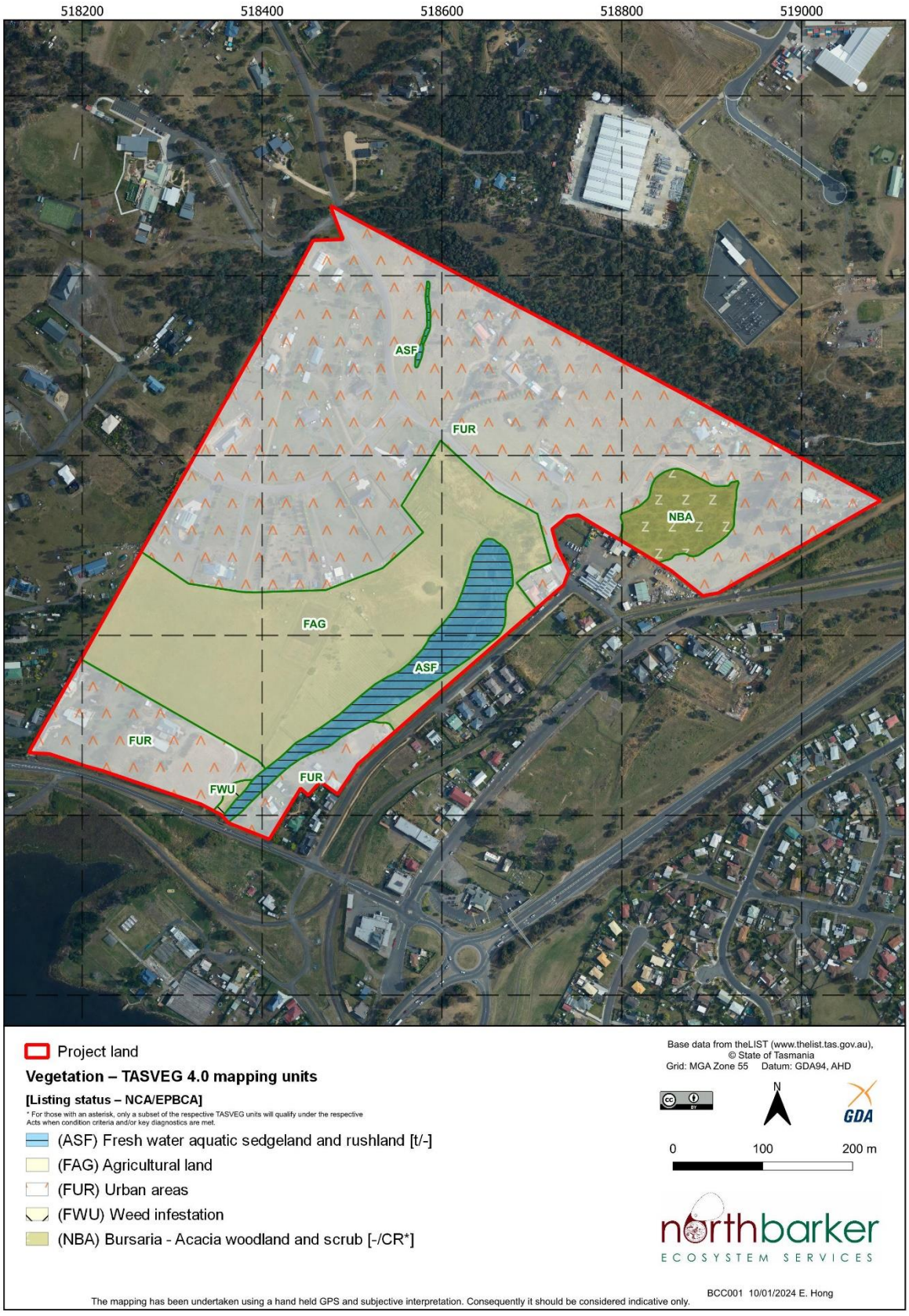

Figure 3: Vegetation mapped by NBES and classified using TASVEG 4.0 units within the project area

2.2. THREATENED FLORA

No flora species listed under either the TSPA or EPBCA were observed during the survey or have been recorded in the project area in the past, according to the Natural Values Atlas[10].

Due to the modified nature of much of the project area and its small size, it is unlikely that any threatened flora species were overlooked at the time of survey.

2.2.1. Threatened flora recorded within 500 m of the project area

Vittadinia gracilis and *Austrostipa bigeniculata*, both species listed as rare under the TPSA, are threatened flora species with the closest reliable records[11] to the project area (refer to Figure 4). These two species have been recorded most frequently, compared to other threatened flora species, within 500 m of the project area (Table 1). Previous records occur grassy roadside reserves in the nearby area (Figure 4). Similar habitat to this, and other suitable habitat, was extensively searched within the project area but no plants of either species were recorded.

Eleven additional threatened species have been recorded within 500 m of the project area, none of which are listed under the EPBCA (Table 1). None of these species were observed and all are highly unlikely to occur in the project area as suitable habitat is not widely available.

Table 1: Verified threatened flora records from within 500 m of the project area. Sourced from the Natural Values Atlas (Department of Natural Resources and Environment, 2023)

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Asperula scoparia subsp. scoparia	prickly woodruff	r		n	1	30-Nov-2000
Austrostipa bigeniculata	doublejointed speargrass	r		n	10	27-May-2020
Calocephalus citreus	lemon beautyheads	r		n	1	05-Mar-1945
Calocephalus lacteus	milky beautyheads	r		n	1	05-Mar-1945
Carex gunniana	mountain sedge	r		n	1	01-Jan-1912
Haloragis aspera	rough raspwort	v		n	1	05-Mar-1945
Haloragis heterophylla	variable raspwort	r		n	1	05-Mar-1945
Schoenoplectus tabernaemontani	river clubsedge	r		n	1	08-Apr-2020
Stuckenia pectinata	fennel pondweed	r		n	1	01-Dec-1891
Triptilodiscus pygmaeus	dwarf sunray	v		n	1	25-Oct-1972
Vittadinia burbidgeae	smooth new-holland-daisy	r		e	1	14-Sep-1988
Vittadinia gracilis	woolly new-holland-daisy	r		n	9	04-Nov-2020
Vittadinia muelleri	narrowleaf new-holland-daisy	r		n	1	08-Apr-2020
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	p		n	1	01-Sep-1992

2.2.2. Threatened flora recorded within 5 km of the project area

Forty-nine threatened flora species listed under the TSPA (with nine also listed under the EPBCA) have previously been recorded within 5 km of the project area[10] (Table 2). None of these species were observed and all are unlikely to occur in the project area.

[10] Department of Natural Resources and Environment (2023) Report generated: nvr_3_18-Dec-2023.pdf

[11] *Haloragis heterophylla* is the closest threatened flora species to be recorded to the project area; however, the location of this record is not reliable as it has an accuracy of 2.5 km and was recorded in 1945.

Table 2: Verified threatened flora records from within 5 km of the project area. Sourced from the Natural Values Atlas (Department of Natural Resources and Environment, 2023)

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Aphelia gracilis	slender fanwort	r		n	1	01-Jan-1993
Asperula scoparia subsp. scoparia	prickly woodruff	r		n	5	27-Jul-2016
Austrostipa bigeniculata	doublejointed speargrass	r		n	132	11-Feb-2022
Austrostipa blackii	crested speargrass	r		n	2	07-Jan-2004
Bolboschoenus caldwellii	sea clubsedge	r		n	24	01-Jun-2017
Brachyscome rigidula	cutleaf daisy	v		n	3	31-Mar-1995
Caladenia anthracina	blacktip spider-orchid	e	CR	e	2	01-Sep-1920
Caladenia caudata	tailed spider-orchid	v	VU	e	16	29-Sep-2011
Caladenia filamentosa	daddy longlegs	r		n	1	22-Oct-1947
Calocephalus citreus	lemon beautyheads	r		n	42	10-Feb-2020
Calocephalus lacteus	milky beautyheads	r		n	6	01-Dec-1992
Carex gunniana	mountain sedge	r		n	1	01-Jan-1912
Colobanthus curtisiae	grassland cupflower	r	VU	n	1	01-Jan-1877
Coronidium gunnianum	swamp everlasting	?e		n	1	01-Jan-1900
Dianella amoena	grassland flaxlily	r	EN	n	307	24-Feb-2022
Diuris palustris	swamp doubletail	e		n	1	01-Oct-1977
Eryngium ovinum	blue devil	v		n	1	06-Dec-2004
Eucalyptus risdonii	risdon peppermint	r		e	63	10-Apr-2015
Glycine latrobeana	clover glycine	v	VU	n	3	21-Nov-2008
Gratiola pubescens	hairy brooklime	r		n	1	01-Feb-1892
Haloragis aspera	rough raspwort	v		n	1	05-Mar-1945
Haloragis heterophylla	variable raspwort	r		n	36	23-Nov-2021
Hibbertia basaltica	basalt guineaflower	e	EN	e	97	12-Jan-2022
Isoetopsis graminifolia	grass cushion	v		n	121	13-Jan-2022
Lachnagrostis robusta	tall blowngrass	r		n	1	23-Dec-1943
Lepidium hyssopifolium	soft peppercress	e	EN	n	9	01-Jun-2006
Lepilaena patentifolia	spreading watermat	r		n	1	27-Feb-1976
Lythrum salicaria	purple loosestrife	v		n	1	01-Mar-1894
Pellaea calidirupium	hotrock fern	r		n	4	12-Jan-2022
Pterostylis ziegeleri	grassland greenhood	v	VU	e	20	04-Nov-2016
Pultenaea prostrata	silky bushpea	v		n	1	11-Nov-2004
Ranunculus pumilio var. pumilio	ferny buttercup	r		n	1	27-Sep-1993
Ruppia megacarpa	largefruit seatassel	r		n	12	10-Mar-2021
Schoenoplectus tabernaemontani	river clubsedge	r		n	2	08-Apr-2020
Scleranthus fasciculatus	spreading knawel	v		n	7	20-Jan-2023
Senecio squarrosus	leafy fireweed	r		n	21	26-Jun-2023
Stackhousia subterranea	grassland candles	e		n	7	02-Nov-2021
Stuckenia pectinata	fennel pondweed	r		n	1	01-Dec-1891
Thesium australe	southern toadflax	x	VU	n	1	01-Jan-1804
Triptilodiscus pygmaeus	dwarf sunray	v		n	59	09-Nov-2021
Vallisneria australis	river ribbons	r		n	2	01-Mar-1894
Velleia paradoxa	spur velleia	v		n	6	15-Oct-2004
Vittadinia burbidgeae	smooth new-holland-daisy	r		e	2	01-Oct-2008
Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	r		n	2	05-Jan-1991
Vittadinia gracilis	woolly new-holland-daisy	r		n	74	04-Nov-2020
Vittadinia muelleri	narrowleaf new-holland-daisy	r		n	305	01-Feb-2022
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	p		n	36	05-Jan-2005
Xanthoparmelia amphixantha		e		n	5	01-Oct-2008
Xanthoparmelia vicariella		r		e	3	02-Dec-2021

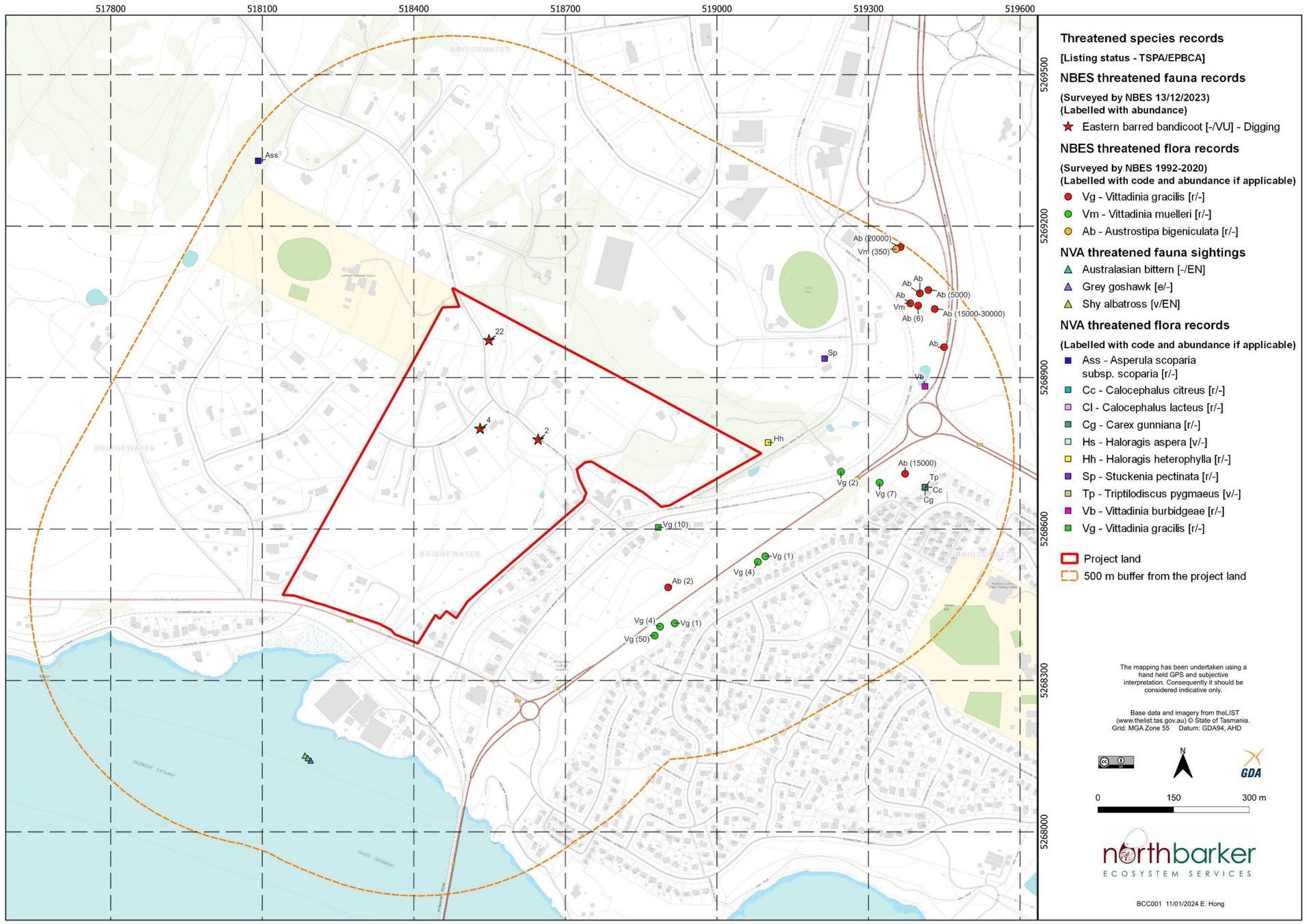

Figure 4: Threatened fauna signs observed in the project area, and previously recorded[12] threatened flora and fauna species within 500 m of the project area.

[12] Previously recorded by North Barker Ecosystem Services or the Natural Values Atlas of Tasmania

2.3. THREATENED FAUNA AND THREATENED FAUNA HABITAT

Potential signs of one threatened fauna species, eastern barred bandicoot (*Perameles gunnii*), were observed within the project area. No other signs characteristic of threatened fauna, such as scats, prints, dens or diggings were observed.

Foraging habitat exists for the eastern barred bandicoot with the project area, as well as marginal foraging habitat for other species discussed below.

2.3.1. Eastern barred bandicoot (*Perameles gunnii*)

Small conical diggings that are characteristic for bandicoot species[13] were encountered occasionally across the project area (Plate 15) (Figure 4). The diggings were mostly associated with the grassy roadside edges, where cover, such as fence-line shrubs, is present. These diggings can be attributed to either the EPBCA listed vulnerable eastern barred bandicoot (*Perameles gunnii*) or the non-threatened southern brown bandicoot (*Isoodon obesulus*). Further investigations would be needed to reliably determine which species are present in the project area.

Given that the paddock areas have been grazed heavily (removing cover and nesting habitat; Plate 16), it is likely that these areas provide only foraging habitat for the species[13]. Within the mapped area of NBA, there is sufficient vegetation cover of native tussocks and sedges (Plate 5), to provide suitable nesting habitat for the species.

Plate 15: One of the small conical bandicoot diggings observed

[13] Department of the Environment, Water, Heritage and the Arts (2008)

Plate 16: Heavily grazed paddocks with no vegetation cover for native fauna to shelter

2.3.2. Threatened fauna recorded within 500 m of the project area

According to the Natural Values Atlas[14], three threatened fauna species have been recorded within 500 m of the project area, including:

- grey goshawk – *Accipiter novaehollandiae* (TSPA Endangered): recorded once in 1911
- Australasian bittern – *Botaurus poiciloptilus* (EPBCA Endangered): recorded once in 1981
- shy albatross – *Thalassarche cauta* (TSPA Vulnerable /EPBCA Endangered): recorded once in 1884

Aside from the historical nature of these records, they also have high spatial inaccuracy (5 km)[14] and as such may have never occurred within 500 m of the project area (Figure 4). There is no suitable habitat present for the grey goshawk or the shy albatross within the project area, thus there is no chance of their occurrence. Wetland areas[15] mapped as ASF provide marginal foraging habitat for the Australasian bittern however, given the poor condition of these areas this species is considered unlikely to occur within the project area.

2.3.3. Threatened fauna recorded within 5 km of the project area

Within 5 km of the project area, 19 listed threatened fauna species have previously been recorded (Table 3). Of these additional species, the blue-winged parrot (*Neophema chrysostoma*) (-/VU) and the green and gold frog (*Litoria raniformis*) (v/VU) are considered to have suitable habitat available in the project area (as well as eastern barred bandicoot, as discussed in Section 2.3.1).

For most of the other threatened species listed in Table 3, there is no suitable habitat present onsite and limited likelihood of them occurring. Some of the threatened species, specifically the eastern quoll (*Dasyurus viverrinus*), spotted-tail quoll (*Dasyurus maculatus*), Tasmanian devil (*Sarcophilus harrisii*), great crested grebe (*Podiceps cristatus*), wedge-tailed eagle (*Aquila audax fleayi*), white-bellied sea-eagle (*Haliaeetus leucogaster*) and the Tasmanian masked owl (*Tyto novaehollandiae castanops*) are likely to be transient foraging visitors only to the area as there is no suitable nesting or denning habitat present.

[14] Department of Natural Resources and Environment (2023) Report generated: nvr_3_18-Dec-2023.pdf
[15] Threatened Species Section (2024)

Blue-winged parrot (*Neophema chrysostoma*) (-/VU)

This species was listed as a vulnerable species under the EPBCA in March 2023[16]. Suitable foraging habitat for this species is present, as it is known to forage in paddocks to feed on seeds of native and introduced grasses, herbs, and shrubs[16]. No suitable nesting habitat for this species was observed in the project area.

Green and gold frog (*Litoria raniformis*) (v/VU)

This frog species is found in lowland areas, primarily near the coast[17]. The species require permanent or temporary waterbodies for survival and tend to inhabit those containing emergent plants such as *Triglochin procera* or species of *Juncus* or sedge[17]. Areas of Ashburton Creek mapped as ASF provide marginal habitat for the species although it is considered highly unlikely to occur at this location given there is only one historical record of this species from within 5 km of the project area.

Table 3: Verified threatened fauna records from within 5 km of the project area. Sourced from the Natural Values Atlas (Department of Natural Resources and Environment, 2023)

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Accipiter novaehollandiae	grey goshawk	e		n	12	09-Mar-2019
Alcedo azurea subsp. diemenensis	azure kingfisher or azure kingfisher (tasmanian)	e	EN	e	1	01-Jan-1900
Aquila audax	wedge-tailed eagle	pe	PEN	n	17	20-Sep-2019
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	3	31-Mar-2023
Botaurus poiciloptilus	australasian bittern		EN	n	9	09-Jun-2017
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	3	12-Feb-2023
Dasyurus viverrinus	eastern quoll		EN	n	8	09-Dec-2019
Eagle sp.	Eagle	e	EN	n	2	07-May-2020
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	25	14-Jan-2021
Hirundapus caudacutus	white-throated needletail		VU	n	2	31-Dec-1980
Lathamus discolor	swift parrot	e	CR	mbe	17	04-Oct-2022
Litoria raniformis	green and gold frog	v	VU	n	1	14-Dec-1970
Neophema chrysostoma	blue-winged parrot		VU	n	7	09-Feb-2019
Pardalotus quadragintus	forty-spotted pardalote	e	EN	e	3	14-Oct-1920
Perameles gunnii	eastern barred bandicoot		VU	n	34	16-Nov-2022
Perameles gunnii subsp. gunnii	eastern barred bandicoot		VU		6	20-Aug-2021
Podiceps cristatus	great crested grebe	v		n	11	30-Nov-2020
Poliocephalus cristatus subsp. australis	great crested grebe	pv			1	07-Dec-1981
Prototroctes maraena	australian grayling	v	VU	ae	4	28-Oct-1987
Sarcophilus harrisii	tasmanian devil	e	EN	e	24	27-Dec-2022
Sterna striata	white-fronted tern	v		n	1	04-Mar-2013
Thalassarche cauta	shy albatross	v	EN	ae	1	23-Nov-1884
Tyto novaehollandiae	masked owl	pe	PVU	n	9	13-Feb-2019

2.4. INTRODUCED FLORA

Introduced flora species were ubiquitous across the project area with declared, WoNS and environmental weeds being widespread and abundant. Of the 100 recorded species, 74 species (or 74 %) are introduced (Appendix B).

2.4.1. Declared Weeds

Nine species listed as 'declared' under the BA were recorded in the project area at the time of the survey. Five of these species are additionally listed as a Weed of National Significance (WoNS). Many of these declared weeds occur as moderate infestations across the project area (Figure 5). Declared weeds and WoNS observed, and their general extent within the project area, are summarised in Table 4.

[16] Department of Climate Change, Energy, the Environment and Water (2023)

[17] Habitat descriptions are informed by threatened species note sheets available at the Threatened Species Link (https://www.threatenedspecieslink.tas.gov.au/Pages/default.aspx)

Of the declared weeds, six are classified as Class B weeds in Brighton Council, whilst three are classified as Class A weeds. The Statutory Weed Management Plan for the prickly pear was not available at the time of this report, therefore the weed will be treated as a Class A species.

According to the provisions of the Tasmanian *Biosecurity Regulations 2022*, administered under the Tasmanian *Biosecurity Act 2019*, Class A localities are areas in which eradication is deemed feasible (generally due to the existence of a targeted management plan) and is the responsibility of the landowner or land manager, or in the case of disturbance the development proponent.

Class B municipalities are those which host moderate or large infestations of the declared weed that are not deemed eradicable because the feasibility of effective management is low at this time. Therefore, the objective is containment of infestations. This includes preventing spread of the declared weed from the municipality or into properties currently free of the weed, or for which a locally integrated weed management plan for that species has been developed or is being implemented. There is also a requirement to prevent spread of the weeds to properties containing sites for significant flora, fauna, and vegetation communities.

Table 4: Extent of declared and WoNS species found within the project area

Species	WoNS Status	BA Class	Extent
African boxthorn *Lycium ferocissimum*	**YES**	**B**	Abundant and forms thick patches in the agricultural paddocks and along fence lines.
blackberry *Rubus fruticosus* aggregate	**YES**	**B**	Abundant and forms thick patches along the roadside edges.
boneseed *Chrysanthemoides monilifera* subsp. *monilifera*	**YES**	**A**	A few plants and clusters of plants are present in the NBA behind the Council Depot.
espartillo *Amelichloa caudata*	**-**	**A**	Numerous plants occur in three different locations across the project area. Plants were found to be mature and bearing seed (Plate 17).
fennel *Foeniculum vulgare*	**-**	**B**	Widespread across the roadside edges and occasionally found in the paddocks.
gorse *Ulex europaeus*	**YES**	**B**	Occurs as isolated plants and clusters of plants in the roadside and along fence lines.
prickly pear *Opuntia stricta*	**YES**	**A**	One large plant is present along the edge of Ashburton Creek in the south of the project area in FWU.
white weed *Lepidium draba*	**-**	**B**	Occurs as patches of plants across the project area.
slender thistle *Carduus pycnocephalus*	**-**	**B**	Widespread across the project area and occurs in large patches, with 100s of plants within a patch. Most abundant in agricultural areas.

Plate 17: Espartillo, one of the declared weeds and WoNS recorded in the project area

2.4.2. Non-declared Weeds

Additionally, many species classified as 'environmental weeds'[18] were observed across the project area (Appendix B). Environmental weeds with low abundance, such as cotoneaster, hawthorn and blue periwinkle (Plate 18), had their locations recorded (Figure 5). The individual locations of other weeds, such as sweet briar, spear thistle, capeweed and dock, which were widespread and abundant, were not recorded, though their presence in an area was noted (Plate 19).

Environmental weeds observed within the project area include:

- agapanthus (*Agapanthus praecox* subsp. *orientalis*)
- blue periwinkle (*Vinca major*)
- cotoneaster (*Cotoneaster glaucophyllus* var. *serotinus* and *Cotoneaster pannosus*)
- great mullein (*Verbascum thapsus* subsp. *thapsus*)
- hawthorn (*Crataegus monogyna*)
- radiata pine (*Pinus radiata*)
- sweet briar (*Rosa rubiginosa*)
- variegated thistle (*Silybum marianum*)

[18] Department of Natural Resources and Environment (2024)

Plate 18: Blue periwinkle occurs as one large patch on the edge of the NBA community

Plate 19: Typical weedy composition of fence lines with declared weeds (fennel and blackberry pictured) and non-declared weeds (sweet briar and hawthorn pictured)

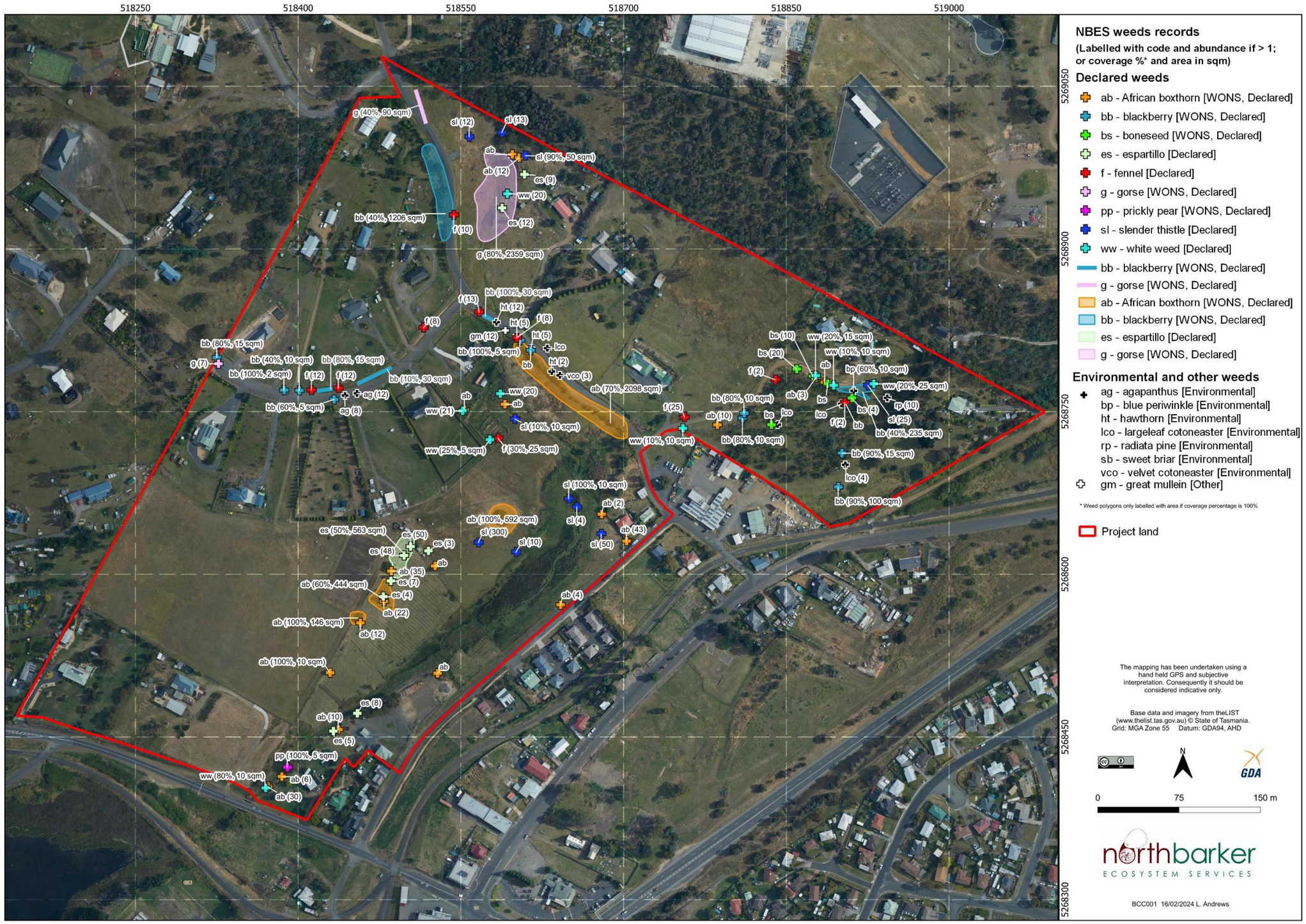

Figure 5: Declared and environmental weeds within the project area.

