DEVELOPMENT APPLICATION

PDPLANPMTD-2026/063660

PROPOSAL: 75 Multiple Dwellings

LOCATION: 155 Cambridge Road, Warrane

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 18/11/2026 00:00:00

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 18/11/2026 00:00:00. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 18/11/2026 00:00:00.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

City of Clarence
38 Bligh St Rosny Park
PO Box 96
Rosny Park TAS, 7018

03 6217 9500
clarence@ccc.tas.gov.au
ccc.tas.gov.au

Planning Application

Use this form to obtain planning approval for the use and development of land, including change of use, subdividing land into smaller lots, lot consolidation, or signage.

Please refer to the Planning Application checklist on the following pages to determine what documentation must be submitted with your application.

Proposal: Redevelopment for 75 multiple dwellings and associated works

Location: 155 Cambridge Road, Warrane and part of Quarry road reservation (untitled)

Personal Information Removed

exemptions may apply which may save you time on your proposal.

If you had pre-application discussions with City of Clarence, please provide planner's name:

Yes, Vanessa Tomlin, Ginny Tan, Janelle Townsend

Current use of site: vacant

Does the proposal involve land administered or owned by the Crown or Council? Yes ☒ No ☐

Declaration

- I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.
- I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application
- I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached.
- I declare that the information in this declaration is true and correct.

Acknowledgement

- I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.

Personal Information Removed

Planning Application checklist

Mandatory Documents
This information is required for the application to be valid. We are unable to proceed with an application without these documents.

- ☐ Details of the location of the proposed use or development.
- ☐ A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- ☐ Full description of the proposed use or development.
- ☐ Description of the proposed operation. May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- ☐ Declaration the owner has been notified if the applicant is not the owner.
- ☐ Crown or Council consent (if publically-owned land).
- ☐ Any reports, plans or other information required by the relevant zone or code.
- ☐ Fees prescribed by the City of Clarence.

Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

Additional Documents
In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- ☐ Site analysis and site plan, including where relevant:
  - Existing and proposed use(s) on site.
  - Boundaries and dimensions of the site.
  - Topography, including contours showing AHD levels and major site features.
  - Natural drainage lines, watercourses and wetlands on or adjacent to the site.
  - Soil type.
  - Vegetation types and distribution, and trees and vegetation to be removed.
  - Location and capacity of any existing services or easements on/to the site.
  - Existing pedestrian and vehicle access to the site.
  - Location of existing and proposed buildings on the site.
  - Location of existing adjoining properties, adjacent buildings and their uses.
  - Any natural hazards that may affect use or development on the site.
  - Proposed roads, driveways, car parking areas and footpaths within the site.
  - Any proposed open space, communal space, or facilities on the site.

- Main utility service connection points and easements.
- Proposed subdivision lot boundaries.

☐ Where it is proposed to erect buildings, detailed plans with dimensions at a scale of 1:100 or 1:200 showing:
- Internal layout of each building on the site.
- Private open space for each dwelling.
- External storage spaces.
- Car parking space location and layout.
- Major elevations of every building to be erected.
- Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.
- Relationship of the elevations to natural ground level, showing any proposed cut or fill.
- Materials and colours to be used on rooves and external walls.

☐ Where it is proposed to erect buildings, a plan of the proposed landscaping showing:
- Planting concepts.
- Paving materials and drainage treatments and lighting for vehicle areas and footpaths.
- Plantings proposed for screening from adjacent sites or public places.

☐ Any additional reports, plans or other information required by the relevant zone or code.

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact City of Clarence Planning team on (03) 6217 9550.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
82220	1
EDITION	DATE OF ISSUE
2	15-Sept-1999

SEARCH DATE : 21-Aug-2026
SEARCH TIME : 02.47 pm

DESCRIPTION OF LAND

City of CLARENCE
Lot 1 on Diagram 82220 (formerly being 421-6D)
Derivation : Part of 60 Acres originally granted to T. O'May and R. O'May and duly surrendered as appears by Transfer No. A145975
Prior CT 3026/3

SCHEDULE 1

A145975 THE CROWN

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
84951	1
EDITION	DATE OF ISSUE
3	14-Aug-2025

SEARCH DATE : 13-Aug-2026
SEARCH TIME : 01.16 pm

DESCRIPTION OF LAND

City of CLARENCE
Lot 1 on Diagram 84951 (formerly being 525-5D)
Derivation : Part of 60 Acres Gtd to T O'May & Anor
Prior CT 2217/66

SCHEDULE 1

N259831 TRANSFER to HOMES TASMANIA Registered 14-Aug-2025 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

DIAGRAM FROM ACTUAL SURVEY

D 525/5

For L.T.O. Use Only.

Filed by

Lodged at the Lands Titles Office on 17.8.65

at

Receipt No.

Receiving Clerk

TOWN OF WARRANE ~~BELLERIVE~~.

No. OF APPLICATION

~~Part of 242 A. 3 R. 37 Commonwealth of Aust. Plan~~

Scale 80 feet to an inch

Part of 60Ac granted to Thomas O'May & Anr

Warden etc Clarence 2A 1R 14P

REGISTERED NUMBER

84951

REFERENCE TO CORNERS

COR.	BEARING	DISTANCE IN LINKS	FROM

(P. 130 I.)
(F.B. 228)

(60/11 M.S.)

Picket f

Picket f

Cyc f ±4yrs o.c.p.

W.I.f.