3. POTENTIAL IMPLICATIONS OF PROPOSED REZONING ON NATURAL VALUES

The impact of any particular development on natural values observed within the project area has not been assessed in this report. This report provides a comprehensive summary of natural values present. It also provides an indication of the potential constraints these natural values may present on any future development associated with the rezoning options proposed by Brighton Council.

The natural values constraints and the implications of rezoning on the natural values present are discussed in Table 5 and are summarised below.

Rezoning of Ashburton Creek to Open Space (Zone 11):

- This would assist with conserving the NCA listed threatened vegetation community, Wetlands (ASF) by preventing existing inappropriate uses (i.e. grazing) that are currently degrading the community and averting future development of the area.
- Potential marginal habitat for the threatened green and gold frog would be protected and conserved.
- High catchment flow events will be able to occur unimpeded by inappropriate uses of the creek.

It is recommended that Council consider alternative zoning options for the Ashburton Creek riparian corridor that would place stricter planning regulations on this area to better reflect the natural values of the creek .

- The Landscape Conservation Zone (Zone 22) and the Environmental Management Zone (Zone 23) are two appropriate alternative zoning options. The purposes of these zones are "protection, conservation and management of the values of the land"[19]. Thus, the threatened vegetation community and threatened fauna habitat that Ashburton Creek supports will be protected. Future restoration and revegetation of the riparian corridor would also serve to link foreshore areas with bushland to the north of the project area. This would also assist with managing erosion associated with high catchment flows in the future.

Future rezoning of Ashburton Creek should incorporate the areas of ASF mapped in Figure 3 and consider the extent of the waterway and coastal protection area overlay along the creek.

Rezoning of the project area (excluding Ashburton Creek[20]) as General Residential (Zone 8) (*Option 1*) or a mixture of General Residential (Zone 8) and Low Density Residential (Zone 10) (*Option 2*):

- No federally listed threatened vegetation communities occur in the project area.
  One NCA listed threatened vegetation community, Wetlands, occurs in two locations along Ashburton Creek. Assuming these areas are encapsulated within the rezoning of the creek line (as discussed above), any future rezoning (and development) of the remaining project area would not have any direct impact on this threatened vegetation community. However, any future residential development of areas adjacent to the creek have the potential to indirectly impact upon areas of wetland through erosion and sedimentation as well as stormwater runoff etc. Any such impacts would need to be managed through the implementation of appropriate mitigation measures associated with any development proposal.
- One native vegetation community (NBA) may be impacted by the proposed rezoning. The 0.92 ha patch is in poor-moderate condition with a high proportion of weeds and previous clearing

[19] Zone purpose 22.1.1 and 23.1.2 a; Tasmanian Planning Scheme (2023)
[20] Ashburton Creek to be separately zoned; as per communications with Jo Blackwell (2023)

for tracks. While this community is not listed under the EPBCA or the NCA it is considered to be under reserved in the state and the bioregion despite it being widespread[21].

- There is no potential for any listed threatened flora species to be impacted by the proposed zoning changes as none are present or considered likely to occur.
- The EPBCA listed eastern barred bandicoot may have suitable foraging and nesting habitat reduced by the proposed zoning changes. However, as the species has not been definitively identified as being present in the project area, and alternative habitat is abundant in the surrounding area, any potential impacts to the species' habitat caused by changes to zoning are unlikely to warrant referral under the EPBCA.[22] This species is known to occur in peri-urban environments and is likely to still utilise areas of the site despite any future rezoning for residential purposes.
- Additional threatened fauna species that were previously recorded in the broader area are unlikely to be impacted by any developments facilitated by the proposed zoning changes, to an extent that warrants referral under the EPBCA or a permit to take under the TSPA, as the habitat present provides only marginal foraging habitat to transient visitors. No nesting or denning habitat for any threatened fauna species was observed during the survey.
- Given the abundance of declared and environmental weeds in the project area, there is a high risk that any future development works facilitated by the proposed rezoning will spread weeds locally or further away from the project area. Therefore, a Weed Hygiene Management Plan must be created for each development proposal to ensure compliance with the legislation and to prevent the spreading of weeds.

[21] 6% of NBA reserved in the South East IBRA and 9% of NBA reserved in state reserves. Forest types with less than 15% of its pre European extent reserved are considered to be under reserved.

[22] This may change into the future, and any future developments should consider impacts to the eastern barred bandicoot.

Table 5: Summary of potential implications on natural values from the proposed rezoning

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
EPBCA threatened ecological communities		
None present	No constraints anticipated	The community NBA can form part of an EPBCA critically endangered ecological community if certain criteria are satisfied[24]. The patch of NBA present in the project area does not satisfy these criteria[25] because: • it does not have sufficient diversity of wildflower species, • more than 20% of the plant species present are introduced, and • it has more than 30% solid crown cover of *Bursaria spinosa*
NCA threatened ecological communities		
Wetlands **ASF** – Freshwater aquatic sedgeland and rushland	No constraints anticipated (assuming mapped areas of ASF are excluded from residential rezoning). 1.45 ha present Ashburton Creek	There are two sections along Ashburton Creek that classify as the state-listed (NCA) threatened 'Wetlands' ecological community (Figure 3). Council have indicated that they are considering rezoning Ashburton Creek to Open Space (Zone 29) due to high catchment flows which can occur along the creek. One of the purposes of the Open Space Zone is "to provide land for open space purposes including for passive recreation and natural or landscape amenity"[26]. If the Council rezones Ashburton Creek, it would prevent future incompatible uses (such as residential development) which could directly impact the wetlands. Therefore, rezoning to Open Space will improve planning protections of the threatened ecological community. Future residential development of adjacent land may have indirect impacts on this community. Further recommendations are outlined in Section 3.1.

[23] Includes statements from Department of Natural Resources and Environment's Threatened Species Link summaries and note sheets.
[24] NBA can form part of the EPBCA-listed community "Lowland Grasslands of Tasmania" if specific criteria are met; Department of the Environment, Water, Heritage and the Arts (2010)
[25] Department of the Environment, Water, Heritage and the Arts (2010)
[26] Zone Purpose 29.1.1; Tasmanian Planning Scheme (2023)

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
Native vegetation communities (TASVEG 4.0 units)		
NBA – *Bursaria–Acacia woodland and scrub*	No constraints anticipated 0.92 ha present	There is one patch of NBA north of the Council Depot on Cobbs Hill Road. This community is not listed under state or federal government legislation. **<u>Rezoning Options</u>** **1.** Rezone the entirety of the area to General Residential (Zone 8) Under the General Residential Zone, uses and associated developments such as residential dwelling and subdivisions are permitted[27]. If other planning provisions are satisfied, such as setbacks and building envelopes, then development within this native vegetation community is acceptable. Therefore, if rezoning occurs, there is potential that the entirety of the vegetation community will be cleared as there are no planning provisions preventing this action. **2.** Rezone the area as a mixture of General Residential (Zone 8) and Low Density Residential (Zone 10) If the area is zoned as a mixture of General Residential and Low Density Residential, the planning scheme allowances for the conversion of this native vegetation patch are similar to that of option 1. If the NBA patch is zoned as Low Density Residential, uses such as building development are permitted[28], though one of the purposes of the Low Density Residential zone includes consideration of "environmental constraints"[29]. Therefore, any potential developments would need to consider the existing native vegetation community. However, potentially the entirety of the vegetation community could be cleared as there is no direct planning provisions preventing such action.

[27] Use Table 8.2; Tasmanian Planning Scheme (2023)
[28] Use Table 10.2; Tasmanian Planning Scheme (2023)
[29] Zone Purpose 10.1.1; Tasmanian Planning Scheme (2023)

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
Modified vegetation communities (TASVEG 4.0 units)		
FAG – Agricultural land **FUR** – Urban areas **FWU** – Weed infestations	No constraints anticipated 26.48 ha (in total) present	These modified land areas cover most of the project area (Figure 3) and have a very low number of natural values present. As such, any potential changes to zoning will not lead to direct impacts on observed natural values. **<u>Rezoning Options</u>** **1.** Rezone the entirety of the area to General Residential (Zone 8) Under the General Residential Zone, the amount of land that could be developed, such as through the construction of subdivisions and dwellings , will increase. The planning permissions under the General Residential Zone allow for higher density of living when compared to the Rural Living Zone (the current zoning of the area)[30]. **2.** Rezone the area as a mixture of General Residential (Zone 8) and Low Density Residential (Zone 10). Regardless of which area was zoned as General Residential or Low Density Residential, the new planning provisions would allow for an increase in the density of developments, such as residential dwellings, compared to what is currently allowed within the Rural Living Zone[30]. Any areas that are zoned as Low Density Residential will have planning constraints applied to them that will decrease the density of development opportunities, when compared to those zoned as General Residential.
EPBCA and/or TSPA listed threatened flora		
None present	No constraints anticipated 0 known plants	At the time of surveying, no threatened flora species were observed in the project area or are likely to have been overlooked. Therefore, there is no potential for impact to occur to threatened flora from a change in zoning,

[30] Tasmanian Planning Scheme (2023)

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
		regardless of which proposed option is selected, as none are present or considered likely to occur.
Threatened fauna and threatened fauna habitat		
Perameles gunnii Eastern barred bandicoot EPBCA: VULNERABLE TSPA: not listed	No constraints anticipated Minimal impact to foraging and nesting habitat	This species is widespread in Tasmania and resilient to disturbance[31]. Suitable habitat for this species, as well as potential signs of this species (conical diggings), were observed within the project area. Further investigations would be needed to reliably determine the presence of the species in the project area. There is potential for a larger amount of suitable habitat to be converted with the General Residential zoning compared to the Low Density Residential zoning, as the General Residential zone allows for a higher density of development[32]. However, it is considered unlikely that either of the proposed rezoning options would reduce the carrying capacity of the habitat at all given that this species is known to be successful in peri urban environments and the extent of suitable habitat in the broader area. There is some potential for indirect impacts associated with future occupation of the residential homes and the introduction of cats and dogs. Given the presence of rural residences these threats are likely already present in the project area. As stated above the species is also known to be successful in peri urban environments. Also, the retention of habitats along the creek line would provide protection and cover for this species. Regardless of which zoning option is selected, it is unlikely that any future development would warrant referral under the EPBCA based on potential impacts to this species.

[31] Department of the Environment, Water, Heritage and the Arts (2008)
[32] Tasmanian Planning Scheme (2023)

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
Neophema chrysostoma Blue-winged parrot EPBCA: VULNERABLE TSPA: not listed	No constraints anticipated Minimal impact to foraging habitat	Suitable foraging habitat for this species is present, as it is known to forage in paddocks to feed on seeds of native and introduced grasses, herbs and shrubs[33]. Any future developments that could potentially arise from changes to the zoning, do not have the potential to lead to a decline in the species population, as there is abundant alternative foraging habitat in the immediate surrounds for this highly mobile species. Regardless of which zoning option is selected, it is unlikely that any future development would warrant referral under the EPBCA based on potential impacts to this species.
Litoria raniformis Green and gold frog EPBCA: VULNERABLE TSPA: vulnerable	No constraints anticipated	The ASF wetland, mapped along Ashburton Creek, provides marginal suitable habitat for this species although it is considered highly unlikely to occur at this location given the lack of records. Assuming mapped areas of ASF are rezoned as Open Space (Zone 29), all suitable habitat for this species would remain. Rezoning of areas mapped as ASF would reduce habitat for this species although this is considered unlikely to be significant given the very low likelihood of occurrence at the site. Rezoning of adjacent areas for residential purposes has the potential to indirectly impact wetland habitats through erosion and sedimentation as well as stormwater runoff etc. Any such impacts would need to be managed through the implementation of appropriate mitigation measures associated with any development proposal. Regardless of which zoning option is selected, it is unlikely that any future development would warrant referral under the EPBCA based on potential impacts to this species.

[33] Department of Climate Change, Energy, the Environment and Water (2023)

Natural value	Potential constraint	Context & potential implications of rezoning on natural values[23]
Introduced flora		
Declared, WoNS and Environmental weed species *See section 2.4 and Appendix B for details of weed species present*	Spread of weed species and contamination of nearby private land and other areas through the spreading of propagules.	Three Class A declared weeds and six Class B declared weeds[34] were observed in the project area. The proposed zoning changes will not change the legislative requirement to manage declared weed species. Any future developments associated with changes to the zoning are likely to increase the risk of spreading weeds locally (or further) through creating new disturbance niches in the project area or spreading propagules through contaminated soil, equipment and/or machinery. Any future planning permits should ensure best-practice guidelines for weed and hygiene management are undertaken to manage existing weed infestations and to prevent the establishment of any new infestations in the project area: • *Keeping it clean - A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens* (Allen and Gartenstein, 2010) • *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, Stewart and Askey-Doran, 2015)

[34] In Brighton Council, according to the relevant Statutory Weed Management Strategies accessed via the Department of Natural Resources and Environment website.

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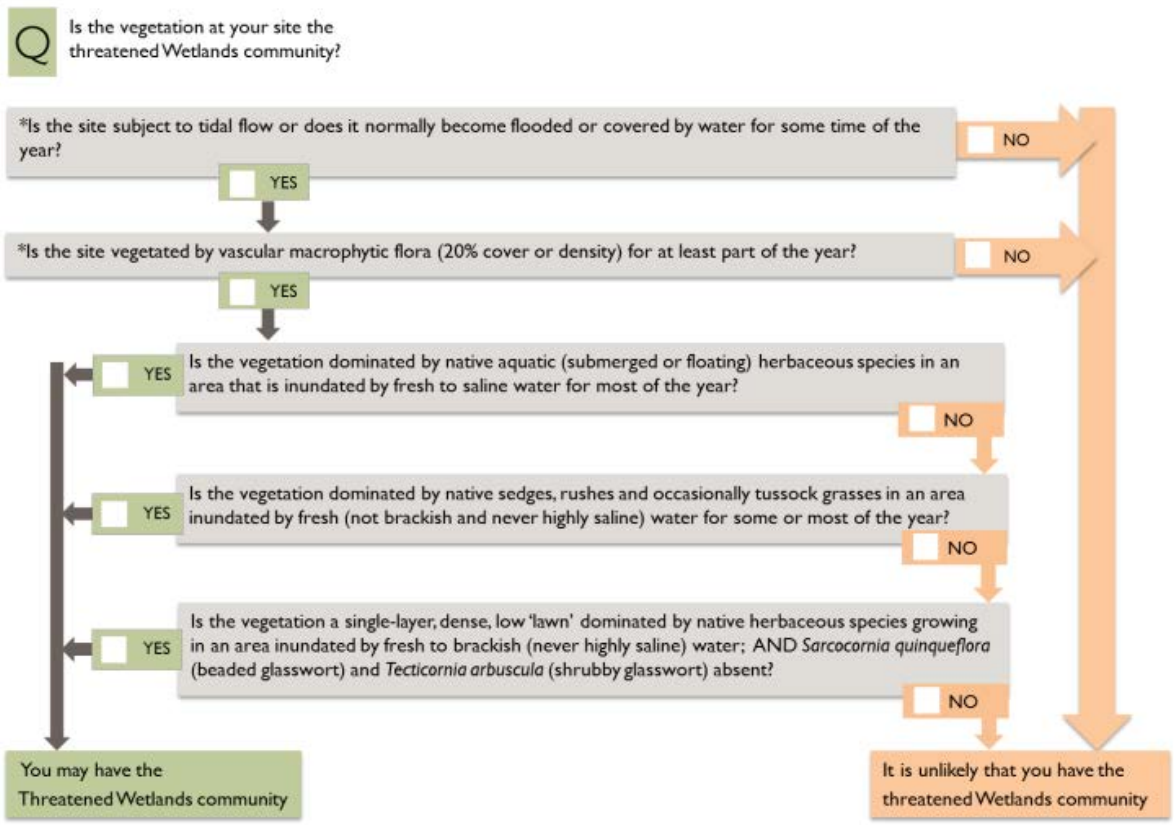
APPENDIX A – DETERMINING THE PRESENCE OF THE THREATENED ECOLOGICAL COMMUNITY: WETLANDS[35]

Is Wetlands present at your site?



*You may need to take account of climatic conditions (seasonal variations and drought) or time since disturbance (e.g., grazing).

Note

- Where typically sparse vegetation dominated by sedges or herbs is growing on alkaline (pH 5.0 to 8.5) dolomite or limestone-derived gravels or sands in shallow pans, it may be advisable to refer to the information provided for **1** Alkaline pans.
- Where *Sphagnum* moss covers more than 30% of the ground, it may be advisable to refer to the information provided for **36** *Sphagnum* peatland.

[35] As determined under Schedule 3A of the *Nature Conservation Act 2002*; Department of Natural Resources and Environment Tasmania (2022)

APPENDIX B – VASCULAR FLORA SPECIES LIST

Status codes:

ORIGIN	NATIONAL SCHEDULE	STATE SCHEDULE
i - introduced	EPBC Act 1999	TSP Act 1995
d - declared weed WM Act	CR - critically endangered	e - endangered
en - endemic to Tasmania	EN - endangered	v - vulnerable
t - within Australia, occurs only in Tas.	VU - vulnerable	r - rare

Sites:

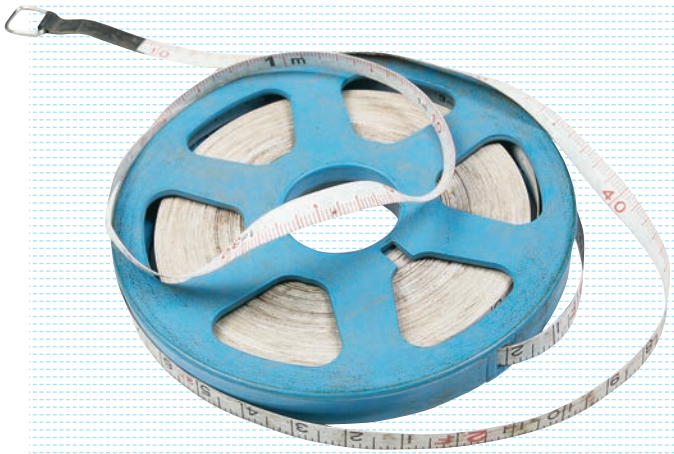
1	ASF - Ashburton Creek - E518611, N5268587	18/12/2023 Ian Jenkinson
2	NBA - E518839, N5268764	18/12/2023 Ian Jenkinson
3	FUR - E518457, N5268769	18/12/2023 Ian Jenkinson
4	FAG - E518512, N5268582	18/12/2023 Ian Jenkinson

Site	Name	Common name	Status
	DICOTYLEDONAE		
	APIACEAE		
2 3	*Foeniculum vulgare*	fennel	d
	APOCYNACEAE		
2	*Vinca major*	blue periwinkle	i
	ASTERACEAE		
3 4	*Arctotheca calendula*	capeweed	i
4	*Bellis perennis*	English daisy	i
4	*Calendula arvensis*	field marigold	i
1 4	*Carduus pycnocephalus*	slender thistle	d
2	*Chrysanthemoides monilifera* subsp. *monilifera*	boneseed	d
1 2 3 4	*Cirsium vulgare*	spear thistle	i
3	*Conyza bonariensis*	flaxleaf fleabane	i
2	*Dimorphotheca fruticosa*	trailing daisy	i
2	*Euchiton japonicus*	common cottonleaf	
3 4	*Helminthotheca echioides*	bristly oxtongue	i
1 2 3 4	*Hypochaeris radicata*	rough catsear	i
3 4	*Lactuca serriola* f. *serriola*	prickly lettuce	i
4	*Olearia ramulosa*	twiggy daisybush	
2	*Senecio* sp.	groundsel	
4	*Silybum marianum*	variegated thistle	i
1 4	*Sonchus asper*	prickly sowthistle	i
4	*Taraxacum officinale*	common dandelion	i

2	*Tragopogon porrifolius subsp. porrifolius*	salsify	i
	BRASSICACEAE		
3 4	*Brassicaceae sp.*		i
2 3 4	*Hirschfeldia incana*	hoary mustard	i
4	*Lepidium draba*	hoary cress	d
	CACTACEAE		
4	*Opuntia stricta*	prickly pear	d
	CARYOPHYLLACEAE		
4	*Stellaria media*	garden chickweed	i
	CHENOPODIACEAE		
1	*Atriplex prostrata*	creeping orache	i
3	*Einadia nutans subsp. nutans*	climbing saltbush	
	CONVOLVULACEAE		
2 4	*Convolvulus angustissimus* subsp. *angustissimus*	blushing bindweed	
	DIPSACACEAE		
1 4	*Dipsacus fullonum*	wild teasel	i
	ERICACEAE		
2	*Lissanthe strigosa* subsp. *subulata*	peachberry heath	
2	*Styphelia humifusa*	native cranberry	
	EUPHORBIACEAE		
4	*Euphorbia peplus*	petty spurge	i
	FABACEAE		
2	*Acacia baileyana*	Cootamundra wattle	i
2	*Acacia dealbata* subsp. *dealbata*	silver wattle	
3 4	*Acacia mearnsii*	black wattle	
2	*Acacia provincialis*	wattle	i
2 3 4	*Medicago sativa*	lucerne	i
1 4	*Trifolium repens*	white clover	i
4	*Trifolium subterraneum*	subterranean clover	i
3	*Ulex europaeus*	gorse	d
	FUMARIACEAE		
1 3	*Fumaria bastardii*	bastard's fumitory	i
	GENTIANACEAE		
2 4	*Centaurium erythraea*	common centaury	i
	GERANIACEAE		
4	*Erodium moschatum*	musky heronsbill	i
	LINACEAE		
2	*Linum trigynum*	French flax	i
	MALVACEAE		

3	*Malva sylvestris*	tall mallow	i
	MYRTACEAE		
4	*Eucalyptus globulus* subsp. *globulus*	Tasmanian blue gum	
2	*Eucalyptus viminalis* subsp. *viminalis*	white gum	
	OXALIDACEAE		
2	*Oxalis perennans*	grassland woodsorrel	
	PITTOSPORACEAE		
2 4	*Bursaria spinosa* subsp. *spinosa*	prickly box	
	PLANTAGINACEAE		
1 2 4	*Plantago coronopus*	buckshorn plantain	i
1 2 4	*Plantago lanceolata*	ribwort plantain	i
	POLYGONACEAE		
4	*Acetosella vulgaris*	sheep sorrel	i
4	*Polygonum aviculare*	creeping wireweed	i
1 3 4	*Rumex crispus*	curled dock	i
1 4	*Rumex* sp.	dock	
	PRIMULACEAE		
4	*Lysimachia arvensis*	scarlet pimpernel	i
	RESEDACEAE		
4	*Reseda luteola*	weld	i
	ROSACEAE		
2 3	*Cotoneaster glaucophyllus* var. *serotinus*	largeleaf cotoneaster	i
3	*Cotoneaster pannosus*	velvet cotoneaster	i
2 3	*Crataegus monogyna*	hawthorn	i
3	*Malus domestica*	apple	i
1 2 3	*Rosa rubiginosa*	sweet briar	i
2 3	*Rubus fruticosus*	blackberry	d
2 3	*Sanguisorba minor*	salad burnet	i
	RUBIACEAE		
3	*Galium australe*	tangled bedstraw	
	SAPINDACEAE		
3 4	*Dodonaea viscosa* subsp. *spatulata*	broadleaf hopbush	
	SCROPHULARIACEAE		
3	*Verbascum thapsus*	great mullein	i
	SOLANACEAE		
1 2 3	*Lycium ferocissimum*	African boxthorn	d
4	*Solanum laciniatum*	kangaroo apple	
	GYMNOSPERMAE		
	PINACEAE		
2	*Pinus radiata*	radiata pine	i

	MONOCOTYLEDONAE		
	AGAPANTHACEAE		
3	*Agapanthus praecox* subsp. *orientalis*	agapanthus	i
	CYPERACEAE		
1 3 4	*Schoenoplectus pungens*	sharp clubsedge	
	JUNCACEAE		
1 4	*Juncus kraussii* subsp. *australiensis*	sea rush	
	LEMNACEAE		
1	*Lemna disperma*	common duckweed	
	POACEAE		
3 4	*Amelichloa caudata*	espartillo	d
1	*Anthoxanthum odoratum*	sweet vernalgrass	i
4	*Austrostipa nodosa*	knotty speargrass	
4	*Austrostipa pubinodis*	tall speargrass	
2 4	*Austrostipa stuposa*	corkscrew speargrass	
4	*Avena* sp.	oat	i
4	*Bromus catharticus*	prairie grass	i
3	*Bromus hordeaceus*	soft brome	i
1 4	*Cenchrus clandestinus*	kikuyu grass	i
3	*Cynosurus cristatus*	crested dogstail	i
1	*Cynosurus echinatus*	rough dogstail	i
1 2 3 4	*Dactylis glomerata*	cocksfoot	i
1 3 4	*Digitaria sanguinalis*	summergrass	i
4	*Ehrharta erecta*	panic veldtgrass	i
1	*Eleusine tristachya*	crowsfoot grass	i
3	*Festuca arundinacea*	tall fescue	i
1 2 3 4	*Holcus lanatus*	Yorkshire fog	i
1 3 4	*Hordeum* sp.	barley, barley grass	i
1 2 3	*Lolium perenne*	perennial ryegrass	i
1 3	*Panicum capillare*	common witchgrass	i
1 3 4	*Paspalum dilatatum*	paspalum	i
4	*Phalaris aquatica*	Toowoomba canarygrass	i
2 3 4	*Poa labillardierei*	silver tussockgrass	
2 4	*Rytidosperma caespitosum*	common wallabygrass	
2 4	*Themeda triandra*	kangaroo grass	
1 3 4	*Vulpia bromoides*	squirreltail fescue	i



Samuel and Sorell Streets, Brighton
Land Rezoning

Aboriginal Heritage Assessment Report
Final Version 1
Redacted

AUTHOR: Sarah Klavins and Rocky Sainty
27 Apsley St South Hobart, TAS 7004

CLIENT: Brighton Council

22.1.2024

CULTURAL HERITAGE MANAGEMENT AUSTRALIA

Report Version Control

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Final Draft Report V1	Aboriginal Heritage Tasmania	
Final Report V2	Aboriginal Heritage Tasmania	

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Executive Summary

Project Outline
The Brighton Council is considering rezoning a 30ha parcel of land at Sorell/Samuel Streets and Boyer/Cobbs Hill Roads, at Brighton. The zoning is anticipated to be changed from Rural Living (5000sqm) lots to General Residential (minimum 450sqm) lots.