Lot 1

0 2 13 6/10

121° 47' 37"

W I f

452' 14"

355' 2½"

264°

96' 11"

±40 yrs

Post

W I f

±40 yrs

(57 1/4 P)

Picket f ±5yr

Cyc f

TASMAN HIGHWAY

H M the Queen (42/6 P)

230° 53' 20"

199' 11"

S.P.M. Post

A. R. P.
2 . 0 . 19 8/10.

o.c.p. Comm'th of Aust 1A 239196

Warden etc of Clarence

~~Commission~~

(S.P.3389)

Owner

(P1390)

Plan 206

(560/D/14)

(S.P.101677)

367' 8"

~~202' 5"~~

43° 27' 30"

~~DISTANCE~~

S.P.M. 2547

S.P.M. 2569.

BRUNY ST.

Picket f ±5yr

151' 2"

227° 22' 30"

125° 09' 10"

55' 4½"

o.c.p.

108' 10½"

85° 29' 10"

86° 00' 30"

148' 2"

88° 06' 40"

80' 40"

50° 54' 40"

44' 3"

79' 4"

S.P.M.

Mt Wellington Tpg.

24° 15' 50"

QUARRY ~~ST~~ ~~ROAD~~ Rd

Pal f ±10yr

Pal f

Cyc f ±20yr

Pal. f ±20yr

Picket f

Pal f

open.

Conc. post

Pal. f

QUARRY ROAD

verified by Clarence Council 22/8/74.

(SP5416)

LOT Nº ADDED 20.3.95

(S.P.2909)

A556

Seal

To be filled in by Surveyor.

Survey commenced 7 7 65

Survey finished 8 7 65

Error of close 1 in 8,078

Office examination.

Plotted by

Examined as to boundaries

Mathematically checked

Entered on Card by

I, Laurence Joseph Holmes of Hobart Registered Surveyor, of Tasmania, do hereby certify that this plan has been made from surveys executed by me or under my own personal supervision, inspection, and field check, and that both plan and survey are correct, and have been made in accordance with the Land Surveyors' By-Law No. 2, dated 3rd July, 1946.

Dated this 9 th day of August, 19 65

L. J. Holmes Authorised Surveyor.

APPROVAL BY LOCAL AUTHORITY

Seal not required

Homes Tasmania
Building homes, creating communities.

Clarence City Council
Ian Nelson
Chief Executive Officer
38 Bligh Street (PO Box 96)
ROSNY PARK TAS 7018

To whom it may concern,

Subject: **Landowner consent - Statutory Applications**

155 Cambridge Road, Warrane / CT 84951/1

As a person authorised under Section 12(1) of the *Homes Tasmania Act 2022*, on behalf of Homes Tasmania, I Anna Balmforth, hereby give the applicant permission to the making of the following involving land in the ownership Homes Tasmania at the nominated address. Please note, as of 1st December 2022 the Director of Housing ceased to exist. Under Schedule 2(5) of the *Homes Tasmania Act 2022* all reference to the Director of Housing is to be taken to be a reference to Homes Tasmania.

- Development Application;
- Building Surveyor Application;
- Building and Plumbing Application;
- TasWater, TasNetworks and NBN Applications; and
- Access to Council, TasWater and TasNetworks records and drawings pertaining to the nominated address.

Yours sincerely



Anna Balmforth
Director – Community Infrastructure
Homes Tasmania
20 August 2026

GPO Box 65
Hobart, TAS, 7001
homestasmania.com.au
HousingProjects@homes.tas.gov.au

Contact Officer: Lucy Watts
Phone: 0405 944 412
Email: lucy.watts@homes.tas.gov.au

13th August 2026

To whom it may concern,

Service Assessment – 155 Cambridge Road

Following a comprehensive review of the proposed plans for 155 Cambridge Road, Warrane, we have evaluated the most suitable methodology for the provision of waste and recycling collection services at this location. Based on the supplied plans and vehicle turn path diagrams, our assessment has resulted in the following recommendations:

- A medium-sized rear-lift collection vehicle is deemed the most appropriate for servicing the site.
- Veolia will access the bins from Quarry Road, entering the complex in a forward direction and executing a three-point turn in the designated area adjacent to the bin compound.
- The Veolia operator will position the collection vehicle near the bin compound, conduct bin emptying operations, and exit the complex in a forward direction.
- The site features a moderate gradient, which is considered manageable for service operations.
- Visibility at the site is assessed as reasonable.
- Collection vehicles will be equipped with flashing safety beacon lights and reversing cameras to ensure operational safety.
- Collection services will be scheduled to avoid peak traffic periods.
- A formal Risk Assessment and Work Instruction will be provided to Veolia operators, outlining the above requirements and restrictions prior to the commencement of services.

Based on our assessment, we recommend the provision of three (3) 1100L General Waste bins and three (3) 1100L Commingled Recyclables bins, serviced twice per week, to adequately meet the requirements of the site.

Should you require any further information regarding this assessment, please do not hesitate to contact me directly at 0459 836 924.

Kind regards,

Personal Information Removed

Martin Robinson
General Manager – Business Development & Marketing

Homes Tasmania

Building homes, creating communities.

Kate Shepherd
Design Coordinator
Fairbrother
59 Sandy Bay Road
Hobart TAS 7000

Attention: Kate Shepherd.

Subject – 155 Cambridge Road, Warrane, Waste Management

Dear Kate,

This letter is to confirm that the proposed waste collection arrangement at 155 Cambridge Road, Warrane, will be allocated to a private provider.

In addition, there is no requirement for green waste collection as part of the development. Maintenance of the landscaped common areas will be undertaken by a landscape contractor, who will be responsible for the removal and disposal of any green waste generated, thereby removing the need for dedicated green waste collection services within the development.