CHMA Pty Ltd and Rocky Sainty (AHO) have been engaged by the Brighton Council to undertake an Aboriginal heritage assessment for the proposed land rezoning (the study area as shown in Figures 1-3), in order to identify any potential Aboriginal heritage constraints.

Registered Aboriginal Sites in the Vicinity of the Study Area
As part of the initial desktop assessment for the Brighton Sorrell Street Rezoning area, CHMA (2023) submitted an Aboriginal Heritage Register (AHR) search request for the study area. The AHR search results identified a total of 56 registered Aboriginal heritage sites that are situated within an approximate 3km radius of the Sorrell Street Rezoning Area (search results provided by Billy Paton-Clarke from AHT on 2 November 2023). The AHR search results show that there are no registered Aboriginal heritage sites that are situated within the study area itself. The closest registered sites are situated around 200m to the east of the study area. The detailed AHR search results are presented in section 4.3 of this report.

Results of the Field Survey Assessment
The field survey assessment for the Sorrell Street Rezoning Area resulted in the recording of one Aboriginal Heritage Site (Site AH14306), which is classified as an isolated find. Table i provides the summary details for the newly recorded Aboriginal heritage site, with Figure i showing the location of the sites in relation to the project area. The detailed site descriptions are provided in Appendix 2 of this report.

Besides AH14306, no other Aboriginal heritage sites, suspected features or specific areas of elevated archaeological potential were identified within the Brighton Sorrell Street Rezoning study area. The field survey did not identify any stone material types present within the study area that would be in any way suited for artefact manufacturing. The field survey was able to confirm that there are no large outcrop features present in the study area, with bedrock outcrop only exposed to up to a metre above ground level, which eliminates the possibility of Aboriginal rock shelters being present.

Given some constraints in surface visibility, it can’t be stated with absolute certainty that there are no additional undetected Aboriginal heritage sites present in the study area. With this acknowledged, the survey assessment still did achieve effective coverage of 6 490m². This level of effective coverage is deemed to be sufficient for the purposes of generating a reasonable impression as to the extent, nature and distribution of

Aboriginal heritage sites across the study area. The survey results can therefore be taken as a reasonably accurate indication that either there are no other Aboriginal sites located in the study area, or site and artefact densities across the study area are likely to be low to very low, reflecting sporadic activity. The most likely site type to be present would be small artefact scatters or isolated artefacts, or very sparse midden deposits. It should be noted that the study area boundaries do not extend down to the foreshores of the River Derwent Estuary, which is where midden deposits are most likely to be concentrated. As such, the potential for shell midden deposits to be present in the study area is significantly reduced.

The field team did not identify any specific locations within the study area where it was thought that there was the potential for more elevated concentrations of artefacts to be present, representing camp sites or other such focal points of activity. However, if undetected isolated artefacts or low density artefact scatters are present in the study area, they are most likely to be situated within 70m either side of the margins of Ashburton Creek.

The detailed survey results and discussions are presented in section 7 of this report.

Table i: Summary details for the Aboriginal sites identified during the field survey assessment of the Sorrell Street Rezoning Area

AH No.	Grid Reference (GDA 94)	Site Type	Site Description
AH14306		Isolated Find	Isolated find consisting of one mudstone flake. The artefact site was identified within an erosion scald on the mid-slope of a discrete rise with a gradient of approximately 10° within a farm paddock. AH14306 is located no more than 60m west of Ashburton Creek, a named watercourse that flows into the Derwent River. Ground surface visibility within the erosion scald was observed to be as much as 90-100%, with 10% ground surface visibility observed in the surrounding area due to dense grass.

Significance Assessment

The Aboriginal site recorded during the current assessment (AH14306) has been assessed and allocated a rating of significance. A five-tiered rating system has been adopted for the significance assessment; low, low-medium, medium, medium-high and high. Table ii provides the summary details for significance ratings for AH14306. A more detailed explanation for the assessment ratings are presented in section 8. Section 9 of this report presents a statement of social significance provided by Rocky Sainty for the recorded site and the study area more broadly.

Table ii: Summary significance ratings for recorded Aboriginal sites

Site Number	Site Type	Scientific Significance	Aesthetic Significance	Historic Significance	Social Significance
AH14306	Isolated Find	Low	Low	N/A	Medium-High

Management Recommendations

Heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- Background research into the extant archaeological and ethno-historic record for the study area and the surrounding region (see sections 3 and 4 of this report).
- The results of the investigation as documented in this report (see section 7)
- Consultation with Aboriginal Heritage Officer Rocky Sainty and the outcomes of the Aboriginal community consultation (see section 9 and Appendix 4)
- The legal and procedural requirements as specified in the *Aboriginal Heritage Act 1975* (see section 10).

Table iii provides the summary management recommendations for this project. The more detailed recommendations are presented in section 11.

Table iii: Summary management recommendations for the project

Area	Grid Reference (GDA 94)	Management Recommendations
Recommendation 1 AH14306	Site is classified as an Isolated artefact which is located on the mid-slope of a discrete rise, 60m west of Ashburton Creek. The following recommendations apply. • The location of the site is to be plotted onto the design plans for the Sorrell Street Rezoning and Development project area. • Prior to any ground disturbing works commencing in this area, temporary high visibility protective barricading is to be erected around the identified boundaries of the site with a 5m buffer applied. There must be no soil disturbance within the barricaded zone. Barricading is to be removed on completion of the construction works in this area. • Construction contractors should be informed of the location of the site and informed that the site is not to be impacted. • If the site may be impacted, then seek Permit.	
Recommendation 2 (Ashburton Creek)	• Ashburton Creek runs through the Rezoning study area. It has been assessed that there is a slightly increased potential for undetected Aboriginal sites to occur along the margins of this creek. • The preferred management option would be to conserve the riparian margins of Ashburton Creek in open space (50m either side of the creek channel). Any soil disturbances within this designated open space area should be kept to a minimum. This will reduce the potential for any impacts on undetected Aboriginal heritage values in the study area.	
General Recommendations	• If previously undetected Aboriginal sites or suspected features are located within these three areas during the works program, the processes outlined in the Unanticipated Discovery Plan should be followed (see Appendix 3). • Copies of this report should be submitted to AHT and the AHC for review and comment.	

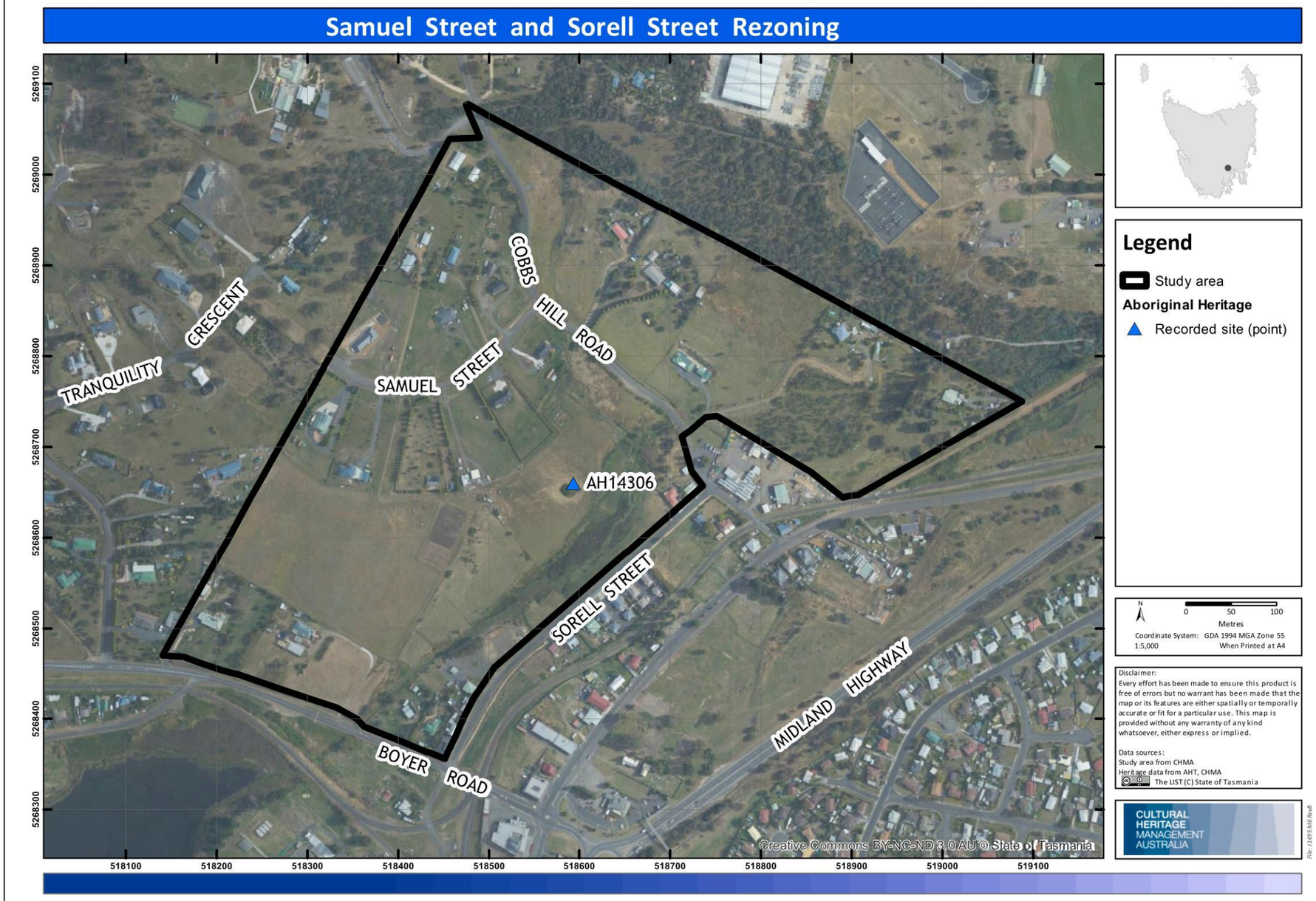


Figure i: Aerial image showing the location and extent of Aboriginal sites in the Brighton Sorrell Street Rezoning and Development project area

1.0 Project Description

1.1 Project Outline

The Brighton Council is considering rezoning a 30ha parcel of land at Sorell/Samuel Streets and Boyer/Cobbs Hill Roads, at Brighton in the Southern Region of Tasmania (see Figures 1-3). The zoning is anticipated to be changed from Rural Living (5000sqm) lots to General Residential (minimum 450sqm) lots. The project is known as the Sorrell Street Rezoning and Development project area.

CHMA Pty Ltd and Rocky Sainty (AHO) have been engaged by the Brighton Council to undertake an Aboriginal heritage assessment for the proposed land rezoning (the study area), in order to identify any potential Aboriginal heritage constraints. This report presents the findings of the Aboriginal heritage assessment,

1.2 Aims of the Assessment

The principal aims of the Aboriginal Heritage assessment are as follows.

- To undertake an Aboriginal cultural heritage assessment for the Sorrell Street Rezoning area (the study area as shown in Figures 1-3). The assessment is to be compliant with both State and Commonwealth legislative regimes, in particular the intent of the *Aboriginal Heritage Act 1975* and the associated *Aboriginal Heritage Standards and Procedures (2023).*
- Search the Aboriginal Heritage Register (AHR) to identify previously registered Aboriginal heritage sites within and in the general vicinity of the study area.
- Undertake relevant archaeological, environmental and ethno-historical background research to develop and understanding of site patterning within the study area.
- To locate, document and assess any Aboriginal heritage sites located within the study area.
- To assess the archaeological and cultural sensitivity of the study area.
- To assess the scientific and Aboriginal cultural values of any identified Aboriginal cultural heritage sites located within the study area.
- Consult with (or ensure the Aboriginal community representative consults with) Aboriginal organisation(s) and/or people(s) with an interest in the study area to obtain their views regarding the cultural heritage of the area.
- To develop a set of management recommendations aimed at minimising the impact of any future proposed activities within the project area on any identified Aboriginal heritage values.
- Prepare a report which documents the findings of the Aboriginal heritage assessment and meets the requirements of the current *Aboriginal Heritage Standards and Procedures* prepared by AHT.

1.3 Project Methodology

A three stage project methodology was implemented for this assessment.

Stage 1 (Pre-Fieldwork Background Investigations)

Prior to field work being undertaken, the following tasks were completed by CHMA staff.

Consultation with Aboriginal Heritage Tasmania

Aboriginal Heritage Tasmania (AHT) was contacted and informed that CHMA and Rocky Sainty had been engaged to undertake an Aboriginal heritage assessment for the Brighton Sorell Street Rezoning and Development Area. As part of this initial contact, CHMA submitted an Aboriginal Heritage Register (AHR) search request for the study area (search request submitted on 21 October 2023).

Consultation with Rocky Sainty (Aboriginal Heritage Officer)

Rocky Sainty is the designated Aboriginal Heritage Officer for the present investigations. As part of Stage 1 works Stuart Huys and Sarah Klavins (CHMA archaeologists) and Rocky Sainty were in regular contact. The main purpose of this contact was to discuss the scope of the present investigations, to ratify the proposed methodology for the investigations and to co-ordinate the timeframes for implementing field work.

The collation of relevant documentation for the Project

The following documentation was collated for this project.

- A review of the Aboriginal Heritage Register (AHR), and the collation of information pertaining to any registered heritage sites located within the general vicinity of the study area.
- Relevant reports documenting the outcomes of previous Aboriginal heritage studies in the vicinity of the study area.
- Ethno-historic literature for the region.
- References to the land use history of the study area.
- Geotechnical information for the study area, including soil and geology data.

Stage 2 (Field Work)

Stage 2 entailed the field work component of the assessment. The field survey was undertaken over a period of one day (22 November 2023) by Sarah Klavins (CHMA archaeologist) and Rocky Sainty (Aboriginal Heritage Officer).

Prior to the fieldwork programme commencing, a fieldwork brief was conducted between CHMA and Rocky Sainty to agree on the purpose, scope, and proposed method of the heritage survey.

As noted in section 1.1 of this report, the focus of this assessment is the 30ha parcel of land at Sorell/Samuel Streets and Boyer/Cobbs Hill Roads, Brighton. The field team walked an estimated series of 7.78km of survey transects across the study area, with the average width of each transect being between 5-10m. The survey team focused on

areas within the study area that were relatively undisturbed (with the exception of pastoral activities), with smaller blocks of land that have already undergone significant residential development excluded from the survey scope. Section 6 provides further details as to the survey coverage achieved within the study area.

Where any heritage places were identified within the disturbance footprint, the location of these areas were recorded on a Samsung Galaxy Tablet using the GDA 94 datum. Depending on external conditions, these units can provide a spatial accuracy of +/-2m.

Site Recordings
For any Aboriginal sites identified by the field team, the following details were recorded.

- The spatial extent of the site (polygon co-ordinates).
- The nature of Aboriginal heritage deposits and features associated with the site.
- Any intra-site variations that occur.
- The condition of the site, and any notable impacts to the site.
- Photos and site maps.
- Proposed management recommendations (as discussed between the archaeologist and AHOs).

Aboriginal Heritage Register (AHR) forms for all located Aboriginal sites have been completed and submitted as part of the process.

The results of the field investigation were discussed between Rocky Sainty and Sarah Klavins. This included the potential cultural and archaeological sensitivity of each of the three surveyed areas, and possible management options for identified Aboriginal heritage sites.

Stage 3 (Report preparation)
Stage 3 of the project involves the production of a report that includes an analysis of the data obtained from the field survey, an assessment of archaeological sensitivity of the study area and management recommendations. The report was prepared by Sarah Klavins and Stuart Huys (CHMA), in liaison with Rocky Sainty. The report has been structured to be compliant with the *Aboriginal Heritage Standards and Procedures 2023* prepared by AHT.

A draft copy (one electronic copy) of the report has been submitted to Brighton Council and AHT for review. In addition, CHMA has provided AHT with all site spatial data files, and mapping associated with the project (in ESRI shape file format (GDA94).
The draft report has also been sent out to a range of Tasmanian Aboriginal organisations in Southern Tasmania for review and comment. The outcomes of this consultation are presented in Appendix 4.

1.4 Project Limitations

Most archaeological investigations are subject to limitations that may affect the reliability of the results. The main constraint to the present investigation was restricted surface visibility due primarily to the presence of vegetation cover, and in the instance of graded driveways, imported gravel. Surface visibility within the study area varied between an estimated average of 0% and 60%. Erosion scalds, ploughed fields, animal tracks, and informal vehicle tracks provided locales of improved surface visibility within the study area. The constraints in surface visibility limited the effectiveness of the survey assessment to some degree. This is discussed in more detail in Section 6 of this report.

In addition, the field team did not inspect several of the very highly disturbed smaller land holdings within the study area, which had already been built on and developed.

Plate 1: Rocky Sainty, the AHO for this project

Figure 1: Topographic map showing the general location of the study area at Brighton, in the South East Region of Tasmania

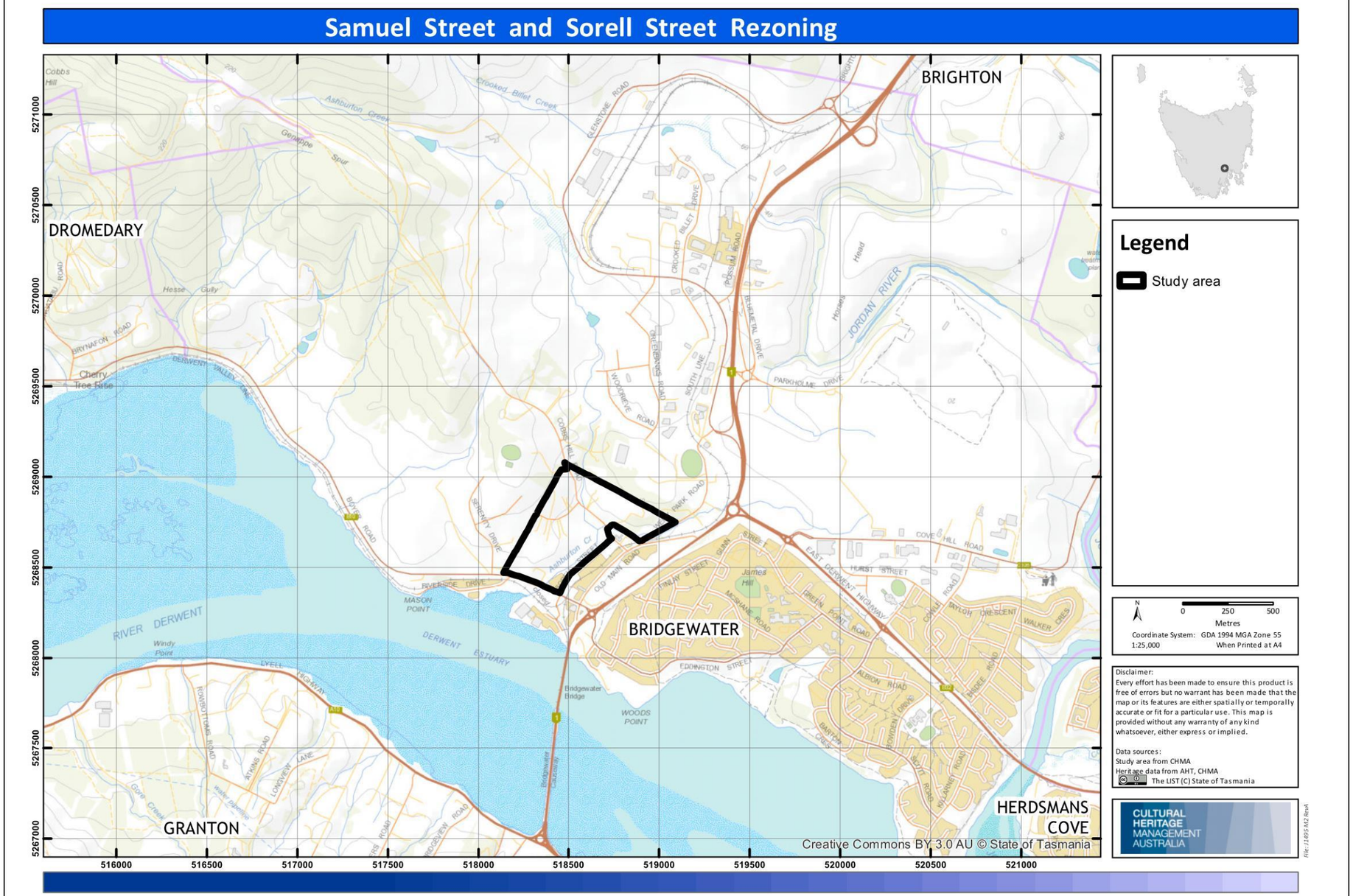


Figure 2: Topographic map showing the landscape setting of the Sorrell Street Rezoning and Development Project Area that was the focus of this assessment

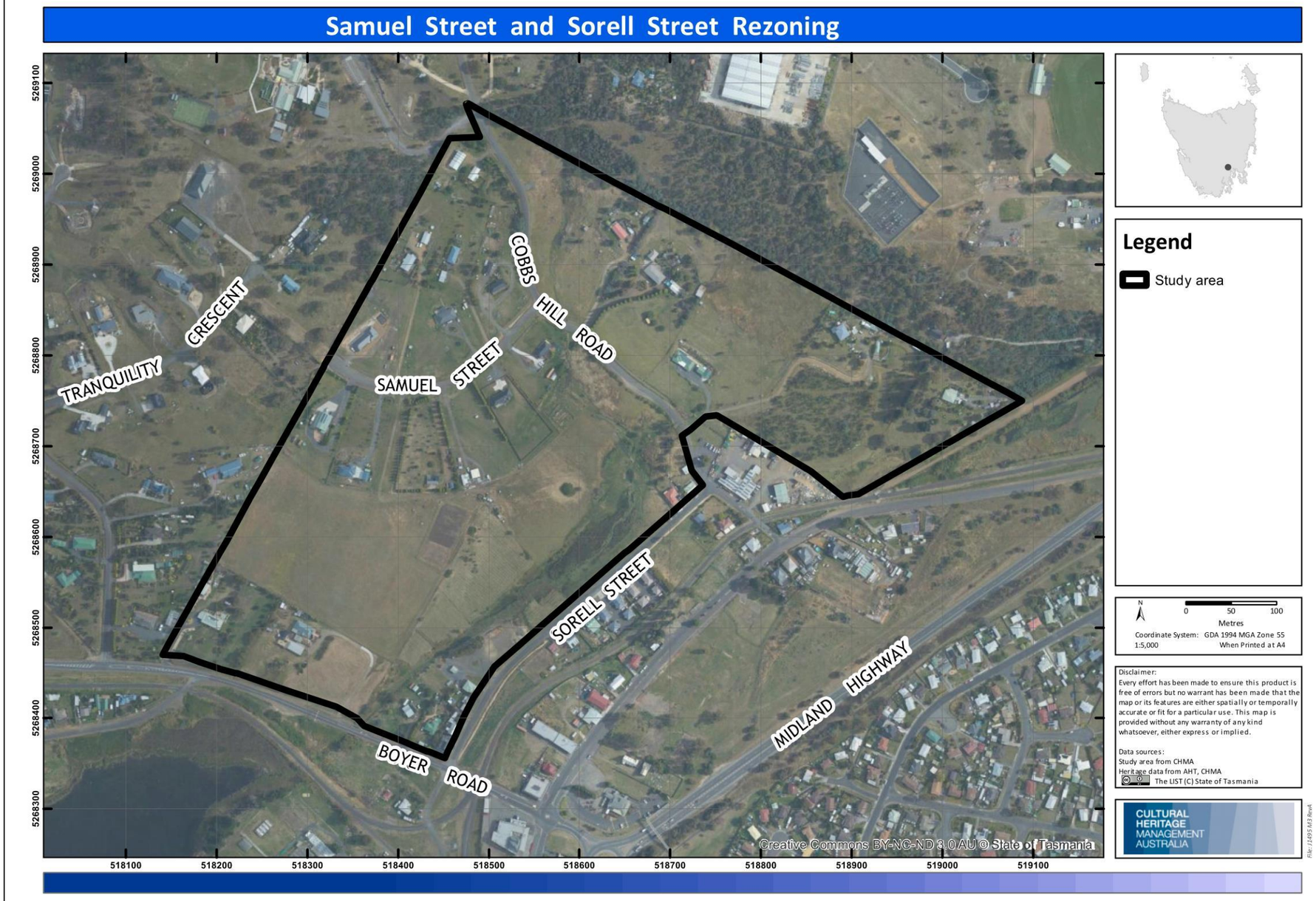


Figure 3: Aerial map showing the landscape setting of the Sorrell Street Rezoning and Development Project Area that was the focus of this assessment

2.0 Environmental Setting of the Study Area

2.1 Introduction

Prior to undertaking archaeological survey of the study area, it is necessary to characterise the landscape. This includes considering environmental factors such as topography, geology, climate, vegetation and past and current landscape use. An assessment of the environmental setting helps to develop an understanding of the nature of Aboriginal occupation and site patterning that might be expected to occur across the study area. In addition, it must be remembered that in Aboriginal society, the landscape extends beyond economic and technological behaviour to incorporate social geography and the embodiment of Ancestral Beings.

The archaeological context is generally only able to record the most basic aspects of Aboriginal behaviour as they relate to artefact manufacture and use and other subsistence related activities undertaken across the landscape such as raw material procurement and resource exploitation. The distribution of these natural resources occurs intermittently across the landscape and as such, Aboriginal occupation and associated archaeological manifestations occur intermittently across space. However, the dependence of Aboriginal populations on specific resources means that an understanding of the environmental resources of an area accordingly provides valuable information for predicting the type and nature of archaeological sites that might be expected to occur within an area.

The primary environmental factors known to affect archaeological patterning include the presence or absence of water, both permanent and ephemeral, animal and plant resources, stone artefact resources and terrain. Additionally, the effects of post-depositional processes of both natural and human agencies must also be taken into consideration. These processes have a dramatic effect on archaeological site visibility and conservation. Geomorphological processes such as soil deposition and erosion can result in the movement of archaeological sites as well as their burial or exposure. Heavily vegetated areas can restrict or prevent the detection of sites, while areas subject to high levels of disturbance may no longer retain artefacts or stratified deposits.

The following sections provide information regarding the landscape context of the study area including topography, geology, soils and vegetation.

2.2 Landscape Setting of the Study Area

The Brighton Sorrell Street Rezoning and development Project Area is located at Bridgewater in the South East Region of Tasmania. The study area encompasses a total area of no more than 30ha, or 295, 558m². It is situated on the lower to basal south-east slopes of the Genappe Spur, which runs in a north-west to south-east direction off Cobbs Hill. The project area consists of paddocks and residential development that has been cleared of native vegetation, with the terrain characterised by discrete rises and

gently undulating plains. Slope gradients within the project area typically range between 2º and 30º (see Plate 2).

The southern boundary of the study area approaches to within 150m of the River Derwent Estuary. The River Derwent estuary is a 'ria' or drowned river valley formed by coastal submergence about 6,000 years ago. The shoreline of the estuary in the surrounds of Bridgewater is low-energy, with mudflats and shoals exposed at low tide. The River is estuarine at this point, and subject to tidal influences. The other major water course in the vicinity of the study area is the Jordan River. The Jordan River has its' headwaters at Lake Tiberias, around 40km to the north-east of the study area. From here the river flows in a north-west direction through a broad open valley system, cutting across the Midland Highway near Jericho. It then enters more steeply incised hills just south of Melton Mowbray, where the river then loops around to the south-east, eventually emptying into the Derwent River at Herdsmans Cove. The river is also estuarine at this point, and subject to tidal influences.

Ashburton Creek, is the only named fresh water course that is situated within the study area itself (see Plate 3). This is an ephemeral water course that flows in a south-east direction down from Cobbs Hill and along the east edge of the Genappe Spur, through the study area and eventually emptying into the River Derwent just east of Mason Point. Within the study area, the creek channel is quite narrow and moderately incised, being flanked on either side by hill slopes.

The underlying geology across the northern portion of the study area is dominated by Mesozoic dolerite and related rocks, while the southernmost portion of the study area consists of Cenozoic cover sequences of Tholeiite basalt. The westernmost boundary of the study area consists largely of Cenozoic cover sequences of alluvial gravel, sand, and clay, and clay-rich alluvial cobble deposit, clasts dominantly of weathered dolerite with subordinate well-rounded siliceous clasts.

The existing soil landscapes broadly reflect the underlying geology of the area. The majority of the study area consists of moderately well drained black soils developed on Jurassic dolerite bedrock and colluvium on low undulating (3-10%) land, with undifferentiated soils developed on Quaternary alluvium occurring in the southeast of the study area.

From an Aboriginal heritage perspective, neither basalt nor dolerite are well suited to the manufacture of flaked stone tools and were seldom targeted for this purpose. It is therefore very unlikely that evidence of Aboriginal quarrying or stone procurement activity will be present within the study area. The well-drained black soils that occur on the western margins of Ashburton River appear to have reasonable depth. Cultural deposits within these areas may therefore also have some depth to them and the potential to contain in situ Aboriginal cultural heritage deposits. However, this will

depend largely on levels of disturbance within the area, which appears to be impacted significantly by historic pastoral and agricultural activities.

The vegetation within the study area consists primarily of agricultural, urban, and exotic vegetation. The entirety of the study area has been cleared of native vegetation, and replanted with grasses and other exotic species (see Plates 2-4). This was presumably carried out as part of earlier pastoral activities and continued as part of the urban development of the area.

A range of infrastructure is situated within the study area consisting of residential development. The land clearing and installation of residential dwellings within the study area will have resulted in varying levels of impacts to the Aboriginal heritage resources that may be present in these areas. However, there parts of the study area where the paddocks appear to have been used primarily for grazing with moderate disturbance. It is possible that any Aboriginal sites that are present in these areas may be relatively intact.

Plate 2: View west behind depot at 6 Cobb Hill Road showing typical ground surface visibility, vegetation, and slope gradients

Plate 3: View northwest where Ashburton Creek intersects the activity area in the northwest corner.

Plate 4: View west of typical vegetation and ground surface visibility within 6 Cobb Hill Road

Plate 5: View east towards Sorrell Street showing typical ground surface visibility within the remaining paddocks

Plate 6: View south of residential dwellings along Samuel Street.

Plate 7: View south towards the Derwent River

Plate 8: View north of ground surface visibility west of Well Park Road.

3.0 Ethno-historic Background

3.1 Aboriginal Social Organisation in Tasmania

Ryan (2012) explains that the terms 'nation' and 'clan' are the preferred terms used by the Tasmanian Aboriginal community in place of 'tribe' and 'band' respectively. This terminology has been adopted in the following discussion.

According to Jones (1974), the social organisation of Tasmanian Aboriginal society appears to have consisted of three social units, these being the hearth group, the band (clan) and the tribe (nation). The hearth group was the basic family unit and would generally have consisted of a man and woman, their children, aged relatives and sometimes friends and other relatives. The size of hearth groups would generally range from between 2-8 individuals (Jones 1974: Plomley 1983). Plomley (1983) provides a description made by Peron of a hearth group he encountered at Port Cygnet:

> *There were nine individuals in this family, and clearly they represented a hearth group, because Peron visited their campsite with its single hut. The group comprised an older man and wife, a younger man and wife, and five children, one a daughter (Oure-Oure) of the older man and wife, and the other four the children of the younger man and wife. (Plomley 1983:168).*

The clan appears to have been the basic social unit and was comprised of a number of hearth groups (Jones 1974). Jones (1974:324-325) suggests that the clan owned a territory and that the boundaries of this territory would coincide with well-marked geographic features such as rivers and lagoons. Whilst the clan often resided within its territory, it also foraged widely within the territories of other clans. Brown (1986:21) states that the band was led by a man, usually older that the others and who had a reputation as a formidable hunter and fighter. Brown also suggests that the clan (as well as the hearth group) was ideally exogamous, with the wife usually moving to her husband's band and hearth group.

Each clan was associated with a wider political unit, the nation. Jones (1974:328-329) defines the tribe (or nation) as being:

> *…that agglomeration of bands (clans) which lived in contiguous regions, spoke the same language or dialect, shared the same cultural traits, usually intermarried, had a similar pattern of seasonal movement, habitually met together for economic and other reasons, the pattern of whose peaceful relations were within the agglomeration and of whose enmities and military adventures were directed outside it. Such a tribe had a territory, consisting of the sum of the land owned by its constituent bands…The borders of a territory ranged from a sharp well defined line associated with a prominent geographic feature to a broad transition zone.* Jones (1974:328-329)

According to Ryan (2012:11), the Aboriginal population of Tasmania was aligned within a broad framework of nine nations, with each nation comprising between six to fifteen

clans (Ryan 2012:14). The mean population of each nation is estimated to have been between 350 and 470 people, with overall population estimates being in the order of between seven to ten thousand people prior to European occupation (Ryan 2012:14).

Ryan (2012:13) presents a map showing the approximate boundaries for the nine Tasmanian Aboriginal Nations. This map shows that the study area is situated around the confluence of the boundaries of three Aboriginal Nations, these being the South East Nation, The Oyster Bay Nation and the Big River Nation (see Figure 4).

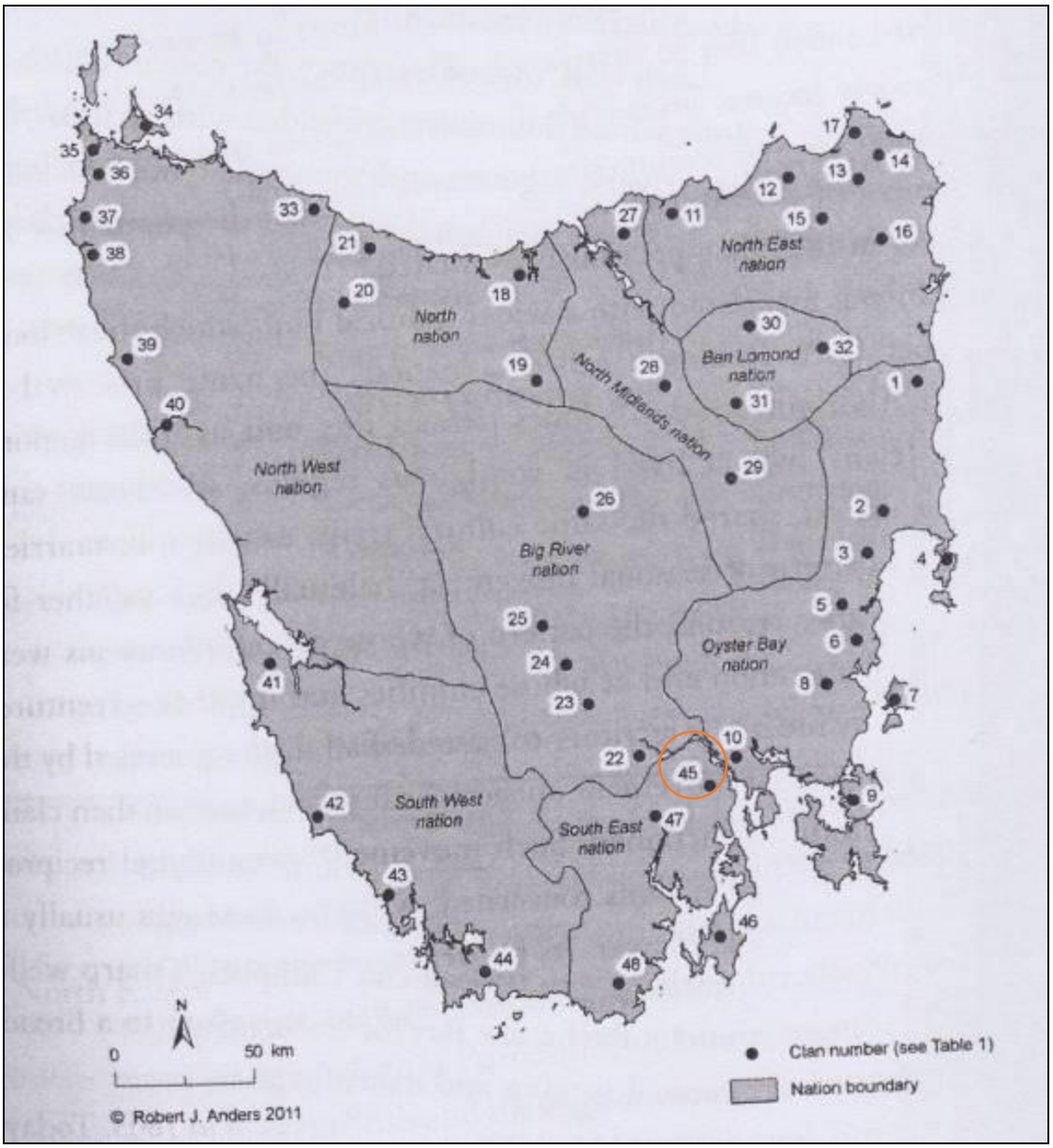


Figure 4: The Aboriginal Nations of Tasmania in relation to the study area (after Ryan 2012:13)

The South East Nation

The South East Nation was essentially a maritime people with their territory encompassing 555km of coastline, and their economy being based primarily on coastal resources. The boundaries of their territory extended from the west bank of the Derwent River, around present day New Norfolk down to South Cape, an inland through to the Huon Valley, and included all the D'Entrecasteaux Channel and Bruny Islands. In total, the territory of the South East Tribe encompassed 3100km2 (Ryan 2012).
It is believed that prior to European contact the South East Nation probably consisted of seven individual bands. However, only four clans (bands) have been definitively recorded by the early European settlers. The southern margins of the River Derwent, around Bridgewater falls within the range of the Mouheneenner Band who occupied the land around present day Hobart.

The South East Nation is believed to have spent the vast majority of the year exploiting the resources along the coastline, and the immediate hinterland areas. Their seasonal movement took place up and down the coastline. In winter they were primarily focused along the coastline gathering shellfish. In November they are reported to have gathered on North Bruny Island to exploit the mutton-bird colonies. By mid-summer the people had moved down to Recherché Bay to hunt seals. The South East People are known to have built sturdy bark catamarans, which were used to access the various Islands D'Entrecsasteaux Channel and Bruny Islands. More extensive voyages were also undertaken across Storm Bay to the Tasman Peninsula (Ryan 2012). Figure 5 illustrates the proposed movements of the South East Nation.

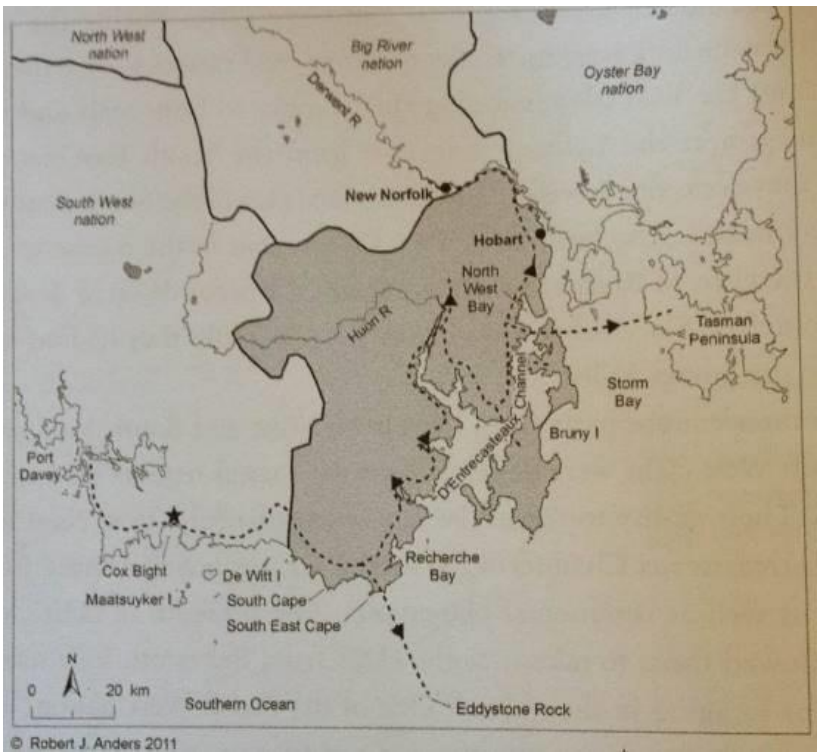


Figure 5: Seasonal movement of the South East Nations (after Ryan 2012:40)

The Oyster Bay Nation

The Oyster Bay Nation occupied the area to the east of the Jordan River, on the north side of the River Derwent, with their territory encompassing around 7800 square km. The Nation consisted of ten bands with an estimated total population of between 700-800 people, making it the largest Nation in Tasmania (Ryan 2012:17). Of the ten clans that comprised the Oyster Bay Nation, it is the Moomairremener that probably occupied the land in the vicinity of Bridgewater.

The movement of the Oyster Bay Nation through the landscape is thought to have been largely based on the seasonal availability of food resources. In this sense, the Oyster Bay Nation could be divided into two distinct groups: the northern group (from North Oyster Bay through to St Patricks Head) and the southern group (from Little Swanport through to the Tasman Peninsula) (Ryan 2012:18).

The southern Oyster Bay people started to move inland in early spring to hunt and fish. The Moomairremener generally commenced moving inland around September/October, travelling up the Derwent River towards New Norfolk, and across to Abysinia, and from there they would travel along the Clyde and Ouse Rivers. Travel was along well-defined routes, generally along the edges of the Band's territory. The two big attractions of the Big River country were the kangaroo hunting grounds around Great Lake and the Clyde and Ouse Rivers, and the availability of a potentially intoxicating gum procured from the *Eucalyptus gunii* tree. The Moomairremener would begin moving back through the Midlands in late February, early March, eventually returning to the coastal areas around June (Ryan 2012:17-20). These routes are shown in Figure 6 below.

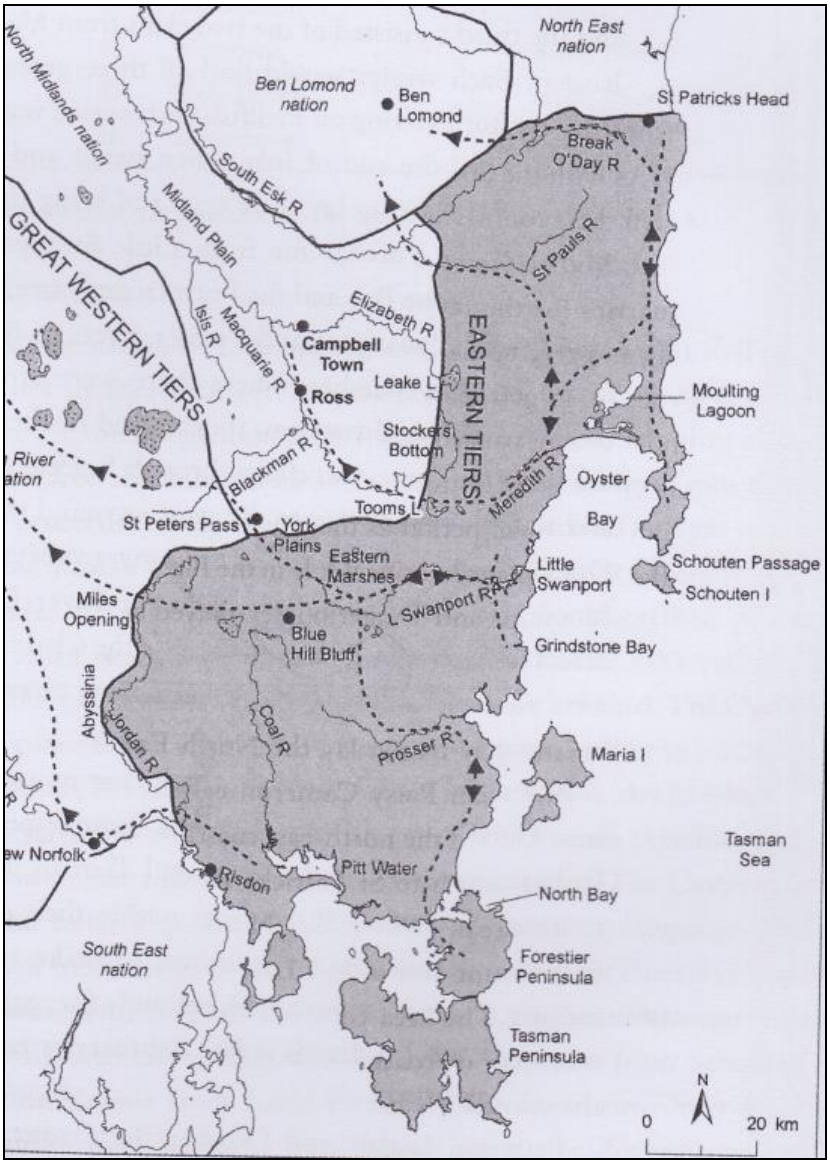


Figure 6: Seasonal movement of the Oyster Bay Nation clans (Ryan 2012:19)

The Big River Nation

The area to the west of the Jordan River was believed to have been the Territory of the Big River Nation (Ryan 2012:15 and 26). The territory of the Big River Nation is described by Ryan as extending from around New Norfolk on the Derwent River, south-west through to the rugged Mountains beyond the source of the Derwent River, north to Surrey Hills, then east through the mountains to Quamby Bluff (encompassing all the lake country) and finally south along the Western Tiers and the Jordan River (Ryan 2012:26). The Big River Nation are estimated to have numbered between four and five hundred people at the time of contact with European settlers (Ryan 2012:26).

The Big River Nation is believed to have comprised five clans; the Leenowwenne people who lived near New Norfolk, the Pangerninghe who lived on the west bank of the River

Derwent just opposite the meeting of the Derwent and Clyde Rivers, the Braylwunyer people who lived on the hilly plains between the Ouse and Dee Rivers, the Larmairrenener people lived in the high country west of the Dee River and the Luggermairrernerpairner people who lived north of the Great Lake (Ryan 2012:16). The north-west portion of the study area would have been part of the land occupied by the Leenowwenne people.

The Big River people were the only Tasmanian nation without access to a coastal strip. However, this was compensated by the highland lake system, control over Great Lake, and visiting arrangements with the neighbouring North and Oyster Bay Nations (Ryan 2012:25). Through these relationships the Big River people had seasonal access to the east, north and west coasts, and to the ochre sources in the mountains to the north (Ryan 2012:28). The Big River Nation interacted with a greater number of diverse nations and clans than any other Tasmanian nation (Ryan 2012:27). This suggests an active and dynamic social unit continually exposed to varying cultures and ideas through this high level of interaction outside the nation.

In return, neighbouring nations were granted access to the resources of the highlands in the territory of the Big River Nation. Oyster Bay people are known to have travelled up the Clyde and Ouse River valleys during the summer months to hunt, and to harvest the *eucalyptus gurii* forests, a tree confined to the highlands that produces an intoxicating gum (Ryan 2012:26).

Travel across the Big River Nation's lands was via well maintained and regularly used travelling routes. Ryan (2012: 26-7) describes the Big River Nation as having two routes running north out of their country (see Figure 7). One route ran along their western boundary "from near Lake St Clair, past Cradle Mountain and Lake Dove, to south of Black Bluff". The second route, being the one "they most commonly used went past the Great Lake and through a pass in the Great Western Tiers near Quamby Bluff where the present-day Lake Highway makes its descent."

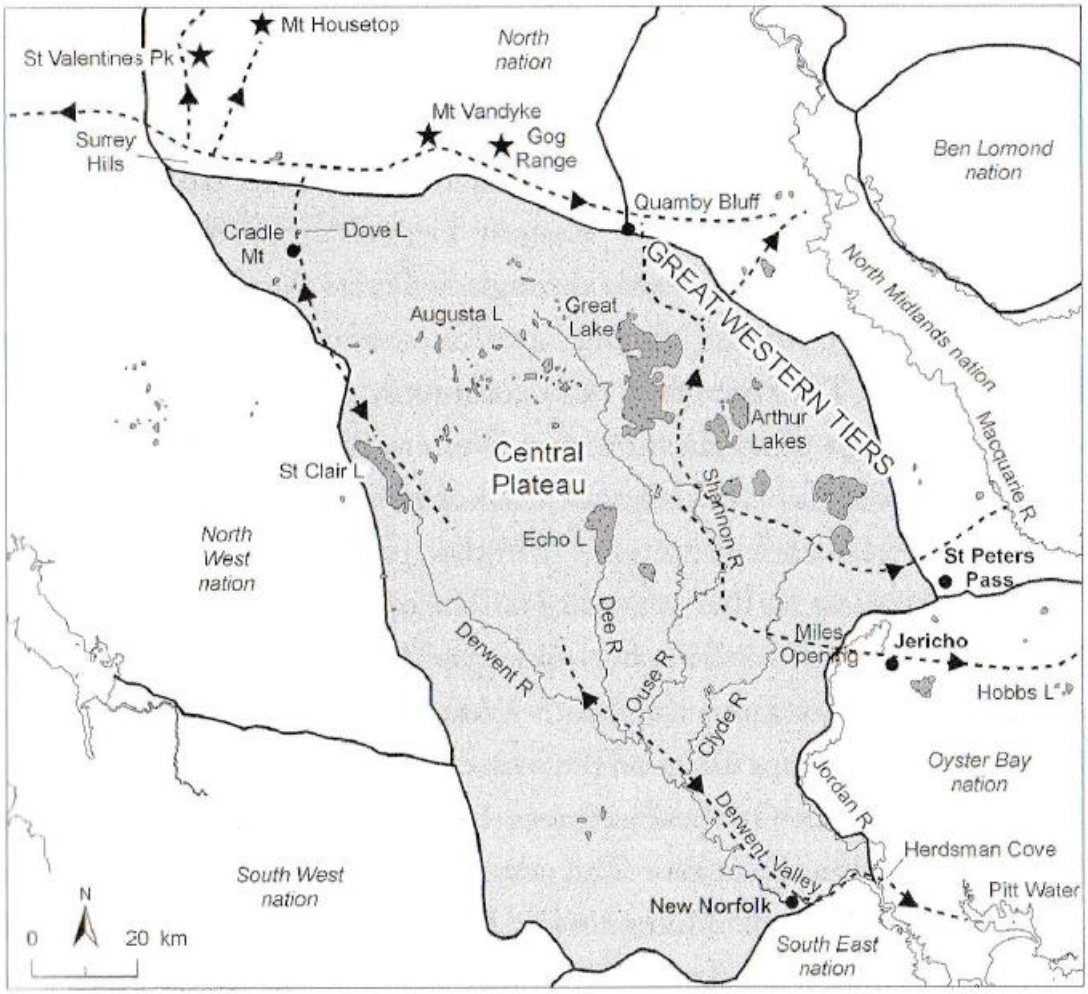


Figure 7: Trade routes and seasonal movements of the Big River Nation (Ryan 2012: 27)

3.2 Material Culture, Social Customs and Ethnographic Sources

The ethnographic observations of early European explorers provide a valuable snapshot into aspects of the material cultural and social customs of the Aboriginal Nations inhabiting southeastern Tasmania. Primary among the ethnographic sources are the diaries of George Augustus Robinson, appointed as government Protector of Aborigines who followed a policy of conciliation with the ultimate aim of removing Aboriginal people to offshore islands (Plomley 2008:515). These observations are especially valuable where they describe to those items and practices that do not survive in the archaeological record.

The Subsistence Economy

Information gleaned from the variety of ethnographic and historical sources for South East Tasmania provides some illustration of the subsistence economy in this region. There are a number of ethno-historic accounts that comment on the prevalence of shellfish and crustaceans in the diet of the local inhabitants (see Plomley 1966 and

1983). The archaeological evidence (in the form of midden sites) provides testimony to this.

In contrast, archaeological evidence for the consumption of fish is comparatively very sparse. This has led to some suggestions that fish was not a component of the diet of the Tasmanian Aborigines (see Jones 1974). At Adventure Bay in 1777 Cook reported how Aboriginal people refused a gift of fish (AT 2010:10). Robinson also recorded an instance of trying to convince his Aboriginal companions to eat fish, and the strong reluctance which they demonstrated (Plomley 2008:59).

Ethnographic accounts also indicate that terrestrial fauna was an important component of the Aboriginal diet. This is particularly the case with kangaroos and wallabies, which appear to have been hunted *en masse* at certain times of the year. McGowan (1985:92), for example reports that in May 1804 a large group of Aborigines, variously estimated to be up to 500 individuals, including men women and children were observed hunting kangaroo near the first European settlement at Risdon Cove. Robinson provides an account of the 'chief' Mannalargennana of the Oyster Bay tribe cooking wallaby:

> *…The animal is first thrown on the fire whole as is their custom with all animals, and when the hair is singed they take the carcase off the fire and rub off the scorched hair with their hands. This practice is tenaciously observed with all animals except the possum; the fur of this animal is first pulled off previous to its being placed on the fire. After the chief has rubbed the hair off the wallaby, he broke the fore leg by twisting it with his hands…He then cut the hind legs, after which he made a hole in the belly with his fingers and pulled out the entrails and then thrust in some hot ashes, the animal being previously roasted outside.* (Plomley 1966:548-549).

Possum also seems to have been frequently hunted. Plomley (1966:533) describes possums being knocked down out of trees with waddies, or people climbed trees to reach possum holes. Women again are recorded as hunting possum. Robinson records how foot and hand holes were cut in trees to assist climbing and the women used fibre ropes to pull themselves up the trunk (Plomley 1966:533).

Unfortunately, there are very few accounts available for the hunting of other terrestrial fauna. It is likely that a much wider range of species were targeted, including echidna and smaller marsupials.

In the Midlands region, birds and eggs appear to have also formed a major component of the diet of the local inhabitants, with swans, ducks and red bills being some of the main species targeted (Plomley 1966: 217). However, there are very few historical accounts are available for South East Tasmanian regarding the hunting of birds and gathering of eggs. Nonetheless, it is reasonable to assume that this also was carried out at certain times of the year.

Only a few plant foods are documented in the ethnohistoric accounts as having been eaten. This includes a bulbous plant known as 'native bread' and a plant that has the appearance of asparagus which was found by the roots of peppermint trees (Plomley 1966). It is very likely that many more plant foods were eaten by the local Aboriginal population. Jones (1971:91-95) for example lists 70 edible plant species that are available in Tasmania, and are likely to have been consumed at times of seasonal availability. This would include tree ferns, fern roots, pig face and a variety of sea weeds.

Material Culture

The ethnographic observations of early European explorers provide a valuable snapshot into aspects of the material cultural and social customs of the Aboriginal people of South East Tasmania. These observations are especially valuable where they describe to those items and practices that do not survive in the archaeological record. Clothing, shelter, weapons and hunting tools are all aspects of material culture described in ethnographic sources.

While the early European explorers generally recorded the people of South East Tasmania as being mostly naked, there are references to kangaroo skin being used for capes, slings and binding for wounds. Both William Anderson (Cook's surgeon in 1777 when he anchored briefly in Adventure Bay) and Labillardiere (the 1793 expedition anchored in Recherche Bay) recorded seeing kangaroo skin used to bind injured feet (Dyer 2005:25). This was very effective it would seem as the people were able to keep up with their companions (Dyer 2005:26). Cook also recorded women using kangaroo skin slings to carry children, and there are several illustrations of this in the paintings by Petit and Lasueur from the Baudin expedition (Bonnemains *et al* 1988). Baudin's diaries suggest that women wore kangaroo skins slung across their shoulders, which provided both warmth and a means of carrying children and other items (Cornell 1974:329).