Yours sincerely,

Personal Information Removed

Lucy Watts

Project Manager – Capital Development

06 August 2026

GPO Box 65
Hobart, TAS, 7001
homestasmania.com.au

Contact Officer: Lucy Watts
Phone: 0405 944 412
Email: Lucy.Watts@homes.tas.gov.au

DRAWING SCHEDULE - ARCHITECTURAL

		06/07/2026	13/07/2026	20/07/2026	24/07/2026	31/07/2026	10/08/2026	14/08/2026	17/08/2026	21/08/2026	15/10/2026	-	-
DRAWING NUMBER	TITLE	A	B	C	D	E	F	G	H	J	K		
A00-00	Cover Sheet & Location Plan	-	-	-	D	E	F	G	H	J	K		
A00-10	Existing / Demolition Site Plan	-	-	-	D	E	F	G	H	J	K		
A00-20	Proposed Site Plan	-	-	-	D	E	F	G	H	J	K		
A00-30	Diagrams	-	-	-	-	-	-	-	-	J	K		
A02-00	Proposed Floor Plan - Ground Floor	A	B	C	D	E	F	G	H	J	K		
A02-01	Proposed Floor Plan - Level 01	A	B	C	D	E	F	G	H	J	K		
A02-02	Proposed Floor Plan - Level 02	-	B	C	D	E	F	G	H	J	K		
A02-50	Proposed Floor Plan - Level 03	-	B	C	D	E	F	G	H	J	K		
A02-50	Roof Plan	-	B	C	D	E	F	G	H	J	K		
A02-60	Apartment Type Plans	-	-	-	D	E	F	G	H	J	K		
A02-61	Apartment Type Plans	-	-	-	D	E	F	G	H	J	K		
A02-62	Apartment Type Plans	-	-	-	-	E	F	G	H	J	K		
A02-63	Apartment Type Plans	-	-	-	-	E	F	G	H	J	K		
A04-00	Overall Elevations	-	-	-	-	E	F	G	H	J	K		
A04-01	Building Elevations	-	-	-	-	-	F	G	H	J	K		
A04-02	Building Elevations	-	-	-	-	-	-	G	H	J	K		
A04-40	Contextual Study	-	-	-	-	-	-	G	H	J	K		
A04-50	Materials Schedule	-	-	-	-	E	F	G	H	J	K		
A04-60	3D Views	-	-	-	-	-	-	G	H	J	K		
A05-00	Overall Site Sections	-	-	-	D	E	F	G	H	J	K		
A05-01	Boundary Sections	-	-	-	-	-	-	G	H	J	K		