Ethnographic sources document a range of shelters used in Tasmania. The most common in the South East were simple windbreaks of thick strips of bark woven together and supported on vertical wooden poles, as seen in the artwork from the Baudin expedition (Bonnemains *et al* 1988). These shelters were often built facing west, offering protection against the cold winds off the Channel to the east (AT 2010:16). The other major type of shelter in South Eastern Tasmania was a durable, weatherproof structure made from bending leafy branches together to form a 'beehive' looking hut (AT 2010:15).

Robinson reported seeing huts that were decorated with symbols he recognised as similar to those observed in rock engraving sites at Cape Grim (Plomley 2008:17). In June 1804 Lieutenant Governor Collins made contact with Aboriginal people living on the Huon River (Plomley 2008:18). He recorded an 'Aboriginal village' with about twenty families congregated at the site. Labilliare similarly documented seeing a group of 5-6

huts made of 'leafy branches' and surrounded by a single fire, suggesting communal cooking, and piles of shellfish (AT 2010:16).

Plomley (1983:185-194) provides a comprehensive account of the weapons and hunting implements used by the Tasmanian Aborigines, based on the ethnographic accounts. It appears that the two main weapons used by the local inhabitants were the spear and the club. The spear was a simple flexible rod with a point at one end, the length of which appears to have varied significantly from between 6-12 feet. Spears in South East Tasmania do not seem to have been hafted with points, nor were they barbed (AT 2010:17). The waddie or club is described as a piece of wood about 60cm long, 2.5cm in diameter and slightly tapered toward the gripping end. This item is reported to have been used as a throwing stick as well as a club. In addition, Labilliardere records women at Recherche Bay collecting shellfish using a small chisel like wooden implement to prise the shellfish from the rocks (Plomley 1983:22).

In many of the early ethnographic accounts for the South East region, there is reference to the baskets carried by the Aboriginal people. The ethnographic sources indicate at least four different types of basket making in South East Tasmania. There are a number of reports of water vessels constructed from the fronds of giant kelp which could hold up to five to ten litres of water (see Labillardiere 1800:190). Other types include braided baskets made from bark and dried seaweed, woven rush baskets and grass baskets made from a grass called an iris that grew on Bruny Island (AT 2010:17). One of the more detailed descriptions of basket manufacture comes from Robinson while he was on Bruny Island:

> *The native basket is made of rushes of a species of grass called iris. In preparing them for use they place the same on a slow fire which gives them a tenacity that enables the manufacturer to twist them into threads. These are plaited together and then formed into a basket which in shape is somewhat semiglobular.*
> (Plomley 1966:58)

There are numerous ethnographic accounts for the South East region describing the watercraft used by the local inhabitants. From these accounts it appears that the South East people were active in their travels between the mainland and the numerous offshore islands.

One of the most detailed descriptions of these watercraft comes from Louis Freycinet, an officer on the *Naturalist* in 1802:

> *We have seen them and have measured several. They had the same dimensions and were constructed in exactly the same way. Three roles of the bark of the eucalypt made up its whole structure…These bundles when taken separately, resemble in a way the yard of a vessel, were joined at their ends, and this caused them to stick up in a point and make up the whole of the canoe. The*

> *assemblage was made quite firm with a sort of grass or sedge. In this state, the craft had the following dimensions-*
>
> - *Length inside 2.95m*
> - *Breadth outside 0.89m*
> - *Total height 0.65m*
> - *Depth inside 0.22m*
> - *Size at the ends 0.27m*
>
> *They can put five or six peoples in these canoes; but more commonly only three or four are taken at a time. Their paddles are plain pieces of wood… Usually they sit down to manoeuvre their canoes; in that case they place bundles of grass to serve as seats. At other times they stand up. We have seen them cross the Channel only in fine weather. One can imagine that such a fragile and imperfect craft would never be able to make their way, let alone keep afloat, in a rough sea… It is to be noted that they always put a fire at one end of their canoes, and to prevent the fire from spreading they place under it a bed of earth or ashes of sufficient thickness.* (Plomley 1983:119-120).

Interestingly, although stone artefacts dominate the archaeological record for Tasmania (and Australia generally), there are few ethnographic accounts in Tasmania documenting their use. Those observations that are made, primarily relate to the finding of stone implements at camp sites. Frustratingly, there are virtually no accounts regarding the form of the implements, how they were made and used. Robinson reports that he:

> *Obtained a stone from one of the Bruny natives with which they sharpen their waddies…It has the resemblance of flint and is found at the Isthmus of Brune [sic]* (Plomley 1966:113)

One of the very few descriptions of Aboriginal people carrying out quarrying activity comes from Raynor who recounted that his father had come across about 20-30 Aborigines, men, women and children, at a quarry near Plenty on the southern side of the middle Derwent Valley:

> *Noisily chatting, they were breaking the stone into fragments, either by dashing them on the rocks or by striking them with other stones, and picking up the sharp edged ones for use…* (Raynor in Roth 1899:151)

This quarry was subsequently visited by Rhys Jones, who noted that the quarried material was an indurated cherty hornfel and that the quarry extended over an area of about 2 ½ hectares (Jones 1971:456).

Aboriginal people of South East Tasmania are described as frequently bearing tattoos and cicatrices. The ethnographers generally describe these as decorative, although it is likely that they held a range of other meanings as well. Robinson described the process

of cutting the skin with a sharp stone and rubbing the wound with charcoal or red ochre mixed with animal fat (Plomley 2008:137). The scarring was observed on both men and women and typically was either in the form of a series of short lines, or straight, concentric or circular liens across the chest (AT 2010:25). At Rocky Bay Labillieire noted that people rubbed their bodies with powdered charcoal and records one man whose cropped hair was 'plastered with ochre' (AT 2010:25).

Burial Practices

Burial customs were also observed by the ethnographers. Cremation was the usual form of disposing of a deceased person (Plomley 2008:17). The cremated remains were observed by Robinson to sometimes be wrapped in kangaroo skins and carried as an amulet by members of the deceased person's clan (AT 2010:21). Robinson reports on a funeral pyre built by both men and women of branches and twigs. The body was placed on the pyre with bound arms and legs. This was left to burn for a day, with the relatives returning the following day. The remains were collected and burnt a second time, after which the ash was scattered through the grass (Plomley 2008:17).

Other burial practices in the South East region include internment and burial in hollow trees. Illustrations from the Baudin expedition show 'tombs' at Maria Island (Bonnemains *et al* 1988:131). These were bark tepee-like constructions built over remains that have been covered in fibres or leaves weighted down by rocks (Bonnemains *et al* 1988:131). The practice of placing remains in hollow trees in the South East region is reported by Robinson (Plomley 2008; AT 2010:21). Hollow tree burials are perhaps associated with violent deaths, as occurred in the Central Highlands (AT 2010:20).

Land Management

Aboriginal people across South Eastern Tasmania appear to have actively managed their environment. Historical sources provide numerous references to burning vegetation. AT (2010:9) suggest that this had a range of applications, including modifying the environment, attracting terrestrial game, encouraging edible plant regrowth and maintaining pathways used to travel across the country. Robinson recorded that Aboriginal people in the South East would travel along 'well beaten paths' and leave abalone shells at drinking places along rivers (Plomley 2008:59). Aboriginal pathways were also utilised by the first European settlers to the area.

The Aboriginal people of the South East greatly valued fire and there are several first-hand accounts of fire being transported by means of burning torches or 'fire brands'. In 1777 Bligh recorded seeing a basket of white 'flint like stones' at Adventure Bay (AT 2010:12). These are likely to have been fire brands.

Baudin in 1802 reported seeing a 'multiplicity of fires' burning in 'on all sides' from where his ship was anchored in North West Bay (AT 2010:12). Captain Hamlin reported to Baudin watching two Aboriginal men pull up their canoe at North West Bay and walk into the scrub, setting fire to the undergrowth as they walked (AT 2010:12).

3.3 Contact History

It appears that outside the initial settlements at Risdon and Sullivan's Cove, there was a brief period of amicable relations between Aboriginal people and the European settlers. For the most part, the Mouheneener would not visit British camp at Sullivan's Cove, and were friendly to small groups of Europeans met in the bush.

In 1804, Colonial chaplain Robert Knopwood records observing 'a great many native huts and fires they made' on the western shore of the Derwent, north of Hobart (Nicholls 1986). He also recorded that Aboriginal people were around the camp at Sullivans Cove but could not be persuaded to enter (Nicholls 1986). By 1805, Aboriginal people were visiting outlying huts in areas near now Kingston, Taroona and New Town, with trades systems established in which Aboriginal people would exchange kelp and crayfish in return for bread and potatoes (AT 2013:8).

However, these friendly relations where relatively short-lived. Conflicts over food resources triggered a deterioration in these relationships as European settlers sought to augment their meagre resources with freshly caught game. Hobart the surrounding areas became vital hunting grounds supplying kangaroo meat to the struggling colony on the brink of starvation (Alexander 2006:5).

The economic importance of the kangaroo hunters to the success of the colony cannot be over emphasised. Without the supply of kangaroo meat, the government would have been unable to meet the rations and maintain the settlement (Boyce 2009:52). The European consumption of kangaroo was so great that by late 1808 they had been largely exhausted from the immediate surrounds of Hobart – causing hunting parties to venture further afield. The reliance of the colonisers on kangaroo brought them into direct conflict with the Aboriginal people.

At first, the Europeans were at an advantage as they had hunting dogs that greatly increased the numbers of kangaroo that a hunter could kill (Boyce 2009:52). But, Aboriginal people quickly adapted to the use of dogs, an example of rapid cultural and economic adaptation. This brought the two groups onto a more even par (Boyce 2009:66). This period of parity only lasted while the European population was small; as early as 1806 the kangaroo populations around Hobart had been decimated and the hunters were being forced to move further north, towards the Brighton district (Boyce 2009:54). The British settlement was literally starving, and there was a strong economic imperative for hunters to extend to the north in search of fresh sources of game. As the settlement continued to expand, both the colonists need for a meat supply, and their transformation of the hunting grounds into cleared, pastoral farms set the scene for an escalation in conflict (Boyce 2009).

As the population of Van Diemen's Land increased, farms gradually spread out along the shores of the Derwent, the agricultural economy grew and land grants increased in number. Isolated relationships between Aboriginal people and European settlers have

been recorded during this time. For example, Knopwood, who was granted land at Battery Point, records having a 17 year old Aboriginal girl come to his home seeking fire (1806), and several years later a group of seven Aboriginal people coming to his home and camping in the garden to gather oysters and mussels from the nearby shore (now Salamanca Place) (Nicholls 1986).

Of William Collins, a settler at Macquarie Point, Knopwood records 'He see many of the natives and was conducted to the town by some of them. Where there were about 20 families, he stayed all night with them; they were very friendly. He see 3 of their cattermerans or small boats made of bark that will hold about 6 of them' (Nicholls 1986 cited in AT 2013).

A more prolonged relationship existed between Edward Lord and an Aboriginal man named 'Musquito' whom Lord employed as a stock keeper. In 1816, Musquito accompanied Lord on a cattle-buying mission to Mauritius (AT 2013).

Visits by groups of Aboriginal people to Hobart Town continued into the early 1820s; Robinson records Aboriginal people visiting the Town in both 1824 and 1825. Between 1804-1824 interactions between Aboriginal and Europeans have been classified as 'uneasy co-existence', however things became much more hostile following 1824. By the 1820s the European population of the town had exploded, resulting in a corresponding increase in the issuing of land grants over the most valuable grass plains. This in-turn caused issues relating to access to native game, hunting grounds and the connection of Aboriginal people with their traditional tribal lands (AT 2013). Attempts to forcibly remove Aboriginal people from the areas settled by Europeans failed and unprecedented violence ensued.

Clashes with Aboriginal communities became more frequent and more violent as European settlement expanded. Lieutenant Governor George Arthur proclaimed Martial Law in November 1828, leading to the active pursuit, capture and death of many Aboriginal people. A bounty was introduced in February 1830 of five pounds for every adult captured and two pounds for each child. In the two years between November 1828 and November 1830 some twenty Aboriginal people were captured and a further sixty lost their lives (Ryan 1996:102).

This violence culminated in the declaration in November 1828 of Martial Law against the Aboriginal people in the 'settled areas' (Ryan 1996:101). A series of six 'roving parties' were established for the purposes hunting and capturing the remaining Aboriginal occupants of the settled areas. This military action resulted in a general increase in the scale of violent conflict between Europeans and Aboriginals, and by 1830 it was decided that a full scale military offensive was required in order to quell the Aboriginal uprising.

This operation, termed the 'Black Line', involved the assembly of 2000 men in October 1830. They formed a human chain that swept through the settled districts over a period

of three weeks, with the aim of driving the remnant Aboriginal populations from these areas. The Black Line was Governor Arthur's response to repeated insistence from settlers that Aboriginal people should be removed from the midlands (Alexander 2006:15). This reflects the level which conflict had reached by 1830. Martial Law was finally revoked in 1832 (Ryan 2012:112-113).

The Black Line itself proved to be a dismal failure, with the total capture of two Aborigines and death of another three. However, it was sufficiently distressing to the general Aboriginal community that more than two hundred people subsequently allowed themselves to be persuaded by George Augustus Robinson (the 'Protector of Aborigines') to relocate to Flinders Island in exchange for food, shelter and safety (Lines 1991:47). They were further promised that they would be returned to their former homes on the Tasmanian mainland as soon as possible.

By 1835 the majority of the 220 Aborigines who arrived with Robinson at the Wybalenna Aboriginal establishment on Flinders Island had died from inadequate shelter, insufficient provisions and introduced disease. Birth rates were extremely low and few children survived infancy. In 1847 six Aborigines at Wybalenna made a petition to Queen Victoria asking that the promises made to them be honoured. In October 1847, the surviving 47 Aborigines were transferred to an ex convict probation station at Oyster Cove. Only forty four people survived the trip (Lines 1991:47).

Conditions at Oyster Cove were only marginally better than at Wybalenna and the Aboriginal population continued to experience high mortality rates. However, throughout the 1850s and 1860s the European settlers recorded numerous anecdotes of Aboriginal people at Oyster Cove maintaining elements of their pre-contact lifestyle (AT 2010:26). They hunted, performed ceremonies and continued making traditional cultural items. The best known example is Fanny Cochrane who married ex-convict William Sawyer. She is reputed to have practiced traditional shellfish gathering, basket making, medicine and religious practices (AT 2010:27).

The Oyster Cove station closed in 1862. For most of the next 100 years, parts of the former station land were sold, while some remained as Crown land. In 1981, the majority of the former station area was proclaimed as a Historic Site. Despite strong opposition, the Aboriginal community reoccupied the site on 16 January 1984. Each year since occupying the putalina site, the Tasmanian Aboriginal Corporation has held an annual music and cultural festival (AHT fact sheet accessed 2021).

In 1995, the State Government formally handed the title of Oyster Cove putalina to the Aboriginal Land Council of Tasmania. The site continues to be managed by the Tasmanian Aboriginal Corporation. Today, the putalina festival attracts hundreds of people each January to enjoy local and interstate musicians, cultural activities and interactions with extended family and community (AHT fact sheet accessed 2021).

4.0 Background Archaeology

4.1 Regional Studies

The study area is situated within the South-East Region of Tasmania. There have been a number of Aboriginal archaeological studies undertaken within the South-East region over the past two decades. The majority of these have been in the form of survey assessments associated with proposed development activities and have focused on discreet areas (these are summarised in section 4.2). However, there has also been some broader research based investigations undertaken in the region. Probably the most comprehensive of these and the one most pertinent to the present investigations are that of Officer (1980) and Brown (1986).

Officer (1980)

Iain Officer (1980) carried out an extensive survey of the Derwent Estuary region, as part of his thesis works. The areas covered by the survey investigations extended from Blinking Billy Point (west bank of River) and Trywork (east bank of River), upstream to New Norfolk. The survey assessment in this area involved walking a series of survey transects along the shoreline of the River, with transects in some areas extending up to 1km inland from the River.

In the course of his investigations, Officer recorded a total of 416 midden sites. Of these, 298 were located on the east bank of the River and 118 on the west bank (Officer 1980).

The shell midden sites identified by Officer were predominantly comprised of mussel (*Mytilus planulatus, Xenostrobus secures* or *Brachidontes rostratus*) and oyster (*Ostrea angasi*). A wide range of other shell fish species were represented in low numbers at a number of these sites (Officer 1980).

Stone artefacts were observed at 33 of the recorded midden sites (28 artefacts on the east bank and 5 artefacts on the west bank). A wide range of stone material types were represented in these artefact assemblages, including cherty hornfels, silicified breccia, mudstone, chalcedony, quartz, basalt and dolerite (Officer 1980).

Bone material was observed at only four midden site locations, indicating that for whatever reason, bone material in middens on the Derwent River is a rare occurrence (Officer 1980).

One of the areas intensively surveyed by Officer (1980) was Bedlam Walls, which lies on the east side of the Derwent River, between Geilston Bay and Risdon Cove and extends up to 1.2km inland from the shore of the River. Officer (1980) recorded a total of 74 sites in this area (sites AH 1184-1257). The vast majority of sites are classified as middens, however, three stone quarries and one rock shelter was also identified. A large number of the midden sites (28%) are described as being extensive, covering in excess of 1000m², with the largest site being over 8000m² (Officer 1980). The midden sites range

from being located immediately on the shore line through to up to 530m inland from the shore. The dominant shell material represented in these midden sites was the black mussel (*Mytilus planulatus*) and oyster (*Ostrea angasi*).

Officer (1980) notes that a local resident (Dr Jacklyn) also recorded a large number of Aboriginal sites in the Bedlam Walls area, in the period between 1965-1973. The sites recorded by Officer (1980) included those site identified by Dr Jacklyn. Officer identified an additional 19 midden sites to those identified by Jacklyn. As part of his recording efforts, Dr Jacklyn carried out an extensive salvage of stone artefacts in the Bedlam Walls area. Jennings (1983) subsequently undertook an analysis of this collection. Jennings (1983) reports that of the 1016 pieces of stone material collected by Dr Jacklyn, 991 pieces are determined as being stone artefacts, giving an average artefact density for the area of 381 artefacts/km². The majority of artefacts were collected from the shoreline area between Shag Bay and Geilston Bay (641 artefacts). Of the 991 artefacts, 633 were un-worked and 358 are worked. Stone material types represented in the assemblage include hornfels, quartzites, chalcedony and sub-basaltic hornfels (Jennings 1983).

Brown (1986)

Steve Brown (1986) was engaged to carry out the South East Tasmanian Archaeology Project. This was one of nine regional overview studies, funded through National Estate grants, which were directed at examining the Aboriginal archaeological resources of Tasmania. The aims or duty statement for the South East Tasmanian Archaeology Project was to define the prehistory of the region and to define present and potential future impacts on the Aboriginal heritage resources in the region.

As part of his research design, Brown (1986:49-50) divided the landscape of the south-east region into landform unit types. Five major landform unit divisions were identified. These were;

- small offshore islands,
- Bruny Island,
- coastal and estuarine environments (consisting of coastal margins, coastal plains, river estuaries, lagoons and swamps),
- inland hills, plains and river valleys, and
- inland mountains (alpine plateau).

Brown (1986:49-50) then collated available archaeological data for these landscape units, including the range of site types present, the site components and the distribution and frequency of sites. The data was generated from previous archaeological investigations undertaken in the region, as well as the findings from the field work carried out by Brown.

Of the five landscape units identified by Brown (1986), the most pertinent to the present investigations are the coastal and estuarine environments. The following provides an overview of the findings, as presented by Brown (1986) for this landform unit.

Coastal and Estuarine Regions
The Coastal and Estuarine Regions consists of coastal margins, coastal plains, river estuaries, lagoons and swamps. It encompasses the River Derwent.

Brown (1986:79) notes that shell middens are by far the most common site type occurring within the coastal and estuarine environmental zone. A number of trends were observed in relation to the distribution of this site type within the coastal and estuarine environmental zone, and the composition of materials at these sites. These are summarised as follows.

- Middens are generally not present in areas with steep shore profiles.
- The greatest number of middens was identified on coast lines which contain a mixture of rocky headlands and short sandy beaches (mixed coast areas).
- On long sandy beaches the volume of midden material was found to decline with distance from a rocky coast.
- Middens are essentially comprised of two types; rocky coastal and bay estuarine, reflecting different landscape settings. However, middens with shell species common to both these types occur in intermediate zones such as estuary and lagoon mouths.
- The largest rocky coastal shell middens occur on rocky headlands and points, with associated rock platforms, where abalone, turbo, mussels and limpets occur.
- The bay estuarine type middens are generally composed predominantly of mussel and oyster shellfish species. The largest middens are found immediately adjacent to the shoreline, near to the shell fish resources. A few sizeable middens have been noted up to 500m inland, with smaller middens having been identified up to 1km inland.
- Shell middens in South-east Tasmania are comprised almost entirely of shell, and rarely contain large numbers of stone artefacts or faunal remains (Brown 1986:79-82).

Overview for the South-East Tasmanian Region
In summary, Brown (1986:99-102) has identified the following broad patterns of site type distribution in South-East Tasmania.

- Aboriginal archaeological sites occur in all parts of the landscape.
- The coastal margins (including off shore islands), coastal plains and river estuaries are very rich in archaeological resources and contain a high density of sites with large quantities of archaeological remains. The Derwent Estuary in particular was an area of rich archaeological resources.
- Inland sites are dominated by open artefact scatters and isolated artefacts. Artefact densities are highest along the river, rivulet and creek valley floors and

adjacent to lower hill slopes, particularly where the hill slopes are gently inclined, with a north aspect, and have sandy well drained soils.
- Shell middens most frequently occur in close proximity to shellfish resources, particularly on cliff tops or headlands where there is easy access to these resources.
- Stone artefact quarries most frequently occur where there is a surface expression of geological contact zones, in particular between Jurassic dolerite and Triassic or Permian strata.

As a general statement, Brown (1986:102) summarises that site numbers and densities in South-east Tasmania are greatest within 300m of the present coastline and in the immediate vicinity of coastal lagoons.

In terms of environmental factors determining site location, Brown (1986:103) is of the opinion that topography is perhaps the most consistent and important factor. Sites in general, but particularly the larger ones (in terms of artefact numbers) are very seldom found on steep gradient slopes.

In terms of duration of Aboriginal occupation, Brown (1986:99-100) believes that the South-eastern Tasmanian region has probably been occupied by Aboriginal people for the past 20 000 years. However, he acknowledged that there are no conclusive dates for sites beyond 6000 years old for the region. Notable at the time was the absence of Pleistocene and early Holocene sites in this portion of Tasmania. This may be due in part to rising sea levels at 7,000BP causing the inundation coastal sites, and to geomorphological changes in sand dunes with the re-deposition of sand sheet and dunes approximately 6,000 years ago. However, Brown (1986) believed that the systematic occupation of the area did not begin until 6,000 years ago when those populations occupying the Derwent Estuary area moved into the southern part of the region. Further research in the region was deemed to be necessary before any of these hypotheses could be confirmed.

4.2 Previous Aboriginal Heritage Assessments Undertaken in the Vicinity of the Study Area

There have been a large number of Aboriginal heritage assessments undertaken within the general vicinity of Bridgewater and Brighton. Most have these have been undertaken as part of the planning processes for specific infrastructure projects, such as the Bridgewater Bridge upgrade, the Brighton Bypass and Brighton Transport Hub projects. The following provides a summary review for those assessments that are most relevant and in closest proximity to the study area.

4.2.1 Bridgewater Bridge Studies

Austral Archaeology (1997) and Stanton (1997)

David Parham (Austral Archaeology 1997) and Stephen Stanton (1997) carried out a joint field survey assessment as part of the Bridgewater Bridge Planning Study. In the course of the field investigations three Aboriginal sites were identified (AH 7774, 7775

and 7776). All three sites were situated on the northern foreshores of the Derwent River (Bridgewater side). Site AH 7774 is located approximately 300m west of the Bridge and is described as a thin scatter of shell midden, which has been partially exposed through the construction of a glass house. Austral Archaeology (1997) suggested that the AH 7774 shell exposure was part of a larger, subsurface midden obscured beneath the soil surface. The site appears to correlate with the location of AH 1384 which was previously recorded by Officer (1980). The site is situated outside the bounds of the study area.

Site AH7775 was described as an extensive scatter of shell fragments extending along the northern Derwent River foreshore, approximately 175m east of the Bridge. The site consisted of fragments of oyster shell which have been exposed by the growth of the large pine trees in the area. The dimensions of the site are reported to be 90 metres in length by up to 12 metres in width. The site is reported to have been disturbed by the establishment of the gravel access road to the property, with fragments of shell visible in the paddock on the other (northern) side of the road, away from the main concentration of shell (Stanton (1997). Site 7775 is situated within the immediate vicinity of site AH 1383 recorded by Officer (1980), and given their spatial proximity were considered likely to be part of the one site complex.

AH 7776 was located further to the east at Woods Point, also on the northern Derwent foreshore. This site is reported as comprising two stone artefacts. One is a retouched flake struck from grey banded chert and the other a flaked piece of quartzite.

In addition to these three sites, Stanton (1997) and Austral Archaeology (1997) also identified a ‘potentially sensitive landform’ on the Granton side of the Derwent foreshore, opposite Black Snake Lane. The landform is described by Stanton (1997) as a partially disturbed, small hummock covered by dense vegetation. According to Austral Archaeology (1997), the landform is ‘a remnant section of higher, hard ground on the shore that has not been either reclaimed or otherwise intensively developed.

Stone (2009)

Tim Stone (2009) was engaged to implement a preliminary Aboriginal cultural heritage assessment for the proposed Bridgewater Bridge Replacement Planning Study. The assessment essentially constituted a desk top assessment and review of previous studies. Stone (2009) identifies that two previously recorded Aboriginal sites are located within the bounds of the then identified study area (sites AH 1383 and 7775). Stone also noted that these two sites were likely to be part of the one site complex. Stone (2009) identified the fact there was a possibility that these two sites (or 1 site complex) may be larger in extent that what has been previously recorded, and that the site(s) may be impacted by proposed bridge construction work.

Stone (2009) recommended that a qualified archaeologist and Aboriginal Heritage Officer should be engaged to conduct a surface survey of the Bridgewater Bridge planning study area, with the aim of locating all Aboriginal cultural heritage sites and

areas of archaeological potential in the study area. Stone (2009) also recommended that a staged approach be adopted for heritage investigations, which allows time for archaeological subsurface investigation of AH 1383/7775 midden site, if this site cannot be avoided by the bridge design.

Hydro Consulting (2009) and Maynard (2009)

Aboriginal Heritage Officer Leigh Maynard and Hydro Tasmania Consulting trainee Jessie Digney were commissioned by DIER to undertake Aboriginal community consultation work for the Bridgewater Bridge Replacement Planning Study. The primary aim of this consultation was so the views, concerns and beliefs of the Aboriginal community regarding the Aboriginal heritage in the area can be considered, and incorporated into any required permit applications (under the *Aboriginal Relics Act 1975*). Hydro (2009) reports that the outcomes of the consultation was that the wider Aboriginal community were strongly opposed to any development that negatively impacts Aboriginal heritage or other values. Maynard (2009) reports that determining the size and extent of AH site 7775, and thus the potential impacts to this site through the proposed Bridge construction became one of the major issues discussed during the course of the community consultation. Maynard (2009) reports that some community members supported augering techniques to determine the extent of the site, others were in favour of test pitting, while some members were of the view that the bridge alignment should be moved altogether in order avoid any potential impacts to the site.

CHMA (2011)

CHMA (2011) was commissioned by GHD (on behalf of DIER) to undertake further Aboriginal heritage assessment work for the proposed Bridgewater Bridge replacement project. This is around 2km to the west of the current study area. In the course of the field survey assessment two Aboriginal heritage sites were identified and recorded (Sites AH1383/7775 and AH11190).

Site AH1383/7775, was situated on the northern foreshore of the Derwent River, within 200m east of the existing Bridge. The site had been previously identified by both Officer (1980) and Stanton (1997). The site was described by CHMA (2011) as an extensive thin veneer of broken shell material that was observed to extend over an area measuring approximately 100m (east-west) x 10m (north-south). The shell material was exposed along a series of small erosion patches that occur primarily around the bases of a row of mature pine trees that extend along this section of the foreshore. The shell had been heavily fragmented, and much of the material had been burnt. Despite the heavily fragmented nature of the shell material, two types of shell fish could be identified as being definitively represented in the midden, these being black mussel (*Mytilus planulatus*) and oyster (*Ostrea angasi*) A small number of stone artefacts were also observed to be in association with this shell.

Site AH11190 was classified as an isolated artefact which was situated approximately 100m south of the southern foreshores of the Derwent River, and 300m down-stream

(east) of the existing Bridge. The artefact was located on a graded vehicle track that runs in an east-west direction across the lower slopes of a hill. These slopes run from south-west to north-east down towards the southern margins of the Derwent River. The gradient of these lower slopes, in the vicinity of where the artefact was identified is between 2-4º. Besides the two Aboriginal sites described above, no additional Aboriginal sites or areas of potential archaeological sensitivity were identified within the bounds of the proposed Bridgewater Bridge Replacement corridor.

CHMA (2020a)

CHMA (2020a) were engaged by State Growth to undertake an updated Aboriginal heritage assessment for the broader Bridgewater Bridge route corridor. The field survey program resulted in the identification of five Aboriginal sites. Four of these sites were re-recordings of registered Aboriginal sites (AH1382, AH1382/AH7775, AH7776, 11873), with the fifth site being a new recording (AH13833). Sites AH1382, AH1382/AH7775 and AH7776 were all shell midden deposits that were located on the northern margins of the River Derwent Estuary, downstream (east of the Bridgewater Bridge. Site AH11873 was an isolated artefact that is located within a rural farm paddock, approximately 40m north of the East Derwent Highway. Site AH13833 was an isolated artefact that is located 220m to the south of the southern margins of the River Derwent, and 600m downstream (south-east) of Bridgewater Bridge. In addition to these five sites, three Potential Archaeological Deposits (PADs) were identified within the study area corridor. PADs 1 and 2 were situated on the northern margins of the River Derwent, with PAD 3 being situated on the east margins of the Black Snake Rivulet, on the south side of the River Derwent. The PAD1 area incorporated site AH1383/AH7775.

CHMA (2021)

CHMA (2021) were subsequently engaged by State Growth to undertake a program of sub-surface investigations within the PAD1 and PAD3 areas. The purpose of the sub-surface investigations is to determine the extent and nature of Aboriginal heritage values within these two PAD areas, and based on the findings of the investigations, to develop appropriate management/mitigation options.

A total of 14 stone artefacts were recovered from the test pitting program at PAD1
In addition, low densities of shell midden material were recovered from five of the test pits. No lenses or stratified deposits of midden material was identified in any of these pits. Instead, fragments of shell material was scattered throughout the soil deposits. Based on the observations made during the test pitting program, and the previous recording of this site undertaken by Stanton (1997) and CHMA (2011 and 2018), it appeared that the artefact deposits associated with this site is confined to an area measuring approximately 70m in length (south-east to north-west) x 20m wide. The site may once have been larger in spatial extent. However, the area to the north and west of the site has been very heavily impacted by development activity and any artefact deposits that may once have been present in these areas appears to have been destroyed. The density and nature of the artefact deposits present at site

AH1383/AH7775 was assessed as being consistent with the area having been utilised as an interim seasonal camp site positioned on the northern margins of the River Derwent (CHMA 2021).

A total of eight stone artefacts were recovered from the test pitting program at PAD3 These deposits were confined to the central and southern portions of the PAD, across an area measuring approximately 75m (north-south) x 50m. These artefact deposits were classified as a newly recorded Aboriginal site (AH13880). The artefact densities identified at site AH13880 were interpreted as being consistent with more sporadic levels of activity. It was considered likely that these margins on the east side of Black Snake Rivulet were occasionally utilised as an interim camp site. Black Snake Rivulet would have provided a reasonably reliable source of fresh water, and the area is situated less than 1km from the resource rich River Derwent estuary (CHMA 2021).

CHMA (2022)

During the course of undertaking historic investigations at the Former Black Snake Inn historic site located at 650 Main Road Granton, a number of suspected Aboriginal stone artefacts were uncovered by Southern Archaeology (SA). The Unanticipated Discovery Plan (UDP) process for Aboriginal heritage was followed and Aboriginal Heritage Tasmania (AHT) was informed of the discoveries. The Aboriginal artefacts identified by SA were registered on the Aboriginal Heritage Register (AHR) as being an extension of site AH11190, which was originally recorded by CHMA (2011).

CHMA (2022) were engaged to undertake a program of sub-surface investigations in order to better understand the nature and extent of Aboriginal heritage site AH11190. The investigations involved the excavation of 85 test pits. A total of four stone artefacts were recovered from these 85 test pits. Only two of the test pits were artefact bearing (pits 33 and 35), with two artefacts recovered from each test pit. Test pits 33 and 35 are situated within 15m of each other, in the western portion of the study area, on the lower northern slopes of the hill. Slope gradients in this area are around 2-3º. This is the general area where the majority of Aboriginal artefacts associated with AH11190 were identified by Southern Archaeology during the course of the historic investigations. The artefacts recovered through the test pitting program were all situated in a highly disturbed context, being within imported fill material.

Subsequent to the completion of the test pitting program, SA identified a further six Aboriginal stone artefacts during historic investigations. All six artefacts are situated in heavily disturbed contexts, in the immediate vicinity of the previously identified boundaries of site AH11190. The boundaries of site AH11190 were amended to incorporate these six artefacts.

4.2.2 Other Investigations in the Vicinity of the Study Area

The Brighton Transport Hub (Stanton 2008b and 2008c; CHMA 2008b)
A series of archaeological investigations were recently undertaken at the Brighton Transport Hub, located immediately to the west of the southern section of the proposed Brighton Bypass route (on the west side of the Midlands Highway).

Three Aboriginal sites (AH10648, AH10649 and AH10650) were identified Stanton (2008b and 2008c). A total of 103 artefacts were identified at AH10648, concentrated around the northern basal slopes of a prominent hill. A scatter of 29 artefacts were identified at site 10650 located along the southern portion of a broad flat spur line, on the northern side of Ashburton Creek, while site AH10649 comprised 3 artefacts with sub-surface potential near the Creek.

Following subsurface investigations at these sites by CHMA (2008b) site 10648 was found to comprise a range of cultural features including moderate-high densities of surface and sub-surface artefacts, stone procurement sites and an early European occupation site. Spatial and temporal links indicate the area is a single site complex including both AH10648 and AH10650.

A silcrete procurement site was found at AH10650 comprising a discreet concentration of silcrete/quartzite nodules (varying in size from a soccer ball to a medicine ball), which are located on the basal southern side slopes of a hill, on the northern margins of Ashburton Creek (grid reference E518633 N5269971). This WAS just to the south of the southern boundary of the Hub site. These nodules have been the focus of extensive procurement activity, with several thousand artefacts (mainly primary flakes and debitage) noted within a 50m radius of the nodules. Given the dominance of silcrete stone artefacts at site AH10650, and the close spatial association of the site with the silcrete procurement source, it appears that this site is representative of sporadic activity associated with the procurement of stone from this source.

Primary areas of Aboriginal occupation were the elevated terraces on the southern and northern margins of Crooked Billet Creek with activity radiating out from the area. The terraces occur on a sheltered part of the small valley associated with Crooked Billet Creek at a point where the creek flattens to form a small swamp area. It is likely that these elevated terraces were regularly utilised as interim camp locations by Aboriginal people in the area. Foraging activity (including the procurement of stone materials) would have occurred in the broader valley area, with people returning to these terrace areas to process their harvests. The occupation of this area appears to have extended through to the ‘Post Contact’ period as evidenced by the presence of flaked bottle glass. There was some evidence to suggest that Aboriginal activity in this area during the ‘Post Contact’ period may have shifted from the terraces either side of the Creek, slightly to the east to the lower northern slopes of a nearby prominent hill. Why this is the case was uncertain (CHMA 2008b).

The likely scenario was that Aboriginal people were carrying out initial procurement and reduction activities at the procurement site itself, and then secondary reduction processing at other locations (including site 10650). The results of the test pitting undertaken at site AH10650 indicate that the movement of the silcrete material from the stone procurement site was generally north toward Crooked Billet Creek and site AH10648. Secondary reduction processing appears to have been mainly carried out at site AH10648, and along the western edge of the hill summit between sites AH10648 and AH10650 (CHMA 2008b).

Maynard and McConnell 2003

Anne McConnell and Leigh Maynard were engaged to undertake an Aboriginal heritage assessment for a proposed natural gas pipeline development in the Greater Hobart region. The assessment focused on an off take station which was located approximately 2km north of Bridgewater, and the distribution pipeline which extended south to the centre of Hobart, via a section of this pipeline ran from Bridgewater to Old Beach, following the alignment of the East Derwent Highway. This is the closest section to the present study area. The survey assessment did not identify any Aboriginal heritage sites or areas of cultural heritage value either on or in the immediate vicinity of the investigated areas. Apart from the Hobart City Centre, there were no areas where there was considered to be an elevated potential for sub-surface Aboriginal heritage deposits to be present Maynard and McConnell (2003:11).

Sainty 2007

Rocky Sainty was engaged by the Brighton Council to carry out an Aboriginal heritage assessment for a proposed walking track between Old Beach and Bridgewater. The survey resulted in the identification of two Aboriginal sites (1372 and 1335), with sites having been previously recorded and registered. Site 1372 is classified as a shell midden deposit, which was located at the Green Point Nature Reserve. This is around 500m to the west of the current study area, on the west side of Herdsmans Cove. Site 1335 was also classified as a shell midden, and is located within the coastal reserve at Swan Park, Gagebrook, on the eastern side of Herdsmans Cove (Sainty 2007:3).

CHMA (2017)

CHMA (2017) was engaged by MONA to undertake an Aboriginal heritage assessment for a 16ha parcel of land which was part of a Derwent Foreshore Masterplan proposal. CHMA (2017:54) recorded two Aboriginal heritage sites during the field survey (AH1379 and AH1380). These two sites were both originally recorded by Officer (1980) as part of his survey of the Derwent Estuary. The two sites were both classified as shell middens, and were both located on the northern foreshore margins of the River Derwent, immediately to the east of the Sewage Treatment Plant. Both sites comprised sparse scatters of shell midden material. The midden material at the two sites appeared to be primarily confined to the soil surface and very upper soil horizon. No shell midden lenses were noted at either site. The two site areas had been subject to moderate to high levels of disturbance through prior land clearing, at the cutting of artificial embankments across

the site area. There was also evidence of fill material having been placed across the foreshore area (CHMA 2017:54).

CHMA (2020b)

CHMA (2020b) was engaged by Brighton Council to undertake an Aboriginal heritage assessment for the proposed Bridgewater Reserve Playground, which is situated around 1km to the east of the current study area. No Aboriginal heritage sites or specific area of elevated archaeological potential were identified during the field survey assessment. CHMA (2020b) noted that the search of the AHR undertaken for this project showed that there are no registered Aboriginal sites that were located within or in the immediate vicinity of the study area boundaries. The negative survey results were interpreted as being a reasonably accurate indication that either there were no Aboriginal sites located in the study area, or that site and artefact densities across the study area are likely very low, reflecting sporadic activity. The most likely site type to be present would be small artefact scatters or isolated artefacts, or very sparse midden deposits (CHMA 2020b:48-49).

4.3 Registered Aboriginal Sites in the Vicinity of the Study Area

As part of Stage 1 of the present assessment a search was carried out of Aboriginal Heritage Register (AHR) to determine the extent of registered Aboriginal heritage sites within and in the general vicinity of the Bridgewater, Herdsmans Cove and Old Beach study areas.

The search results show that there are 56 registered Aboriginal heritage sites that are located within an approximate 3km radius of the study area (search results provided by Billy Payton-Clarke from AHT on the 2 November 2023).

A total of 20 of these sites are classified as Artefact Scatter sites (AH10238; AH10601; AH10602; AH10648; AH10649; AH10650; AH10667; AH10802; AH10803; AH10804; AH10805; AH10902; AH10904; AH10905; AH11870; AH11872; AH7776; AH8815; AH14123; AH14124), with two sites (AH1383; AH7775) classified as an Artefact Scatter and Shell Midden. A further 19 sites are classified as Isolated Artefact Sites (AH10651; AH10713; AH10754; AH10801; AH10900; AH10901; AH10903; AH10906; AH11483; AH11869; AH11871; AH11873; AH11874; AH11875; AH6599; AH13691; AH14015; AH14016; AH14017). A total of 15 registered sites located within the 3km radius of the study area are classified as Shell Midden sites (AH191; AH11484; AH11485; AH11520; AH1378; AH1379; AH1380; AH1381; AH1382; AH1384; AH1385; AH1386; AH1387; AH1388; AH7774). The majority of these sites are located on the northern margin of the Derwent River.

Table 1 provides the summary details for these registered sites; Figure 8 shows the location of these registered Aboriginal sites in relation to the study area.

None of these registered sites are situated within or in the immediate vicinity of the study area. The closest two registered sites are AH14123 and AH14124, both of which are situated around 200m to the east of the eastern boundary of the study area (see Figure 9). These two sites were recorded by Southern Archaeology (SA), during the course of undertaking historic investigations. Both sites were reported to have been low density artefact scatters (each comprising two artefacts). Both sites are located on the embankment, between the Bridgewater Bridge construction compound complex and Old Main Road, at 26-40 Old Main Road, Bridgewater. The artefacts were noted to be in a massively disturbed context, with the embankment being comprised entirely of fill material. Based on information provided by MCD it appears that this fill material has originated from the general surrounds of the Compound Complex.

Table 1: Summary details for registered Aboriginal sites located within and in the immediate vicinity of the study area (Based on the AHR search results dated 2.11.2023)

AH Number	Site Type	Locality	Grid Reference Easting (GDA 94)	No Grid Reference Northing (GDA 94)
191	Shell Midden			
10238	Artefact Scatter	Bridgewater		
10601	Artefact Scatter			
10602	Artefact Scatter	Bridgewater		
10648	Artefact Scatter			
10649	Artefact Scatter			
10650	Artefact Scatter			
10651	Isolated Artefact	Bridgewater		
10667	Artefact Scatter	Bridgewater		
10713	Isolated Artefact	Bridgewater		
10754	Isolated Artefact	Bridgewater		
10801	Isolated Artefact	Bridgewater		
10802	Artefact Scatter	Bridgewater		
10803	Artefact Scatter	Bridgewater		
10804	Artefact Scatter	Bridgewater		
10805	Artefact Scatter	Bridgewater		
10900	Isolated Artefact	Bridgewater		
10901	Isolated Artefact	Bridgewater		
10902	Artefact Scatter	Bridgewater		
10903	Isolated Artefact	Bridgewater		
10904	Artefact Scatter	Bridgewater		
10905	Artefact Scatter	Bridgewater		
10906	Isolated Artefact	Bridgewater		
11483	Isolated Artefact	Bridgewater		
11484	Shell Midden	Bridgewater		
11485	Shell Midden	Bridgewater		
11520	Shell Midden	Bridgewater		

AH Number	Site Type	Locality	Grid Reference Easting (GDA 94)	No Grid Reference Northing (GDA 94)
11869	Isolated Artefact	Bridgewater		
11870	Artefact Scatter	Bridgewater		
11871	Isolated Artefact	Bridgewater		
11872	Artefact Scatter	Bridgewater		
11873	Isolated Artefact	Bridgewater		
11874	Isolated Artefact	Bridgewater		
11875	Isolated Artefact	Bridgewater		
1378	Shell Midden			
1379	Shell Midden	Bridgewater		
1380	Shell Midden	Bridgewater		
1381	Shell Midden	Bridgewater		
1382	Shell Midden	Bridgewater		
1383	Artefact Scatter, Shell Midden			
1384	Shell Midden	Bridgewater		
1385	Shell Midden	Bridgewater		
1386	Shell Midden	Bridgewater		
1387	Shell Midden	Bridgewater		
1388	Shell Midden	Bridgewater		
6599	Isolated Artefact	Bridgewater		
7774	Shell Midden	Bridgewater		
7775	Shell Midden, Artefact Scatter			
7776	Artefact Scatter	Bridgewater		
8815	Artefact Scatter	Bridgewater		
13691	Isolated Artefact	Bridgewater		
14015	Isolated Artefact	Bridgewater		
14016	Isolated Artefact	Bridgewater		
14017	Isolated Artefact	Bridgewater		
14123	Artefact Scatter			
14124	Artefact Scatter			

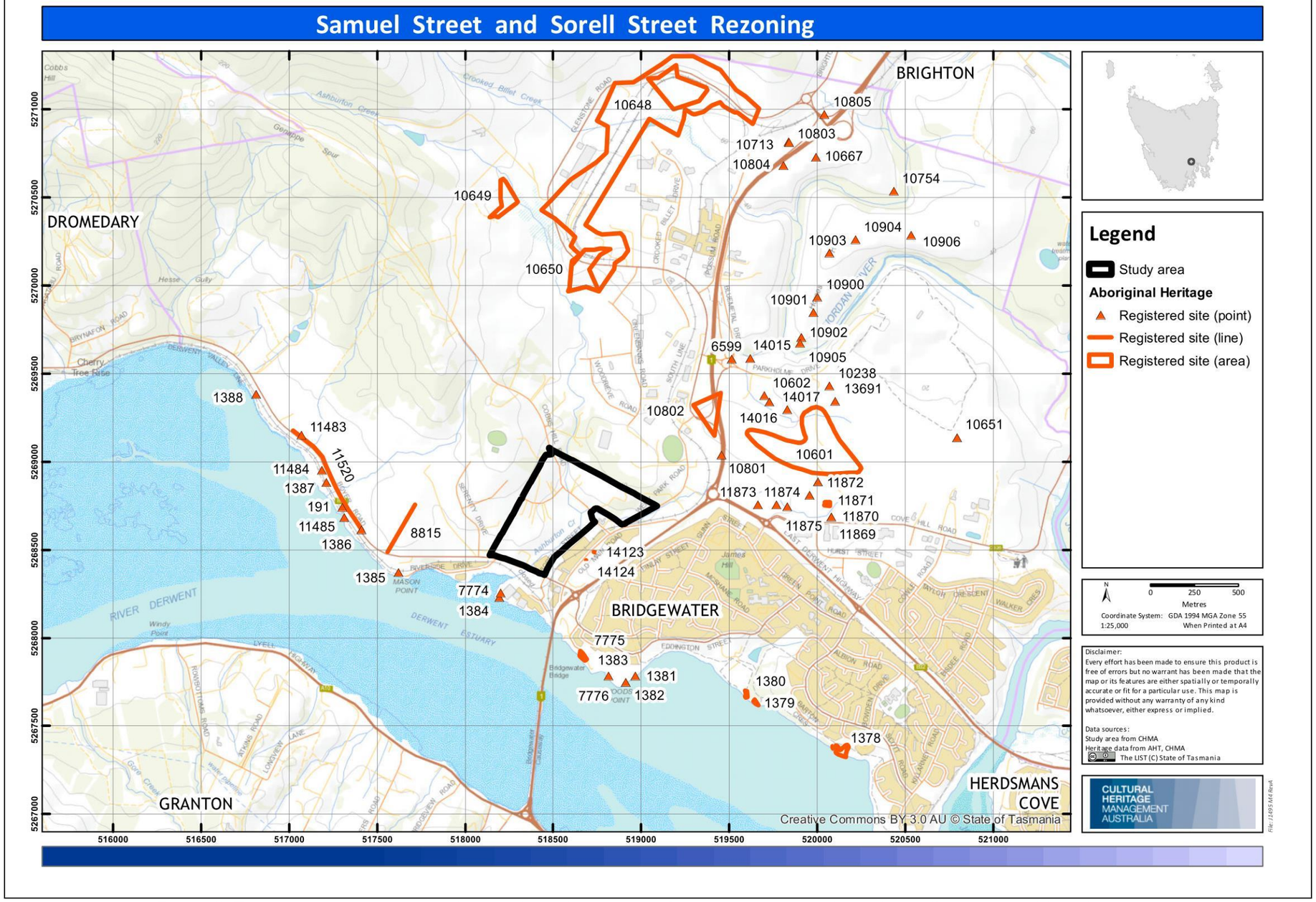


Figure 8: Topographic map showing the location of registered Aboriginal sites located within a 3km radius of the study area (Based on the AHR search results dated 2 November 2023)

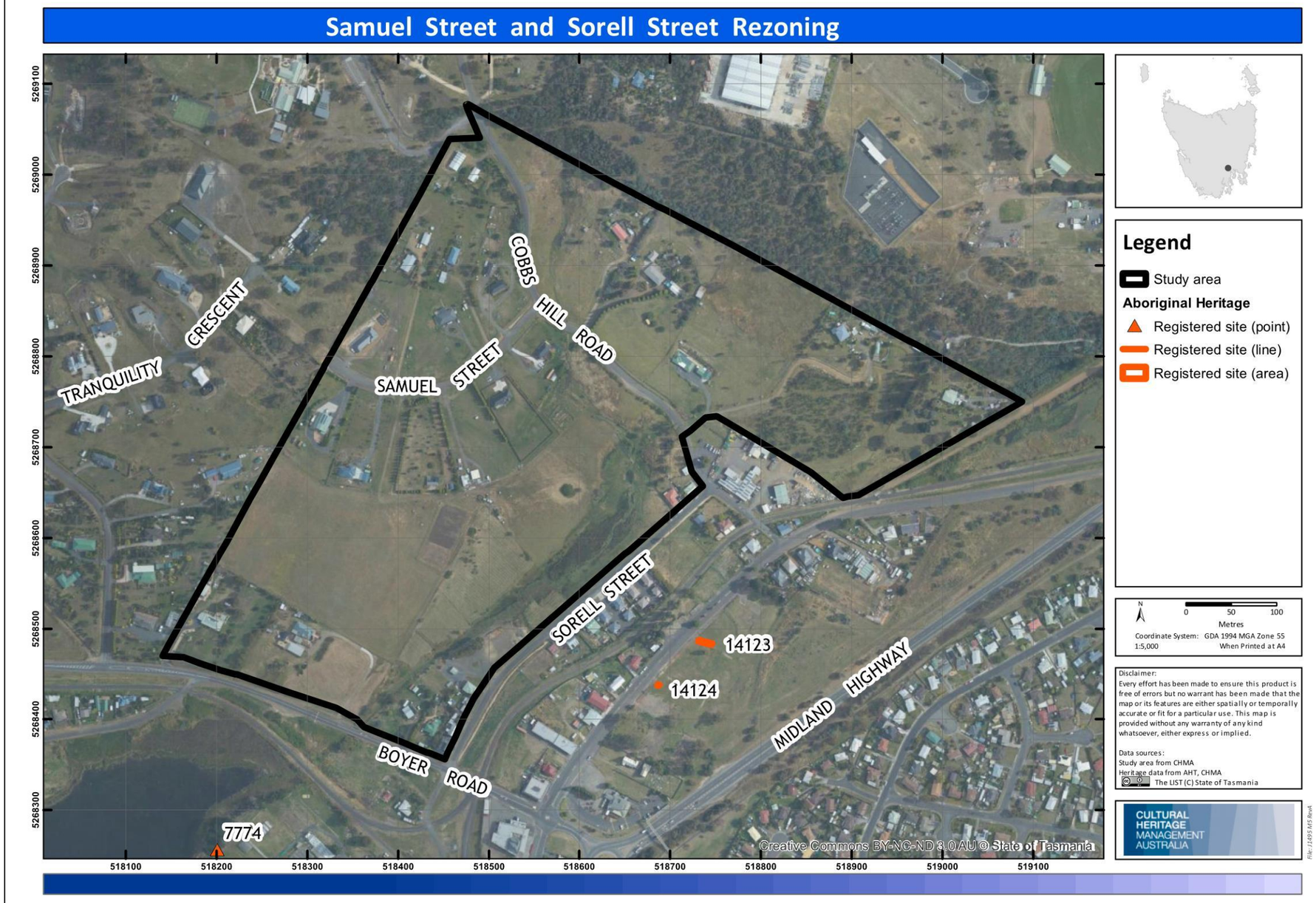


Figure 9: Aerial map showing the location of registered Aboriginal sites located within a 1km radius of the study area (Based on the AHR search results dated 2.11.2023)

5.0 Predictive Modelling

5.1 Introduction to Predictive Modelling

Predictive modelling, in an archaeological context, is a fairly straight forward concept and has been utilised by archaeologists in Australia for a number of years as a tool for undertaking research into Aboriginal heritage sites. In summary, predictive modelling involves the collation of information generated from previous archaeological research in a given region, and using this information to establish patterns of Aboriginal site distributions within the landscape of that particular region. On the basis of perceived patterns of site distribution, Archaeologists can then make predictive statements regarding the potential for various Aboriginal site types to occur within certain landscape settings, and can make preliminary assessments regarding the potential archaeological sensitivity of landscape types within a given region.

5.2 Predictive Models; Strengths and Weaknesses

It should be acknowledged that most, if not all predictive models have a number of potential inherit weaknesses which may serve to limit their value. These include, but may not be limited to the following.

1) The accuracy of a predictive model is directly influenced by the quality and quantity of available site data and information for a given region. The more data available and the greater the quality of that data, the more likely it is that an accurate predictive model can be developed.
2) Predictive modelling works very well for certain types, most particularly isolated artefacts and artefact scatters, and to a lesser extent scarred trees. For other site types it is far more difficult to accurately establish distribution patterns and therefore make predictive modelling statements. Unfortunately, these site types are generally the rarer site types (in terms of frequency of occurrence) and are therefore generally the most significant sites.
3) Predictive modelling (unless it is very sophisticated and detailed) will generally not take into account micro-landscape features within a given area. These micro features may include (but is certainly not limited to) slight elevations in the landscape (such as small terraces) or small soaks or drainage depressions that may have held water. These micro features have been previously demonstrated to occasionally be focal points for Aboriginal activity.
4) Predictive modelling to a large extent is often predicated on the presence of water courses. However, in some instances the alignment of these water courses has changed considerably over time. As a consequence, the present alignment of a given water course may be substantially different to its alignment in the past. The consequence of this for predictive modelling (if these ancient water courses are not taken into account) is that predicted patterns of site distributions may be greatly skewed.

5.3 A Predictive Model of Site Type Distribution for the Study Area

The findings of previous archaeological investigations undertaken in the surrounds of Bridgewater and Brighton indicate that the most likely site types that will be encountered within the study area will be artefact scatters/Isolated artefacts and to a lesser extent shell midden deposits (due to the location of the study area 150m north of the Derwent River). It is also possible, although less likely, that Aboriginal stone quarry or procurement sites will be present. The following provides a definition of these site types and a general predictive statement for their distribution within the study area.

Artefact Scatters and Isolated artefacts

Definition

Isolated artefacts are defined as single stone artefacts. Where isolated finds are closer than 50 linear metres to each other they should generally be recorded as an Artefact Scatter. Artefact scatters are usually identified as a scatter of stone artefacts lying on the ground surface. For the purposes of this project, artefact scatters are defined as at least 2 artefacts within 50 linear metres of each other. Artefacts spread beyond this can be best defined as isolated finds. It is recognised that this definition, while useful in most instances, should not be strictly prescriptive. On some large landscape features for example, sites may be defined more broadly. In other instances, only a single artefact may be visible, but there is a strong indication that others may be present in the nearby sediments. In such cases it is best to define the site as an Isolated Find/Potential Archaeological Deposit (PAD).