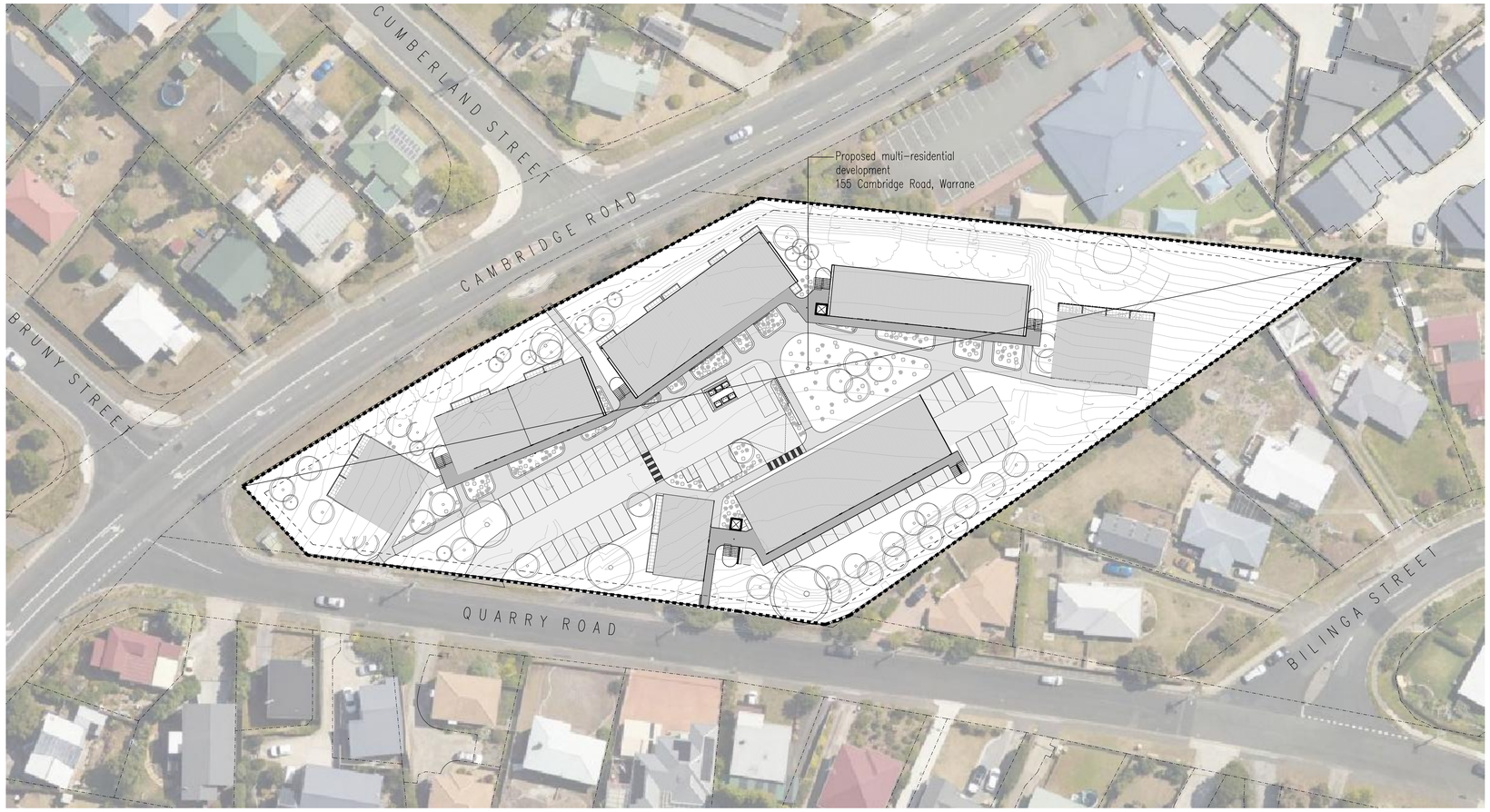
DESIGN DETAILS

TITLE REFERENCE	
CERTIFICATE FOLIO	1
VOLUME	84951

FLOOR AREAS (MEASURED TO OUTSIDE FACE OF EXTERNAL WALLS)		
EXISTING SITE AREA	8588	m^2
PROPOSED GROUND FLOOR (P.O.S)	1248 (458)	m^2
PROPOSED LEVEL 01 (P.O.S)	1672 (291)	m^2
PROPOSED LEVEL 02 (P.O.S)	1309 (291)	m^2
PROPOSED LEVEL 03 (P.O.S)	592 (120)	m^2
PROPOSED TOTAL FLOOR AREA	4821 (1160)	m^2
APARTMENT SCHEDULE		
1 BED	26	
2 BED	49	
TOTAL	75	
CAR PARKING	58	spaces
MOTORBIKE PARKING	2	spaces

PROPOSED TOTAL GROUND FLOOR IMPERVIOUS SURFACES (Inc DRIVEWAYS, PATHS AND COURTS)	4115	m^2
DENSITY (SITE AREA PER UNIT)	114	m^2
SITE DENSITY (ROOFED AREA)	2250 (=26%)	m^2

DESIGN WIND CLASSIFICATION	TBC	
DESIGN WIND VELOCITY V_{ult}	M/S	M/S
DESIGN WIND VELOCITY V_{ult}	M/S	M/S
SOIL CLASSIFICATION	TBC	
CLIMATE ZONE	7	
BAL RATING	N/A	
ALPINE AREA	N/A	
CORROSION ENVIRONMENT	TBC	
OTHER HAZARDS	-	



LOCATION PLAN
1:500 @ A1



CAMBRIDGE ROAD VIEW FROM SOUTH – ARTIST IMPRESSION 01
NTS @ A1

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

Preston Lane

Hobart
40 Burnett Street Hobart TAS 7000
T 03 6231 2826
ACC CC3017F

Melbourne
3 Tivoli Road South Yarra VIC 3141
T 03 9827 8923

info@prestonlane.com.au
prestonlane.com.au

The Builder/Contractor shall verify job dimensions prior to any work commencing. Figured dimensions shall take precedence over scaled work.

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: COVER SHEET & LOCATION PLAN

Scale: AS INDICATED @ A1

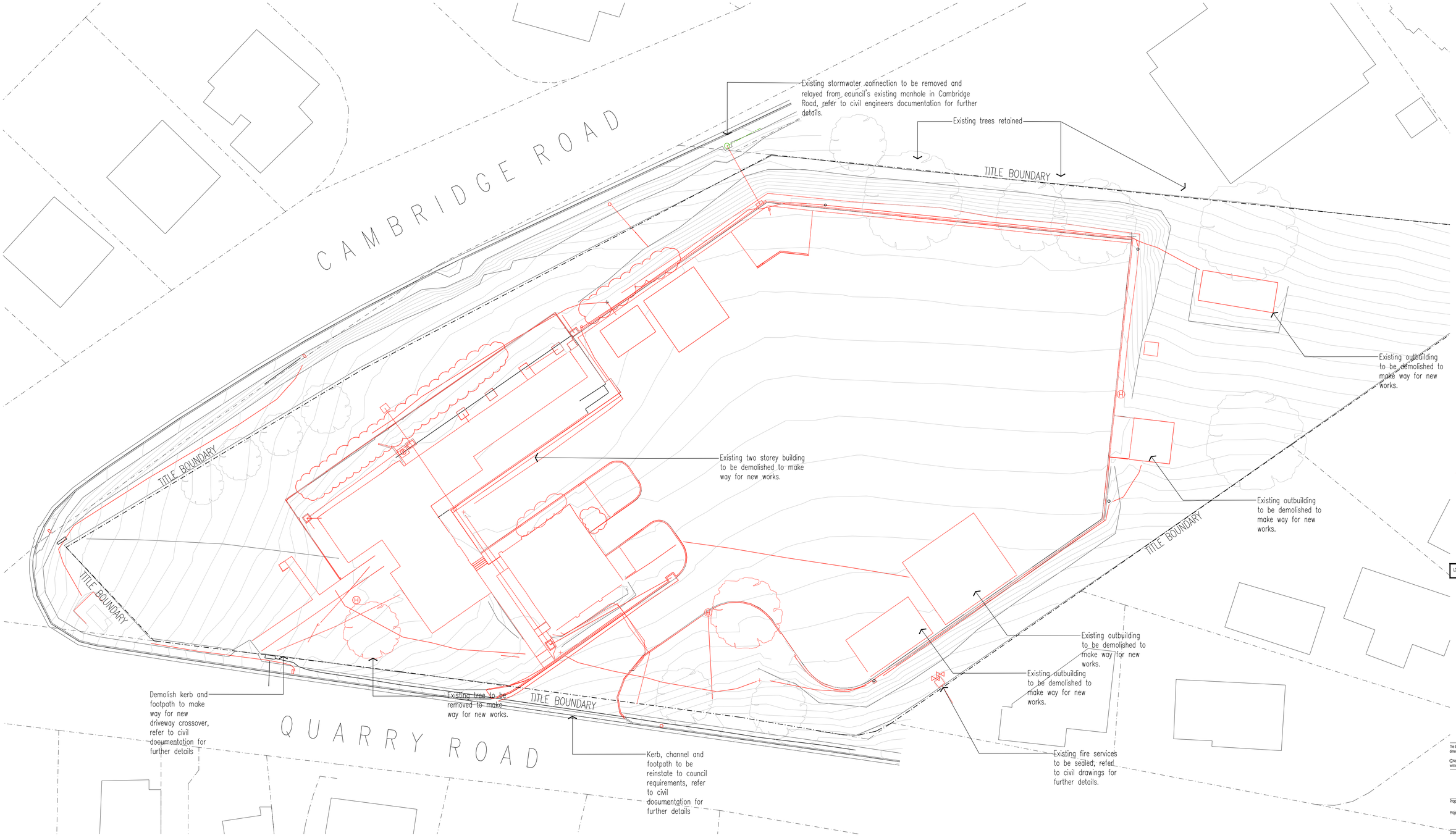
Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