Artefact scatters can vary in size from two artefacts to several thousand, and may be representative of a range of activities, from sporadic foraging through to intensive camping activity. In rare instances, campsites which were used over a long period of time may contain stratified deposits, where several layers of occupation are buried one on top of another.

Predictive Statement:

Previous archaeological research in the region has identified the following pattern of distribution for this site type:

- Stone artefact scatters are numerous within the larger river valley systems;
- The largest open artefact scatters tend to be situated on well-drained sandy soils, in slightly elevated positions above river and creek floodplains, with a north aspect;
- Site and artefact densities on the lower lying flood plains of watercourses tend to be comparatively lower. This may be reflective of the fact these low lying areas were less favoured as camp locations, due to such factors as rising damp and vulnerability to flooding; and
- Site and artefact densities also tend to be comparatively lower in areas away from watercourses, and on moderate to steeply sloping terrain.

Applying this broad pattern of site distribution to the study area, it would be anticipated that the highest densities of artefact deposits would most likely to be encountered on elevated and level landscape features such as the spines of spurs or the crest of hills or knolls. Increased artefact densities could also be expected to occur around any elevated and level and well drained landscape features that may be present around the margins of Low to very low densities of artefact deposits could be expected to occur across the remainder of the study area.

Midden Sites

Definition

Middens range in thickness from thin scatters to stratified deposits of shell and sediment up to 2m thick. In addition to shell which has accumulated as food refuse, shell middens usually contain other food remains such as bone from fish, birds and terrestrial animals and humus from the decay of plant and animal remains. They also commonly contain charcoal and artefacts made from stone, shell and bone.

Predictive Statement

In the South-East Tasmanian region, the bay estuarine type middens are generally composed predominantly of mussel and oyster shellfish species. The largest middens are found immediately adjacent to the shoreline, near to the shellfish resources, and are on elevated, generally gently sloping or level terrain. A few sizeable middens have been noted up to 500m inland, with smaller middens having been identified up to 1km inland. These shell middens are comprised almost entirely of shell, and rarely contain large numbers of stone artefacts or faunal remains.

Shell midden deposits are most likely to be encountered within 100m of the foreshore margins of the Derwent Estuary. The shell middens are likely to be comprised primarily of mussel and oyster species, and stone artefacts are unlikely to be in association, or present in low numbers. The middens are most likely to be sited in discrete areas where the hill slope gradients are low.

As noted previously, the southern boundary of the study area is located around 150m of the River Derwent estuary. If midden sites are present in the study area, they are therefore likely to be situated around this southern boundary area. There is a very low probability that middens will be encountered elsewhere throughout the study area.

Stone Procurement/Quarry Sites

Definition

A stone procurement site is a place where stone materials were obtained by Aboriginal people for the purpose of manufacturing stone artefacts. Quarry sites on the other hand have some evidence of the stone being actively extracted using knapping and/or digging. Stone procurement sites are often pebble beds in water courses (where there may be little or no evidence of human activity) or naturally occurring lag deposits exposed on the surface. Quarry sites are usually stone outcrops, with evidence of

knapping and pits dug to expose the rock. Concentrations of hammer stones and a thick layer of knapping debris are often present.

Predictive Statement

Previous archaeological research in the South East Tasmanian region has shown that the most common source of raw materials for making stone artefacts are outcrops of stone materials such as silcrete, cherty hornfels, quartzites, quartz, and fined grained volcanics. These tend to occur along prominent landscape features, such as the spines of ridges or on hills.

As noted in section 2 of this report, the bedrock geology of the study area is dominated by, while the southernmost portion of the study area consists of Cenozoic cover sequences of Tholeiite basalt.

Neither basalt nor dolerite are suited to the manufacture of flaked stone tools, and as such there is a very low potential for any surface outcrops of these materials to have been utilised as raw material sources for stone artefact manufacturing. It is noted from the geological mapping that in the westernmost boundary of the study area there are Cenozoic cover sequences of alluvial gravel, sand, and clay, and clay-rich alluvial cobble deposit, clasts dominantly of weathered dolerite with subordinate well-rounded siliceous clasts. The siliceous clasts (if of a suitable quality) may have been targeted for stone artefact manufacturing.

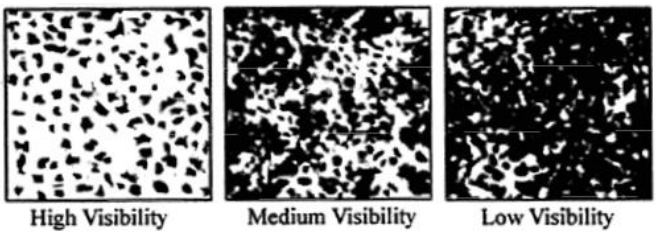
6.0 Survey Coverage of the Study Area

Survey Coverage and Surface Visibility

Survey coverage refers to the estimated portion of a study area that has actually been visually inspected during a field survey. Surface Visibility refers to the extent to which the actual soils of the ground surface are available for inspection. There are a number of factors that can affect surface visibility, including vegetation cover, surface water and the presence introduced gravels or materials. Figure 10 provides a useful guide for estimating ground surface visibility.

The field survey was undertaken over a period of one day (22 November 2023) by Sarah Klavins (CHMA archaeologist) and Rocky Sainty (Aboriginal Heritage Officer). The field team walked a series of 7.78km of survey transects throughout the survey area, with the average width of each transect being 5m. This equates to a survey coverage of 38 900m². Figures 11 shows the survey transects walked across the study areas. In order to maximise effective coverage, the field team targeted existing informal walking tracks, erosion scalds and ploughed paddocks throughout the study areas, which provided transects of improved surface visibility. Away from these areas, surface visibility was reduced to between 0-20% due to vegetation cover (see Plate 9-12).

Visibility



☐Full (100%) ☐High (75%) ☐Medium (50%) ☒Low (24%) ☐None (0%)

Figure 10: Guidelines for the estimation of surface visibility

Effective coverage

Variations in both survey coverage and surface visibility have a direct bearing on the ability of a field team to detect Aboriginal heritage sites. The combination of survey coverage and surface visibility is referred to as effective survey coverage. Table 2 presents the effective survey coverage achieved during the course of the survey assessment of the three study areas. The effective coverage achieved across the surveyed areas is deemed to be sufficient for generating an understanding as to the likely extent and nature of Aboriginal heritage values present in these areas.

Table 2: Effective survey coverage during the survey assessment of the Brighton Sorrell Street Rezoning and Development project area

Area	Total Area Surveyed	Estimated Surface Visibility	Effective Survey Coverage
	6 480 x 5m = 32 400m²	10%	3 240m²
Zones of improved visibility	1 300 x 5m = 6 500m²	50%	3 250m²
TOTAL	38 900 m²		6 490m²

Plate 9: View east showing typical surface visibility in the northern portion of the study area

Plate 10: View northeast at a freshly ploughed paddock within the central portion of the study area where agricultural and pastoral activities were underway

Plate 11: View west of typical vegetation cover at 12 Cobb Hill Road

Plate 12: View south within southernmost quadrant of the activity area approximately 150m north of the Derwent River.

Figure 11: Aerial image showing survey transects walked by the field team during the assessment of the study area.

7.0 Survey Results and Discussion

The field survey assessment for the Brighton Sorrell Street Rezoning and Development project area resulted in the recording of one Aboriginal heritage site (AH14306), which is classified as an Isolated artefact. The site is located on the mid-slope of a discrete rise approximately 470m north of the Derwent River, and 60m west of Ashburton Creek. The artefact was identified on an erosion scald measuring around 20m x 8m. Surface visibility across the erosion scald was high (80%). Away from the erosion scald, visibility was reduced to around 10-20% due to vegetation cover. Given some constraints in surface visibility in the surrounds of the site, it is possible that additional undetected artefacts are present in this area. However, the indications are that artefact densities are likely to be low. Soils in the surrounds of the site are quite shallow, which means that there is a reduced potential for sub-surface artefact deposits to be present. Table 3 provides the summary details for the recorded Aboriginal heritage site, with Figures 12 and 13 showing the location of the site in relation to the study area. The detailed site description is provided in Appendix 2 of this report.

Besides AH14306, no other Aboriginal heritage sites, suspected features or specific areas of elevated archaeological potential were identified within the Brighton Sorrell Street Rezoning study area. The field survey did not identify any stone material types present within the study area that would be in any way suited for artefact manufacturing. The field survey was able to confirm that there are no large outcrop features present in the study area, with bedrock outcrop only exposed to up to a metre above ground level, which eliminates the possibility of Aboriginal rock shelters being present. As described in section 4.3, a search of the AHR shows that there are no registered Aboriginal heritage sites within the project area, with the closest registered sites being situated around 200m to the east.

As noted in section 6 of this report, there were some constraints in surface visibility throughout much of the study area. Given these constraints, it can’t be stated with absolute certainty that there are no additional undetected Aboriginal heritage sites present in the study area. With this acknowledged, the survey assessment still did achieve effective coverage of 6 490m². This level of effective coverage is deemed to be sufficient for the purposes of generating a reasonable impression as to the extent, nature and distribution of Aboriginal heritage sites across the study area. The survey results can therefore be taken as a reasonably accurate indication that either there are no other Aboriginal sites located in the study area, or site and artefact densities across the study area are likely to be low to very low, reflecting sporadic activity. The most likely site type to be present would be small artefact scatters or isolated artefacts, or very sparse midden deposits. It should be noted that the study area boundaries do not extend down to the foreshores of the River Derwent Estuary, which is where midden deposits are most likely to be concentrated. As such, the potential for shell midden deposits to be present in the study area is significantly reduced.

The field team did not identify any specific locations within the study area where it was thought that there was the potential for more elevated concentrations of artefacts to be present, representing camp sites or other such focal points of activity. However, if undetected isolated artefacts or low density artefact scatters are present in the study area, they are most likely to be situated within 70m either side of the margins of Ashburton Creek.

As noted in section 2.2 of this report, the entirety of the study area has been cleared of native vegetation and replanted with grasses and other exotic species. A range of infrastructure is situated within the study area consisting of residential development. Any sites located within this disturbed context will have been adversely impacted, unavoidably compromising the integrity of any cultural deposits present. There is very little potential for in situ sites to occur within the study area.

The findings of this assessment and the interpretation of these findings are reasonably consistent with the results of other investigations undertaken around Bridgewater and Brighton. These investigations have shown that shell midden sites are predominantly confined to within 50m-100m of the margins of the River Derwent. Higher concentrations of sites and artefacts are noted to occur on elevated well drained and level landscape features, in close proximity to reliable fresh water sources, with aeolian (wind blown) sand deposits being major focal points for Aboriginal camp sites. The terrain across the study area is typically gently to moderately undulating, with no aeolian sand deposits present and no elevated, level terrace features bordering Ashburton Creek. Site densities in this type of landscape setting is characteristically low.

Table 3: Summary details for the Aboriginal sites identified during the field survey assessment of the Sorrell Street Rezoning Area

AH No.	Grid Reference (GDA 94)	Site Type	Site Description
AH14306		Isolated Find	Isolated find consisting of one mudstone flake. The artefact site was identified within an erosion scald on the mid-slope of a discrete rise with a gradient of approximately 10° within a farm paddock. AH14306 is located no more than 60m west of Ashburton Creek, a named watercourse that flows into the Derwent River. Ground surface visibility within the erosion scald was observed to be as much as 90-100%, with 10% ground surface visibility observed in the surrounding area due to dense grass.

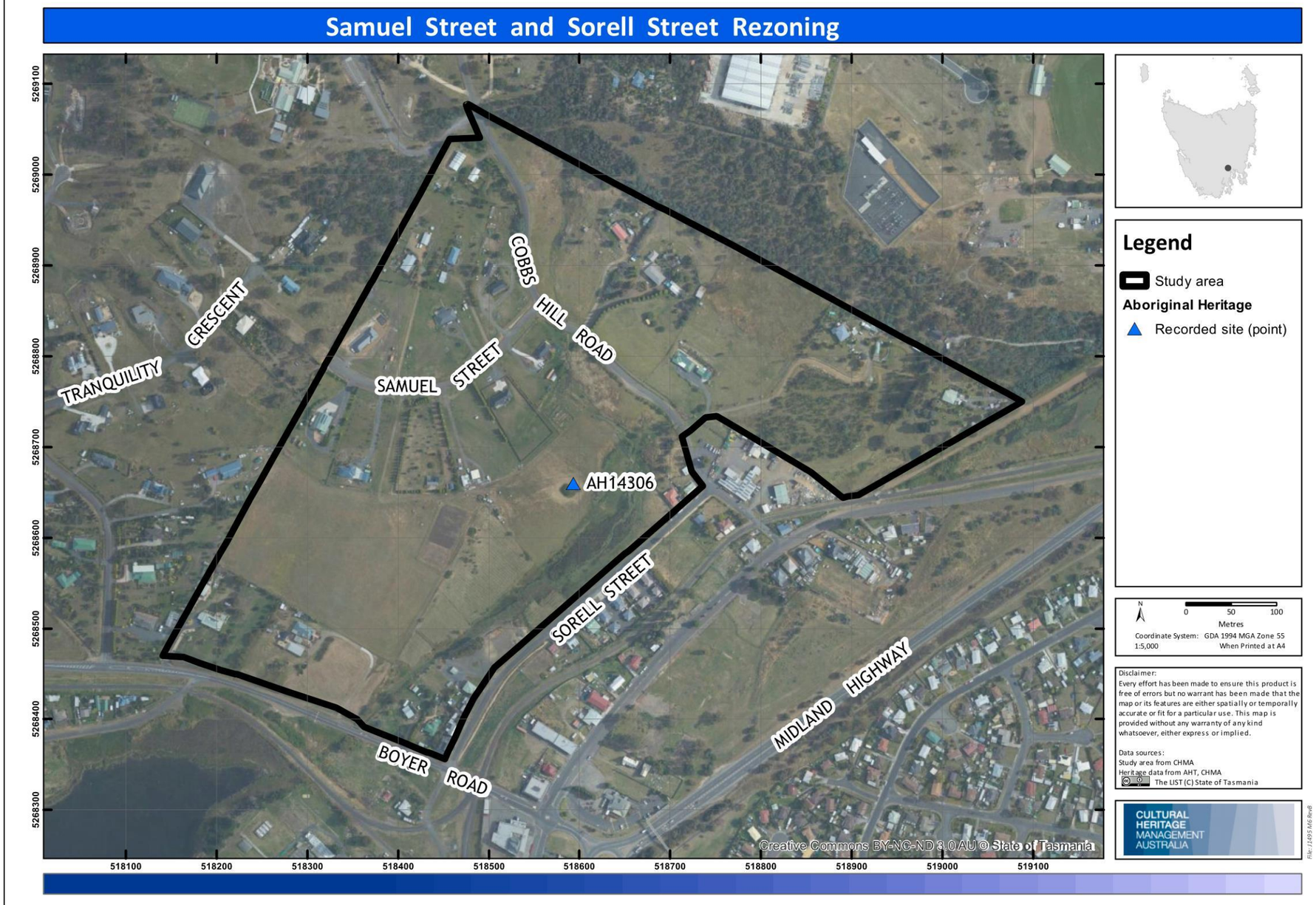


Figure 12: Aerial image showing the location of recorded site AH14306

Figure 13: Zoomed in aerial image showing the location of site AH14306

8.0 Site Significance Assessments

The following provides an outline of the processes used to assess the significance of any cultural heritage sites that were identified during the course of the assessment.

8.1 Assessment Guidelines

There are several different ways of defining types of significance, and many practitioners have developed their own system of significance assessment. However, as Sullivan and Pearson (1995) point out, there seems to be a general advantage in using a set of criteria which is already widely accepted. In Australia cultural significance is usually assessed against the Burra Charter guidelines and the Australian Heritage Commission guidelines (ICOMOS 1988, 1999).

8.2 The Burra Charter

Under the guidelines of the Burra Charter 'cultural significance' refers to the 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' of a 'place' (ICOMOS 1999:2). The guidelines to the Burra Charter comment:
"Although there are a variety of adjectives used in definitions of cultural significance in Australia, the adjectives 'aesthetic', 'historic', 'scientific' and social' ... can encompass all other values".

The following provides the descriptions given for each of these terms.

Aesthetic Value
Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and materials of the fabric; the smells and sounds associated with the place and its use (Marquis-Kyle & Walker 1992).

Historic Value
A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment (Marquis-Kyle & Walker 1992).

Scientific Value
The scientific or research value of a place will depend upon the importance of the data involved or its rarity, quality or representativeness and on the degree to which the place may contribute further substantial information.

A site or a resource is said to be scientifically significant when its further study may be expected to help current research questions. That is, scientific significance is defined as research potential (Marquis-Kyle & Walker 1992).

Social Value

The social value of a place is perhaps the most difficult value for heritage professionals to substantiate (Johnston 1994). However, social value is broadly defined as 'the qualities for which a place has become a focus of spiritual, political, natural or other cultural sentimental to a majority or minority group' (ICOMOS 1988:30). In What is Social Value, Johnston (1994) has provided a clear definition of social value:

"Social value is about collective attachment to places that embody meaning important to a community, these places are usually community owned or publicly accessible or in some other way 'appropriated' into people's daily lives. Such meanings are in addition to other values, such as the evidence of valued aspects of history or beauty, and these meanings may not be apparent in the fabric of the place, and may not be apparent to the disinterested observer". (Johnston 1994:10)

Although encompassed within the criterion of social value, the spiritual value of a place is a relatively new addition to the Burra Charter (ICOMOS 1999:1). Spiritual value is predominantly used to assess places of cultural significance to Indigenous Australians.

The degree to which a place is significant can vary. As Johnston (1994:3) has stated when trying to understand significance a 'variety of concepts [are] used from a geographical comparison ('national', 'state', 'local') to terms such as 'early', 'rare', or 'seminal''. Indeed, the Burra Charter clearly states that when assessing historic significance, one should note that for:

"any given place the significance will be greater where evidence of the association or event survives in situ, or where the setting are substantially intact, than where it has been changed or evidence does not survive". (ICOMOS 1988:29)

8.3 Significance Criteria Relevant to Indigenous Sites

Indigenous heritage sites and places may have educational, tourism and other values to groups in society. However, their two principal values are likely to be in terms of their cultural / social significance to Aboriginal people and their scientific / archaeological significance. These are the two criteria that are commonly used in establishing the significance of Aboriginal sites. The following provides an explanation of these criteria.

1) Aboriginal Cultural / Social Significance

This relates to the value placed upon a site or suite of sites by the local or regional Aboriginal community. The identification and assessment of those sites that are significant to Aboriginal people is a matter for Aboriginal people. This assessment can only be made by the appropriate Aboriginal representatives of the relevant communities.

2) Scientific (Archaeological) Significance
Archaeological significance values (or scientific values) generally are assessed on the potential of a site or place to generate knowledge through archaeological research or knowledge. Bowdler (1984) states that the scientific significance should be assessed according to timely and specific research questions (research potential) and site representativeness.

Research potential entails the potential of a site or suite of sites for scientific research and excavation. This is measured in terms of a site's ability to provide information on aspects of Aboriginal culture. In this respect, the contents of a site and their state of preservation are important considerations.

Representativeness takes account of how common a site type is (Bowdler 1984). That is, it allows sites to be evaluated with reference to the known archaeological record within the given region. The primary goal of cultural resource management is to afford the greatest protection to a representative sample of sites throughout a region. The corollary of a representative site is the notion of a rare or unique site. These sites may help to understand the patterning of more common sites in the surrounding area, and are therefore often considered of archaeological significance. The concept of a rarity cannot be easily separated from that of representativeness. If a site is determined to be rare, then it will, by definition, be included as part of the representative sample of that site type.

The concepts of both research potential and representativeness are ever changing variables. As research interests shift and archaeological methods and techniques change, then the criteria for assessing site significance are also re-evaluated. As a consequence, the sample of site types which are used to assess site significance must be large enough to account for the change in these variables.

8.4 Summary Significance Ratings for Recorded Sites

Site AH14306 (recorded during the current assessment) has been assessed and allocated a rating of significance, based on the criteria presented in section 8.2. As discussed in section 8.2, Aboriginal sites are usually assessed in terms of their scientific and social significance. The concepts of Aesthetic significance and Historic significance are rarely applied in the assessment of Aboriginal sites unless there is direct evidence for European/Aboriginal contact activity at the site, or the site has specific and outstanding aesthetic values. However, based on advice received from AHT, aesthetic and historic significance values have also been taken into consideration as part of the assessment of this site.

A five tiered rating system has been adopted for the significance assessment; low, low-medium, medium, medium-high and high. Table 4 provides the summary details for significance ratings for AH14306. A more detailed explanation for the assessment ratings are presented in sections 8.5 to 8.7. Section 8.8 provides an assessment of

significance in relation to the *Aboriginal Heritage Act 1975* (the Act). Section 9 of this report presents a statement of social significance provided by Rocky Sainty for site AH14306 and the study area more broadly.

Table 4: Summary significance ratings for AH14306

Site Number	Site Type	Scientific Significance	Aesthetic Significance	Historic Significance	Social Significance
AH14306	Isolated Find	Low	Low	N/A	Medium-High

8.5 Scientific Significance for Recorded Sites

Archaeological (or scientific) significance values generally are assessed on the potential of a site or place to generate knowledge through archaeological research or knowledge. Bowdler (1984) states that the scientific significance should be assessed according to timely and specific research questions (research potential) and site representativeness. Research potential entails the potential of a site or suite of sites for scientific research and excavation. This is measured in terms of a site's ability to provide information on aspects of Aboriginal culture. In this respect, the contents of a site and their state of preservation are important considerations. Representativeness takes account of how common a site type is (Bowdler 1984).

Site AH14306 is classified as an isolated find comprising of one stone artefact. Isolated artefacts and artefact scatters are two of the most common site types recorded in the Southeast Region, and more broadly, the State of Tasmania (as demonstrated through the AHR search results for this project). As such, the scientific significance of artefact scatters and isolated artefacts usually relates primarily to their research potential as opposed to the rarity of the site type. The potential exception to this is where comparatively rare artefact types (either tool or stone material types) are represented in assemblages.

In this instance, AH14306 is assessed as low scientific significance. The rationale for this assessment is as follows.

1) Artefact Scatters and Isolated Finds are a common site type in the region and as such rarity is not a consideration.
2) The artefact assemblage associated with the site consists of a stone material type (mudstone) and stone tool types (retouched flakes) that are commonly represented in artefact assemblages across the region. As such, rarity is again not a consideration.
3) AH14306 is assessed as having the potential to comprise additional undetected surface and sub-surface artefact deposits. However, this site is situated in moderate to heavily disturbed contexts. This means that there is very little potential for intact artefact deposits to be present, which reduces the research potential of the site.

8.6 Aesthetic Significance of Recorded Sites

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and materials of the fabric; the smells and sounds associated with the place and its use (Marquis-Kyle & Walker 1992).

The recorded Aboriginal site is located close to the western margin of Ashburton Creek in areas that have been subject to past land disturbances associated with farming activities. As detailed in section 2 of this report, the study area has also been modified through land clearing and urban development. The Aesthetic significance of this site has therefore been assessed as Low.

8.7 Historic Significance of Recorded Sites

A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment (Marquis-Kyle & Walker 1992).

Historic significance is not an attribute often considered when assessing the significance of Aboriginal sites, unless there is direct evidence for some form of European/Aboriginal contact activity. In this instance no such specific evidence exists for site AH14306.

8.8 Significance Under the Aboriginal Heritage Act 1975

In Tasmania, the *Aboriginal Heritage Act 1975* (the Act) is the primary Act for the treatment of Aboriginal cultural heritage. Under Part 1, Section 2(8) of *the Aboriginal Heritage Act 1975*, Aboriginal tradition and significance is defined as follows.

Aboriginal tradition means –

(a) the body of traditions, knowledge, observances, customs and beliefs of Aboriginal people generally or of a particular community or group of Aboriginal people; and

(b) any such tradition, knowledge, observance, custom or belief relating to particular persons, areas, objects or relationships;

significance, of a relic, means significance in accordance with –

(a) the archaeological or scientific history of Aboriginal people; or

(b) the anthropological history of Aboriginal people; or

(c) the contemporary history of Aboriginal people; or

(d) Aboriginal tradition.

In accordance with the *Aboriginal Heritage Standards and Procedures 2023,* Aboriginal heritage assessments in Tasmania have addressed the issue of significance as per the Burra Charter 2013. This approach has been adopted for this assessment (see sections

8.1 to 8.7 above). However, AHT have now advised that in order to ensure compliance with the *Aboriginal Heritage Act 1975* (the Act), assessments are now also to also consider significance and Aboriginal tradition as defined in the Act.

The Act came into effect in 1975, which is several decades before the Burra Charter Guidelines and protocols for determining significance were developed. To a large extent, the definitions of Aboriginal tradition and significance, as defined under Section 2(8) of the Act are covered by the Burra Charter and have been addressed in this report.

The archaeological or scientific history of Aboriginal people (a) is covered under the concept of Scientific significance. This component of significance, as it relates to the site identified during this current assessment, have been addressed in detail in sections 8.2, 8.3 and 8.5 of this report.

Aboriginal cultural, social and spiritual significance under the Burra Charter relates to the value placed upon a site or suite of sites by the local or regional Aboriginal community (see sections 8.2 and 8.3 of this report). The definition of Aboriginal tradition, as provided in the Act, is broadly covered under this section of the Burra Charter. As is the anthropological history of Aboriginal people (b), the contemporary history of Aboriginal people (c) and Aboriginal tradition (d).

The notion of Aboriginal cultural, social and spiritual significance, and the assessment of these values is a matter for Aboriginal people and can only be made by the appropriate Aboriginal representatives of the relevant communities. Section 9 of this report presents a statement of cultural/social significance provided by Rocky Sainty for the Aboriginal site recorded during the current assessment and the broader area. Rocky Sainty is an experienced Aboriginal Heritage Officer, and a respected member of the Tasmanian Aboriginal community. He is appropriately skilled and experienced to make these cultural values statements. The report has also been distributed to a select range of Tasmanian Aboriginal organisations for review, comment and feedback. The outcome of this consultation is presented in Appendix 4.

As described in section 3 of this report, the available ethnographic information indicates that the study area is situated around the confluence of the boundaries of three Aboriginal Nations, these being the South East Nation, The Oyster Bay Nation and the Big River Nation. The River Derwent estuary was likely to have been an important major resource zone for all three Aboriginal Nations. This site provides tangible evidence for the occupation of this area by the South East Nation, The Oyster Bay Nation and the Big River Nation people, and therefore retains a level of significance and importance to the present-day Tasmanian Aboriginal community (see section 9).

9.0 Consultation with Aboriginal Communities and Statement of Aboriginal Significance

The designated Aboriginal Heritage Officer (AHO) for this project is Rocky Sainty. One of the primary roles of the Aboriginal Heritage Officer is to consult with Aboriginal community groups. The main purpose of this consultation process is:

- to advise Aboriginal community groups of the details of the project,
- to convey the findings of the Aboriginal heritage assessment,
- to document the Aboriginal social values attributed to Aboriginal heritage resources in the study area,
- to discuss potential management strategies for Aboriginal heritage sites, and
- to document the views and concerns expressed by the Aboriginal community representatives.

One Aboriginal heritage site was recorded during the survey assessment of the Brighton Sorrell Street Rezoning and Development Area. Management strategies have been developed to ensure this Aboriginal site remains protected. However, given the important Aboriginal heritage values in the surrounding area, the decision has been made to distribute this report for Aboriginal community consultation. The outcomes of this consultation process is presented in Appendix 4 of this report.

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Rocky Sainty has provided a statement of the Aboriginal cultural values attributed to the Aboriginal heritage values identified as part of this assessment, and the broader study area. This statement is presented below.