Drawing Number: A00-00 rev K

PRELIMINARY NOT FOR CONSTRUCTION



DEMOLITION SITE PLAN
1:250

DEMOLITION LEGEND

Demolition works denoted by red dashed line

GENERAL NOTES

Demolition works subject to DA PDPLANPMTP-2026/062882 currently with council undergoing approval

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

Preston Lane

Hobart
40 Burnett Street Hobart TAS 7000
T 03 6231 2029
ACC CC2017F

Melbourne
3 Tivoli Road South Yarra VIC 3141
T 03 9827 8502

info@prestonlane.com.au
prestonlane.com.au

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD WARRANE, 7018

Drawing: DEMOLITION PLAN

Scale: 1:250 @ A1

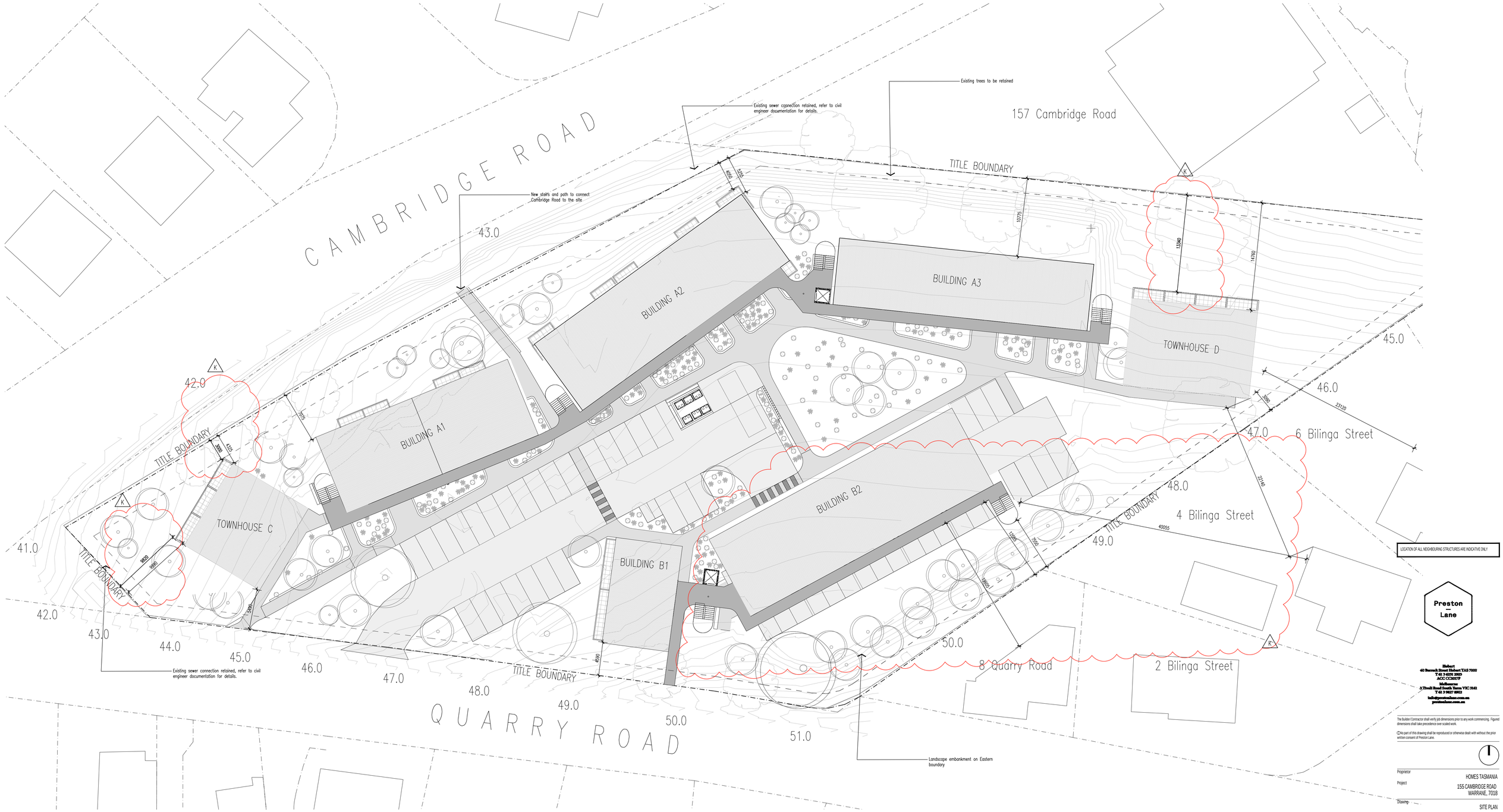
Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG DL
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K	15/10/2026	ISSUED FOR DA RFI 01	RG DL

Project No: 26026

Drawing Number: A00-10 rev K

PRELIMINARY NOT FOR CONSTRUCTION



PROPOSED SITE PLAN
1:250

Preston Lane

Hobart
40 Barrack Street Hobart TAS 7000
T: 03 3 6231 2583
ACC CC3019Y

Melbourne
3 Tivoli Road South Yarra VIC 3141
T: 03 3 9827 8802

info@prestonlane.com.au
prestonlane.com.au

The Builder/Contractor shall verify job dimensions prior to any work commencing. Figured dimensions shall take precedence over scaled work.

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD WARRANE, 7018

Drawing: SITE PLAN

Scale: 1:250 @ A1

Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
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J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

Drawing Number: A00-20 rev K



DIAGRAM – SITE CIRCULATION
1:500



DIAGRAM – LANDSCAPING
1:500

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

Preston Lane

Hobart
40 Bernath Street Hobart TAS 7000
T 61 3 6231 2323
ACC CC2577F
Melbourne
3 Tivoli Road South Yarra VIC 3141
T 61 3 9827 8821
info@prestonlane.com.au
prestonlane.com.au

The Builder/Contractor shall verify job dimensions prior to any work commencing. Figured dimensions shall take precedence over scaled work.

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Proprietor
HOMES TASMANIA

Project
155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing
DIAGRAMS
-

Scale
1:250 @ A1

Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
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K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No
26026

Drawing Number
A00-30
rev K

PRELIMINARY NOT FOR CONSTRUCTION

CAMBRIDGE ROAD

Tree protection zone shown dashed around existing trees

157 Cambridge Road

BUILDING FFL 46.300

BUILDING FFL 46.300

BUILDING FFL 46.300

Solid brick wall between units, height 1.7m

APT01 TYPE 2B

APT02 TYPE 2A

APT03 TYPE 2B

APT04 TYPE 2C

APT05 TYPE 2C

APT06 TYPE 2C

APT07 TYPE 2C

APT08 TYPE 2C

APT09 TYPE 2C

APT10 TYPE 2C

APT11 TYPE 2C

APT12 TYPE 2D

APT13 TYPE 1A

APT14 TYPE 1A

APT15 TYPE 1A

APT16 TYPE 1A

APT17 TYPE 1A

APT18 TYPE 2B

APT19 TYPE 2A

APT20 TYPE 2A

APT21 TYPE 2B

APT22 TYPE 1B

APT23 TYPE 1B

Minimum height of waste enclosure wall to 1.2m max transparency 25% of brickwork wall

Letter box on brick seat 75 in total (5 high x 15 long)

Waste truck turning area

Waste truck parking

Waste enclosure

1.8 Carpark ramp, refer civil engineers documentation

MO1 MO2

FFL 46.000

4 Bilinga Street

Line of building over shown dashed

Design envelope around vehicle shown in accordance with AS 2890.1 shown red.

8 Quarry Road

2 Bilinga Street

BUILDING FFL 45.000

Line of building over shown dashed

Carpark entry, refer to civil engineers documentation for details of new crossover

QUARRY ROAD

BUILDING FFL 47.150

Line of walkway over shown dashed

FLOOR PLAN – GROUND FLOOR
1:200@A1

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

Preston Lane

Hobart
40 Burnett Street Hobart TAS 7000
T 03 6231 2925
ACN 008 783 759

Melbourne
3 Tivoli Road South Yarra VIC 3141
T 03 9827 8802

info@prestonlane.com.au
prestonlane.com.au

The Builder/Contractor shall verify job dimensions prior to any work commencing. Figured dimensions shall take precedence over scaled work.