Statement of Cultural/Social Significance by Rocky Sainty

Aboriginal heritage provides a direct link to the past, however, is not limited to the physical evidence of the past. It includes both tangible and intangible aspects of culture. Physical and spiritual connection to land and all things within the landscape has been, and continues to be, an important feature of cultural expression for Aboriginal people since creation.

Physical evidence of past occupation of a specific place may include artefacts, living places (middens), rock shelters, markings in rock or on the walls of caves and/or rock shelters, burials and ceremonial places. Non-physical aspects of culture may include the knowledge (i.e. stories, song, dance, weather patterns, animal, plant and marine resources for food, medicines and technology) connected to the people and the place.

While so much of the cultural landscape that was ***lutruwita*** *(Tasmania) before invasion and subsequent colonization either no longer exists, or has been heavily impacted on, these values continue to be important to the Tasmanian Aboriginal community and are relevant to the region of the project proposal.*

Our survey assessment identified one Aboriginal heritage site within the survey area. I would strongly advocate that this site is conserved and protected in its present location. This has been reflected in the management recommendations presented in this report. If there is a risk that this site may be impacted in the future, then I would support salvage collecting this artefact and relocating it to an area close by, where it will not be further impacted. Such an area may be the immediate margins of Ashburton Creek.

Even if the site of the project proposal contains no evidence of Aboriginal heritage there is always the cultural resources (flora, fauna, aquaculture or any other resource values that the earth may offer) and the living landscape, which highlight the high significance to the Aboriginal cultural heritage values to the country. The vast majority of the study area incorporates land that has been subject to high levels of landscape modification from land clearing, farming and urban development. Through this, much of the traditional resources of the area are now gone. With this said, the River Derwent has always been an important resource zone for our people, and this is still rich in resources important to our people.

10.0 Statutory Controls and Legislative Requirements

The following provides an overview of the relevant State and Federal legislation that applies for Aboriginal heritage within the state of Tasmania.

10.1 State Legislation

In Tasmania, the *Aboriginal Heritage Act 1975* (the Act) is the primary Act for the treatment of Aboriginal cultural heritage. The Act is administered by the Minister for Aboriginal Affairs, through Aboriginal Heritage Tasmania (AHT). AHT is the regulating body for Aboriginal heritage in Tasmania and '[n]o fees apply for any application to AHT for advice, guidance, lodgement or permit application'.

The Act applies to 'relics' which are any object, place and/or site that is of significance to the Aboriginal people of Tasmania (as defined in section 2(3) of the Act). The Act defines what legally constitutes unacceptable impacts on relics and a process to approve impacts when there is no better option. Aboriginal relics are protected under the Act and it is illegal to destroy, damage, deface, conceal or otherwise interfere with a relic, unless in accordance with the terms of a permit granted by the Minister. It is illegal to sell or offer for sale a relic, or to cause or permit a relic to be taken out of Tasmania without a permit (section 2(4) qualifies and excludes 'objects made, or likely to have been made, for purposes of sale').

Section 10 of the Act sets out the duties and obligations for persons owning of finding an Aboriginal relic. Under section 10(3) of the Act, a person shall, as soon as practicable after finding a relic, inform the Director or an authorised officer of the find.

It should be noted that with regard to the discovery of suspected human skeletal remains, the *Coroners Act 1995* takes precedence. The *Coroners Act 1995* comes into effect initially upon the discovery of human remains, however once determined to be Aboriginal the *Aboriginal Heritage Act* overrides the *Coroners Act.*

In August 2017, the Act was substantively amended and the title changed from the *Aboriginal Relics Act 1975*. As a result, the AHT *Guidelines to the Aboriginal Heritage Assessment Process* were replaced by the *Aboriginal Heritage Standards and Procedures*. The Standards and Procedures are named in the statutory *Guidelines* of the Act issued by the Minister under section 21A of the Act.
Other amendments include:

- An obligation to fully review the Act within three years.
- Increases in maximum penalties for unlawful interference or damage to an Aboriginal relic. For example, maximum penalties (for deliberate acts) are 10,000 penalty unites (currently $1.57 million) for bodies corporate other than small business entities and 5,000 penalty units (currently $785,000) for individuals or small business entities; for reckless or negligent offences, the maximum

penalties are 2,000 and 1,000 penalty units respectively (currently $314,000 and $157,000). Lesser offences are also defined in sections 10, 12, 17 and 18.
- Prosecution timeframes have been extended from six months to two years.
- The establishment of a statutory Aboriginal Heritage Council to advise the Minister.

Section 21(1) specifies the relevant defence as follows: “It is a defence to a prosecution for an offence under section 9 or 14 if, in relation to the section of the Act which the defendant is alleged to have contravened, it is proved … that, in so far as is practicable … the defendant complied with the guidelines”.

10.2 Commonwealth Legislation

There are also a number of Federal Legislative Acts that pertain to cultural heritage. The main Acts being; *The Australian Heritage Council Act 2003*, *The Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and the *Environment Protection and Biodiversity Conservation Act 1999*

Australian Heritage Council Act 2003 (Comm)

The *Australian Heritage Council Act 2003* defines the heritage advisory boards and relevant lists, with the Act’s Consequential and Transitional Provisions repealing the Australian Heritage Commission Act 1975. The Australian Heritage Council Act, like the Australian Heritage Commission Act, does not provide legislative protection regarding the conservation of heritage items in Australia, but has compiled a list of items recognised as possessing heritage significance to the Australian community. The Register of the National Estate, managed by the Australian Heritage Council, applies no legal constraints on heritage items included on this list.

***The Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.**

This Federal Act was passed to provide protection for the Aboriginal heritage, in circumstances where it could be demonstrated that such protection was not available at a state level. In certain instances, the Act overrides relevant state and territory provisions.

The major purpose of the Act is to preserve and protect from injury and desecration, areas and objects of significance to Aborigines and Islanders. The Act enables immediate and direct action for protection of threatened areas and objects by a declaration from the Commonwealth minister or authorised officers. The Act must be invoked by, or on behalf of an Aboriginal or Torres Strait Islander or organisation.

Any Aboriginal or Torres Strait Islander person or organization may apply to the Commonwealth Minister for a temporary or permanent 'Stop Order' for protection of threatened areas or objects of significant indigenous cultural heritage.
The Commonwealth Act 'overrides' State legislation if the Commonwealth Minister is of the opinion that the State legislation (or undertaken process) is insufficient to protect the

threatened areas or objects. Thus, in the event that an application is made to the Commonwealth Minister for a Stop Order, the Commonwealth Minister will, as a matter of course, contact the relevant State Agency to ascertain what protection is being imposed by the State and/or what mitigation procedures have been proposed by the landuser/developer.

In addition to the threat of a 'Stop Order' being imposed, the Act also provides for the following:

- If the Federal Court, on application from the Commonwealth Minister, is satisfied that a person has engaged or is proposing to engage in conduct that breaches the 'Stop Order', it may grant an injunction preventing or stopping such a breach (s.26). Penalties for breach of a Court Order can be substantial and may include a term of imprisonment;
- If a person contravenes a declaration in relation to a significant Aboriginal area, penalties for an individual are a fine up to $10,000.00 and/or 5 years gaol and for a Corporation a fine up to $50,000.00 (s.22);
- If the contravention is in relation to a significant Aboriginal object, the penalties are $5,000.00 and/or 2 years gaol and $25,000.00 respectively (s.22);
- In addition, offences under s.22 are considered 'indictable' offences that also attract an individual fine of $2,000 and/or 12 months gaol or, for a Corporation, a fine of $10,000.00 (s.23). Section 23 also includes attempts, inciting, urging and/or being an accessory after the fact within the definition of 'indictable' offences in this regard.

The Commonwealth Act is presently under review by Parliament and it is generally accepted that any new Commonwealth Act will be even more restrictive than the current legislation.

Environment Protection and Biodiversity Conservation Act 1999 (Comm)

This Act was amended, through the Environment and Heritage Legislation Amendment Act (No1) 2003 to provide protection for cultural heritage sites, in addition to the existing aim of protecting environmental areas and sites of national significance. The Act also promotes the ecologically sustainable use of natural resources, biodiversity and the incorporation of community consultation and knowledge.

The 2003 amendments to the *Environment Protection and Biodiversity Conservation Act 1999* have resulted in the inclusion of indigenous and non-Indigenous heritage sites and areas. These heritage items are defined as:

> *'indigenous heritage value of a place means a heritage value of the place that is of significance to indigenous persons in accordance with their practices, observances, customs, traditions, beliefs or history'.*

Items identified under this legislation are given the same penalty as actions taken against environmentally sensitive sites. Specific to cultural heritage sites are §324A-324ZB.

Environment and Heritage Legislation Amendment Act (No1) 2003 (Comm)
In addition to the above amendments to the *Environment Protection and Biodiversity Conservation Act 1999* to include provisions for the protection and conservation of heritage, the Act also enables the identification and subsequent listing of items for the Commonwealth and National Heritage Lists. The Act establishes the *National Heritage List*, which enables the inclusion of all heritage, natural, Indigenous and non-Indigenous, and the *Commonwealth Heritage List*, which enables listing of sites nationally and internationally that are significant and governed by Australia.

In addition to the *Aboriginal and Torres Strait Islander Heritage Protection Act 1987*, amendments made to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* enables the identification and subsequent listing of indigenous heritage values on the Commonwealth and/or National Heritage Lists (ss. 341D & 324D respectively). Substantial penalties (and, in some instances, gaol sentences) can be imposed on any person who damages items on the National or Commonwealth Heritage Lists (ss. 495 & 497) or provides false or misleading information in relation to certain matters under the Act (ss.488-490). In addition, the wrongdoer may be required to make good any loss or damage suffered due to their actions or omissions (s.500).

11.0 Aboriginal Cultural Heritage Management Plan

11.1 Summary Management Recommendations

Heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- Background research into the extant archaeological and ethno-historic record for the study area and the surrounding region (see sections 3 and 4 of this report).
- The results of the investigation as documented in this report (see section 7)
- Consultation with Aboriginal Heritage Officer Rocky Sainty and the outcomes of the Aboriginal community consultation (see section 9 and Appendix 4)
- The legal and procedural requirements as specified in the *Aboriginal Heritage Act 1975* (see section 10).

Table 5 provides the summary management recommendations for this project.
The more detailed recommendations are presented in section 11.2.

Table 5: Summary management recommendations for the project

Area	Grid Reference (GDA 94)	Management Recommendations
Recommendation 1 AH14306	Site is classified as an Isolated artefact which is located on the mid-slope of a discrete rise, 60m west of Ashburton Creek. The following recommendations apply. • The location of the site is to be plotted onto the design plans for the Sorrell Street Rezoning and Development project area. • Prior to any ground disturbing works commencing in this area, temporary high visibility protective barricading is to be erected around the identified boundaries of the site with a 5m buffer applied. There must be no soil disturbance within the barricaded zone. Barricading is to be removed on completion of the construction works in this area. • Construction contractors should be informed of the location of the site and informed that the site is not to be impacted. • If the site may be impacted, then seek Permit.	
Recommendation 2 (Ashburton Creek)	• Ashburton Creek runs through the Rezoning study area. It has been assessed that there is a slightly increased potential for undetected Aboriginal sites to occur along the margins of this creek. • The preferred management option would be to conserve the riparian margins of Ashburton Creek in open space (50m either side of the creek channel). Any soil disturbances within this designated open space area should be kept to a minimum. This will reduce the potential for any impacts on undetected Aboriginal heritage values in the study area.	
General Recommendations	• If previously undetected Aboriginal sites or suspected features are located within these three areas during the works program, the processes outlined in the Unanticipated Discovery Plan should be followed (see Appendix 3). • Copies of this report should be submitted to AHT and the AHC for review and comment.	

11.2 Detailed Management Recommendations

Recommendation 1 (AH14306)
Site is classified as an Isolated artefact. The site is located on the mid-slope of a discrete rise, 60m west of Ashburton Creek and approximately 470m northeast of the Derwent River (grid reference). The preferred management option is to conserve this site in-situ and to protect the site from any impacts associated with future proposed rezoning and development works. To this end, the following management strategies should be implemented.

- The location of the site is to be plotted onto the design plans for the Sorrell Street Rezoning and Development project area.
- Prior to any ground disturbing works commencing in this area, temporary high visibility protective barricading is to be erected around the identified boundaries of the site with a 5m buffer applied. There must be no soil disturbance within the barricaded zone. Barricading is to be removed on completion of the construction works in this area.
- Construction contractors should be informed of the location of the site and informed that the site is not to be impacted.

All Aboriginal relics are protected under the *Aboriginal Heritage Act 1975* (The Act) and it is illegal to destroy, damage, deface, conceal or otherwise interfere with a relic, unless in accordance with the terms of a permit granted by the Minister. If there is a risk that site AH14306 may be impacted, then the Proponent will need to apply for and obtain a Permit to impact either or both sites before development works can commence within the site boundaries. It is recommended that a condition of the Permit should be that the artefact associated with site AH14306 will be salvage collected and relocated to a safe location outside the development footprint, but in the same general landscape setting. The salvage program is to be implemented by an archaeologist and an AHO. A brief summary report should be prepared, documenting the outcome of the salvage program. The summary report will include details regarding the relocation point for the artefacts. Please note, the recommendation to salvage and relocate the artefact was discussed and agreed to with Rocky Sainty. The draft report, including this recommendation has also been sent out for Aboriginal community consultation.

Recommendation 2 (Ashburton Creek)
Ashburton Creek runs through the Rezoning study area. It has been assessed that there is a slightly increased potential for undetected Aboriginal sites to occur along the margins of this creek. The preferred management option would be to conserve the riparian margins of Ashburton Creek in open space (50m either side of the creek channel). Any soil disturbances within this designated open space area should be kept to a minimum. This will reduce the potential for any impacts on undetected Aboriginal heritage values in the study area.

Recommendation 3 (General Recommendations)

- If previously undetected Aboriginal heritage sites, objects or suspected features are located within the study area, the processes outlined in the Unanticipated Discovery Plan should be followed (see Appendix 3). A copy of the Unanticipated Discovery Plan (UDP) should be retained by Council. All personnel should be made aware of the Unanticipated Discovery Plan and their obligations under the *Aboriginal Heritage Act 1975* (the Act).

- Copies of this report should be submitted to Aboriginal Heritage Tasmania (AHT) and the Aboriginal Heritage Council (AHC) for review and comment.

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Glossary of Terms

Aboriginal Archaeological Site
A site is defined as any evidence (archaeological features and/or artefacts) indicating past Aboriginal activity, and occurring within a context or place relating to that activity. The criteria for formally identifying a site in Australia varies between States and Territories.

Artefact
A portable object that has been humanly made or modified (see also stone artefact).

Assemblage (lithic)
A collection of complete and fragmentary stone artefacts and manuports obtained from an archaeological site, either by collecting artefacts scattered on the ground surface, or by controlled excavation.

Broken Flake
A flake with two or more breakages, but retaining its area of break initiation.

Chert
A highly siliceous rock type that is formed biogenically from the compaction and precipitation of the silica skeletons of diatoms. Normally there is a high percentage of cryptocrystalline quartz. Like chalcedony, chert was valued by Aboriginal people as a stone material for manufacturing stone tools. The rock type often breaks by conchoidal (shell like) fracture, providing flakes that have hard, durable edges.

Cobble
Water worn stones that have a diameter greater than 64mm (about the size of a tennis ball) and less than 256mm (size of a basketball).

Core
A piece of stone, often a pebble or cobble, but also quarried stone, from which flakes have been struck for the purpose of making stone tools.

Core Fragment
A piece of core, without obvious evidence of being a chunky primary flake.

Cortex
The surface of a piece of stone that has been weathered by chemical and/or physical means.

Debitage
The commonly used term referring to the stone refuse discarded from knapping. The manufacturing of a single implement may result in the generation of a large number of pieces of debitage in an archaeological deposit.

Flake (general definition)
A piece of stone detached from a nucleus such as a core. A complete or substantially complete flake of lithic material usually shows evidence of hard indenter initiation, or occasional bending initiation. The most common type of flake is the 'conchoidal flake'. The flake's primary fracture surface (the ventral or inside surface) exhibits features such as fracture initiation, bulb of force, and undulations and lances that indicate the direction of the fracture front.

Flake fragment
An artefact that does not have areas of fracture initiation, but which displays sufficient fracture surface attributes to allow identification as a stone artefact fragment.

Flake portion (broken flake)
The proximal portion of a flake retaining the area of flake initiation, or a distal portion of a flake that retains the flake termination point.

Flake scraper
A flake with retouch along at least one margin. The character of the retouch strongly suggests shaping or rejuvenation of a cutting edge.

Middens
Middens range in thickness from thin scatters to stratified deposits of shell and sediment up to 2m thick. In addition to shell which has accumulated as food refuse, shell middens usually contain other food remains such as bone from fish, birds and terrestrial animals and humus from the decay of plant and animal remains. They also commonly contain charcoal and artefacts made from stone, shell and bone.

Nodules
Regular or irregular cemented masses or nodules within the soil. Also referred to as concretions and buckshot gravel. Cementing agents may be iron and/or manganese oxides, calcium carbonate, gypsum etc. Normally formed in situ and commonly indicative of seasonal waterlogging or a fluctuating chemical environment in the soil such as; oxidation and reduction, or saturation and evaporation. Nodules can be redistributed by erosion. (See also 'concretion').

Pebble
By geological definition, a waterworn stone less than 64 mm in diameter (about the size of a tennis ball). Archaeologists often refer to waterworn stones larger than this as pebbles though technically they are cobbles.

Quartz
A mineral composed of crystalline silica. Quartz is a very stable mineral that does not alter chemically during weathering or metamorphism. Quartz is abundantly common and was used by Aboriginal people throughout Australia to make light-duty cutting tools. Despite the often unpredictable nature of fracture in quartz, the flakes often have sharp cutting edges.

Quartzite
A hard silica rich stone formed in a sandstone that has been recrystallised by heat (metaquartzite) or strengthened by slow infilling of silica in the voids between the sand grains (Orthoquartzite).

Retouch (on stone tools)
An area of flake scars on an artefact resulting from intentional shaping, resharpening, or rejuvenation after breakage or blunting of a cutting edge. In resharpening a cutting edge the retouch is invariably found only on one side (see also 'indeterminate retouched piece', retouch flake' etc).

Scraper
A general group of stone artefacts, usually flakes but also cores, that one or more retouched edges thought to have been used in a range of different cutting and scraping activities. A flake scraper is a flake with retouch along at least one margin, but not qualifying for attribution to a more specific implement category. Flake scrapers sometimes also exhibit use-wear on the retouched or another edge.

Silcrete
A hard, fine grained siliceous stone with flaking properties similar to quartzite and chert. It is formed by the cementing and/or replacement of bedrock, weathering deposits, unconsolidated sediments, soil or other material, by a low temperature physico-chemical process. Silcrete is essentially composed of quartz grains cemented by microcrystalline silica. The clasts in silcrete bare most often quartz grains but may be chert or chalcedony or some other hard mineral particle. The mechanical properties and texture of silcrete are equivalent to the range exhibited by chert at the fine-grained end of the scale and with quartzite at the coarse-grained end of the scale. Silcrete was used by Aboriginal people throughout Australia for making stone tools.

Site Integrity
The degree to which post-depositional disturbance of cultural material has occurred at a site.

Stone Artefact
A piece (or fragment) of stone showing evidence of intentional human modification.

Stone quarry/procurement site
A place where stone materials is obtained by Aboriginal people for the purpose of manufacturing stone artefacts. In Australia, stone procurement sites range on a continuum from pebble beds in water courses (where there may be little or no evidence of human activity) to extensively quarried stone outcrops, with evidence of pits and concentrations of hammerstones and a thick layer of knapping debris.

Stone tool
A piece of flaked or ground stone used in an activity, or fashioned for use as a tool. A synonym of stone tool is 'implement'. This term is often used by archaeologists to describe a flake tool fashioned by delicate flaking (retouch).

Use wear
Macroscopic and microscopic damage to the surfaces of stone tools, resulting from it's use. Major use-wear forms are edge fractures, use-polish and smoothing, abrasion, and edge rounding bevelling.

Appendix 1

Gazetteer of Recorded Sites

AH No.	Grid Reference (GDA 94)	Site Type	Site Description
AH14306		Isolated Find	Isolated find consisting of one mudstone flake with bifacial retouch along the left lateral margin (distal-ventral), and the right lateral margin (ventral-distal) measuring 6.1cm (length), 3.6cm (width), 0.5cm (thickness). The artefact site was identified within an erosion scald on the mid-slope of a discrete rise with a gradient of approximately 10° within a farm paddock. AH14306 is located no more than 60m west of Ashburton Creek, a named watercourse that flows into the Derwent River (located no more than 470m southwest of the artefact site). Ground surface visibility within the erosion scald was observed to be as much as 90-100%, with 0% ground surface visibility observed in the surrounding area due to dense grass. **Artefact details** - Yellowish-brown mudstone flake 61mm (length) x 36mm (width) x 5mm (thickness)

Appendix 2

Detailed Site Descriptions

Site Name: AH14306
Site Type: Isolated Artefact
Site Boundaries (GDA94) 55G

Site Description:
Site AH14306 is classified as an Isolated Find, comprising of one light yellowish-brown flake with bifacial retouch along the left lateral margin (distal-ventral), and the right lateral margin (ventral-distal) measuring 61mm (length), 36mm (width), 5mm (thickness). The site is located within Brighton in the Southeast Region of Tasmania.

The site is located within an erosion scald measuring around 20m x 8m, on the mid-slope of a discrete rise approximately 470m north of the Derwent River, and 60m west of Ashburton Creek. The surrounding area is relatively flat to gently undulating terrain (with slope gradients within the range of 5º and 10º) that is drained by Ashburton Creek. The site is located within a paddock that has been cleared of native vegetation, with evidence of intensive agricultural use (livestock, grazing, ploughing). Within the surrounding area, the terrain has been subject to intensive land clearing to facilitate recent residential development.

The underlying geology in the general surrounds of the site consists primarily of Mesozoic dolerite and related rocks in the northwest, while the southernmost portion of the study area consists of Cenozoic cover sequences of Tholeiite basalt. The westernmost boundary of the study area consists largely of Cenozoic cover sequences of alluvial gravel, sand, and clay, and clay-rich alluvial cobble deposit, clasts dominantly of weathered dolerite with subordinate well-rounded siliceous clasts.

The existing soil landscapes broadly reflect the underlying geology of the area. The majority of the study area consists of moderately well drained black soils developed on Jurassic dolerite bedrock and colluvium on low undulating (3-10%) land, with undifferentiated soils developed on Quaternary alluvium occurring in the southeast of the study area. The site was identified within an exposure where soils were observed to consist of greyish-brown loam which appear to have a reasonable depth.

The closest watercourse to AH14306 is the Ashburton Creek, a northwest-southeast oriented semi-permanent watercourse that intersects the Bright Sorrell Street Rezoning and Development Area no more than 60m east of the artefact site. This watercourse empties into the Derwent River, a major, permanent east-west oriented watercourse located no more than 600m south of the artefact site. The surrounding area of the artefact site has been largely cleared of native vegetation, with remnant dry Eucalypt woodlands located to the north and west of the study area.

Surface visibility within the erosion scald where the artefact was identified was observed to be as much as 90-100% Ground Surface Visibility. In the surrounding paddock, Ground Surface Visibility reduces to approximately 0-5% due to vegetation cover

consisting primarily of dense grass. Given the poor conditions of surface visibility within the study area, it is possible that the site extends beyond the existing identified site boundary. Soils across the paddock appear to have a reasonable depth. The reasonable soil depths across the area means that there is the potential for sub-surface artefact deposits to be present in this area. Because of the existing levels of historic land disturbances across the project area, artefact deposits that are present will be in a moderately disturbed context.

Artefact details

- Yellowish-brown mudstone flake 61mm (length) x 36mm (width) x 5mm (thickness)

Plate 1: View east at the location site AH14306

Plate 2: View west at the location AH14306

Plate 3: Artefact recorded at AH14306 (dorsal)

Plate 4: Artefact recorded at AH14306 (ventral)

Plate 5: Artefact recorded at AH14306 (retouch along right lateral margin)

Plate 6: Artefact recorded at AH14306 (retouch along left lateral margin)

Appendix 3

Unanticipated Discovery Plan

Unanticipated Discovery Plan

Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania

For the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 1995*. The Unanticipated Discovery Plan is in two sections.

Discovery of Aboriginal Relics other than Skeletal Material

Step 1:

Any person who believes they have uncovered Aboriginal relics should notify all employees or contractors working in the immediate area that all earth disturbance works must cease immediately.

Step 2:

A temporary 'no-go' or buffer zone of at least 10m x 10m should be implemented to protect the suspected Aboriginal relics, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected Aboriginal relics have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or Aboriginal Heritage Tasmania staff member.

Step 3:

Contact Aboriginal Heritage Tasmania on **1300 487 045** as soon as possible and inform them of the discovery. Documentation of the find should be emailed to **aboriginalheritage@dpac.tas.gov.au** as soon as possible. Aboriginal Heritage Tasmania will then provide further advice in accordance with the *Aboriginal Heritage Act 1975*.

Discovery of Skeletal Material

Step 1:

Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:

Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:

A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:

If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:

Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

Aboriginal Heritage Tasmania
Department of Premier and Cabinet

Tasmanian Government

Guide to Aboriginal site types

Stone Artefact Scatters

A stone artefact is any stone or rock fractured or modified by Aboriginal people to produce cutting, scraping or grinding implements. Stone artefacts are indicative of past Aboriginal living spaces, trade and movement throughout Tasmania. Aboriginal people used hornfels, chalcedony, spongelite, quartzite, chert and silcrete depending on stone quality and availability. Stone artefacts are typically recorded as being 'isolated' (single stone artefact) or as an 'artefact scatter' (multiple stone artefacts).

Shell Middens

Middens are distinct concentrations of discarded shell that have accumulated as a result of past Aboriginal camping and food processing activities. These sites are usually found near waterways and coastal areas, and range in size from large mounds to small scatters. Tasmanian Aboriginal middens commonly contain fragments of mature edible shellfish such as abalone, oyster, mussel, warrener and limpet, however they can also contain stone tools, animal bone and charcoal.

Rockshelters

An occupied rockshelter is a cave or overhang that contains evidence of past Aboriginal use and occupation, such as stone tools, middens and hearths, and in some cases, rock markings. Rockshelters are usually found in geological formations that are naturally prone to weathering, such as limestone, dolerite and sandstone

Quarries

An Aboriginal quarry is a place where stone or ochre has been extracted from a natural source by Aboriginal people. Quarries can be recognised by evidence of human manipulation such as battering of an outcrop, stone fracturing debris or ochre pits left behind from processing the raw material. Stone and ochre quarries can vary in terms of size, quality and the frequency of use.

Rock Marking

Rock marking is the term used in Tasmania to define markings on rocks which are the result of Aboriginal practices. Rock markings come in two forms; engraving and painting. Engravings are made by removing the surface of a rock through pecking, abrading or grinding, whilst paintings are made by adding pigment or ochre to the surface of a rock.

Burials

Aboriginal burial sites are highly sensitive and may be found in a variety of places, including sand dunes, shell middens and rock shelters. Despite few records of pre-contact practices, cremation appears to have been more common than burial. Family members carried bones or ashes of recently deceased relatives. The Aboriginal community has fought long campaigns for the return of the remains of ancestral Aboriginal people.

Further information on Aboriginal Heritage is available from:

Aboriginal Heritage Tasmania
Community Partnerships and Priorities
Department of Premier and Cabinet
GPO Box 123 Hobart TAS 7001

Telephone: **1300 487 045**
Email: **aboriginalheritage@dpac.tas.gov.au**
Web: **www.aboriginalheritage.tas.gov.au**

Appendix 4

Aboriginal Community Consultation Outcomes