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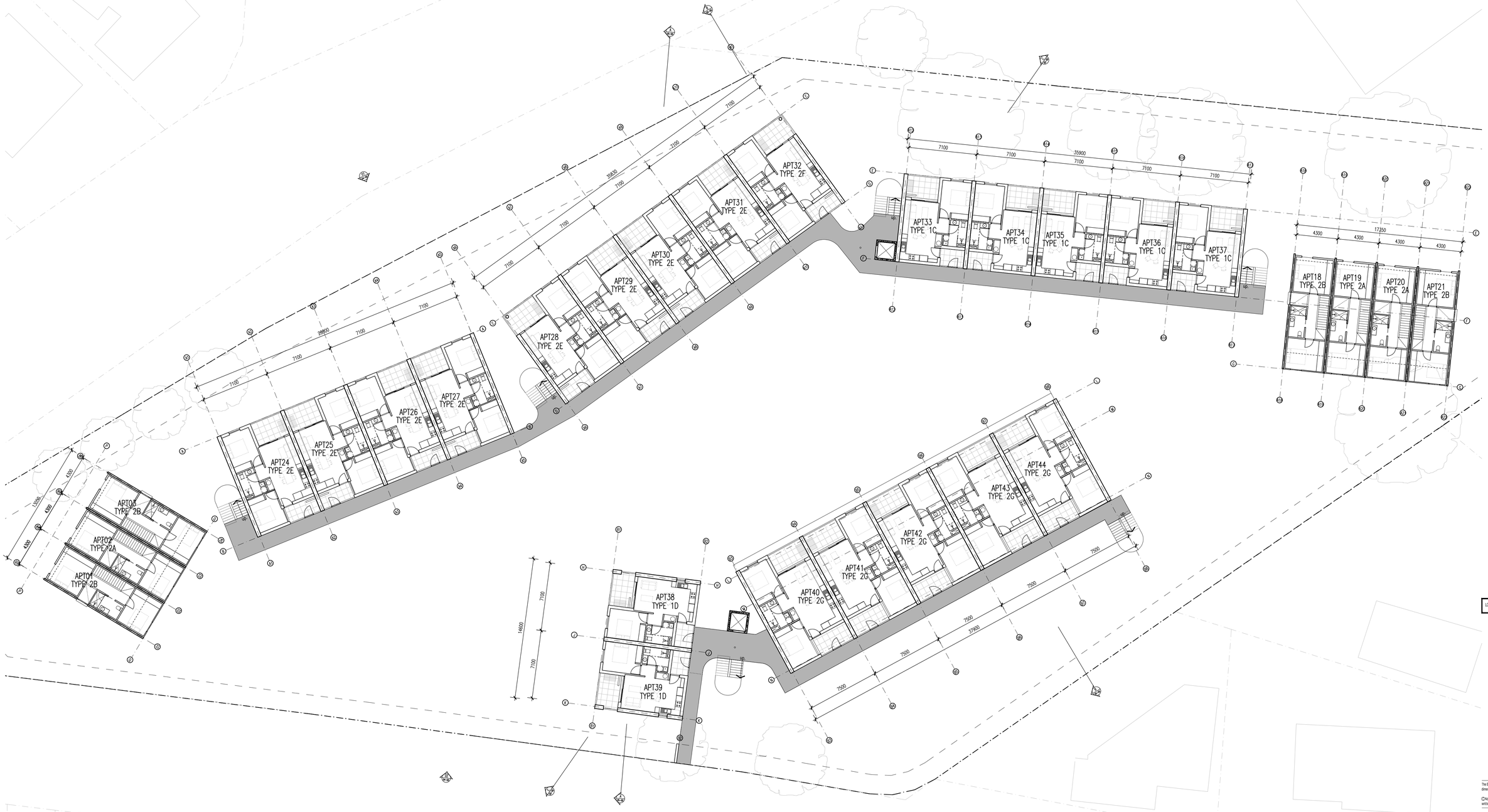
Proprietor	HOMES TASMANIA
Project	155 CAMBRIDGE ROAD WARRANE, 7018
Drawing	GROUND FLOOR PLAN
Scale	1:200 @ A1

Revision

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K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No	26026
Drawing Number	A02-00 rev K

PRELIMINARY NOT FOR CONSTRUCTION



FLOOR PLAN – LEVEL 01
1:200@A1

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

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40 Bunnett Street Hobart TAS 7000
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Proprietor: FAIRBROTHER

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: LEVEL 01 FLOOR PLAN

Scale: 1:200 @ A1

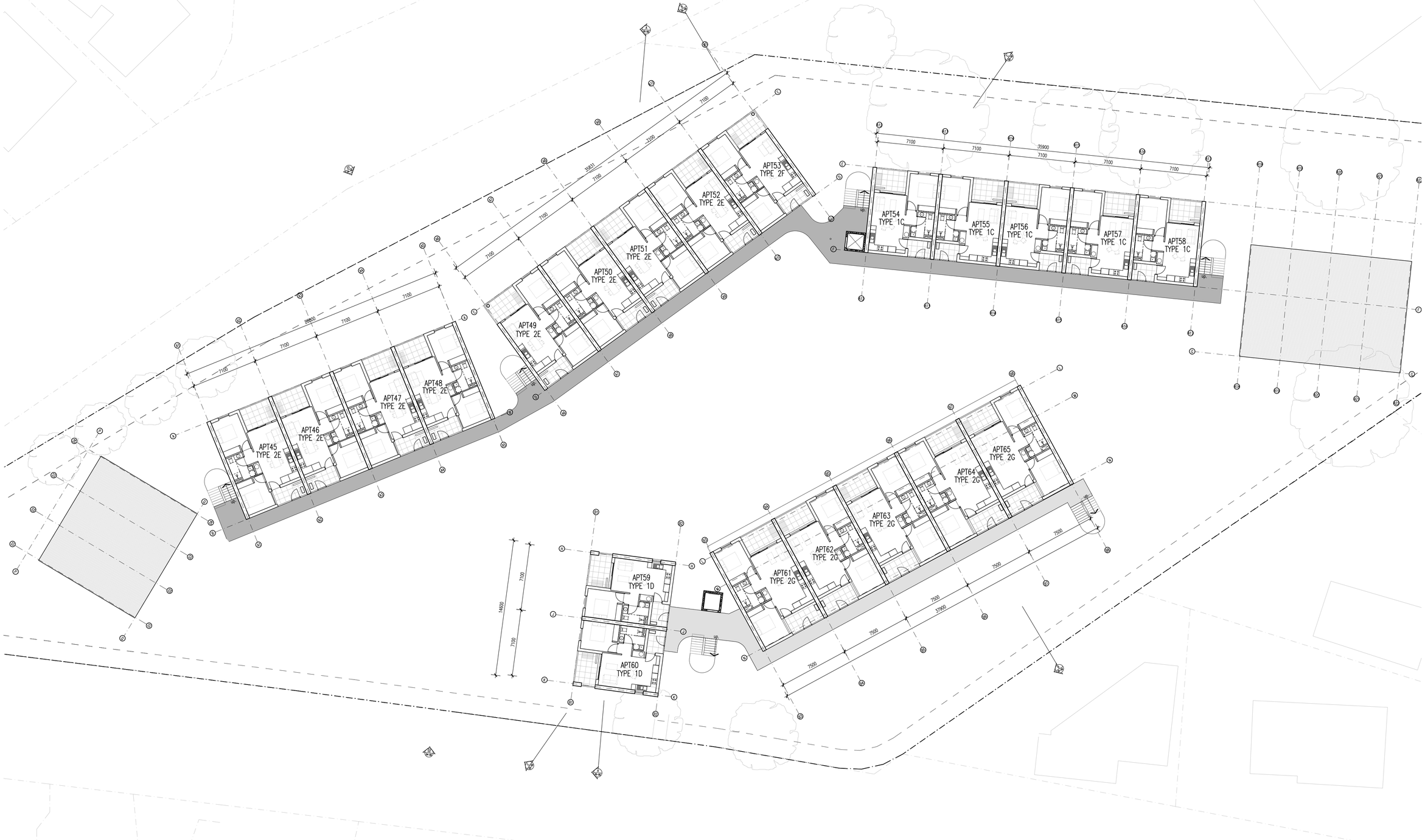
Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

Drawing Number: A02-01 rev K

PRELIMINARY NOT FOR CONSTRUCTION



FLOOR PLAN – LEVEL 02
1:200@A1

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Proprietor
FAIRBROTHER

Project
155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing
LEVEL 02 FLOOR PLAN

Scale
1:200 @ A1

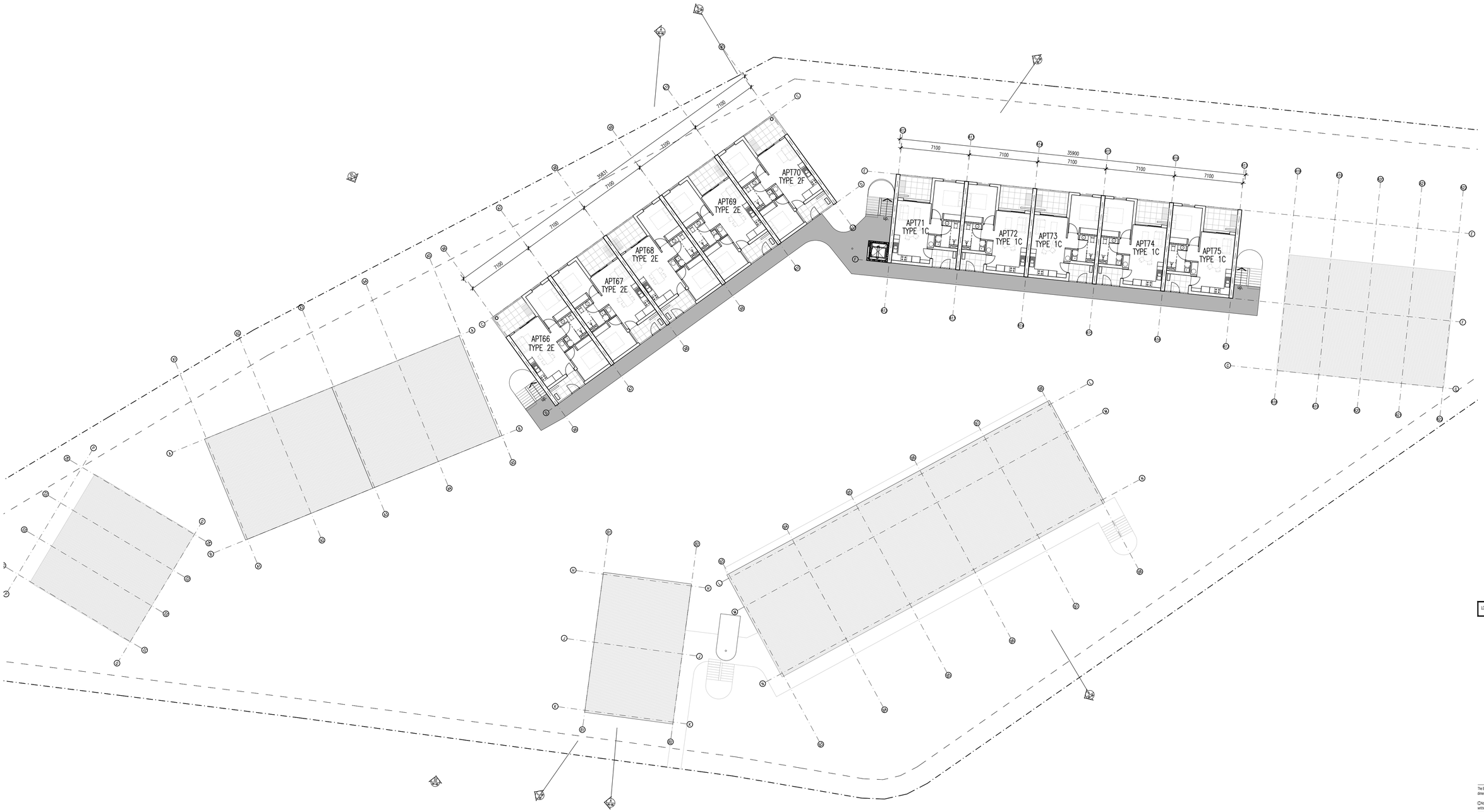
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No
26026

Drawing Number
A02-02
rev K

PRELIMINARY NOT FOR CONSTRUCTION



FLOOR PLAN – LEVEL 03
1:200@A1

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Proprietor
FAIRBROTHER

Project
155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing
LEVEL 03 FLOOR PLAN

Scale
1:200 @ A1

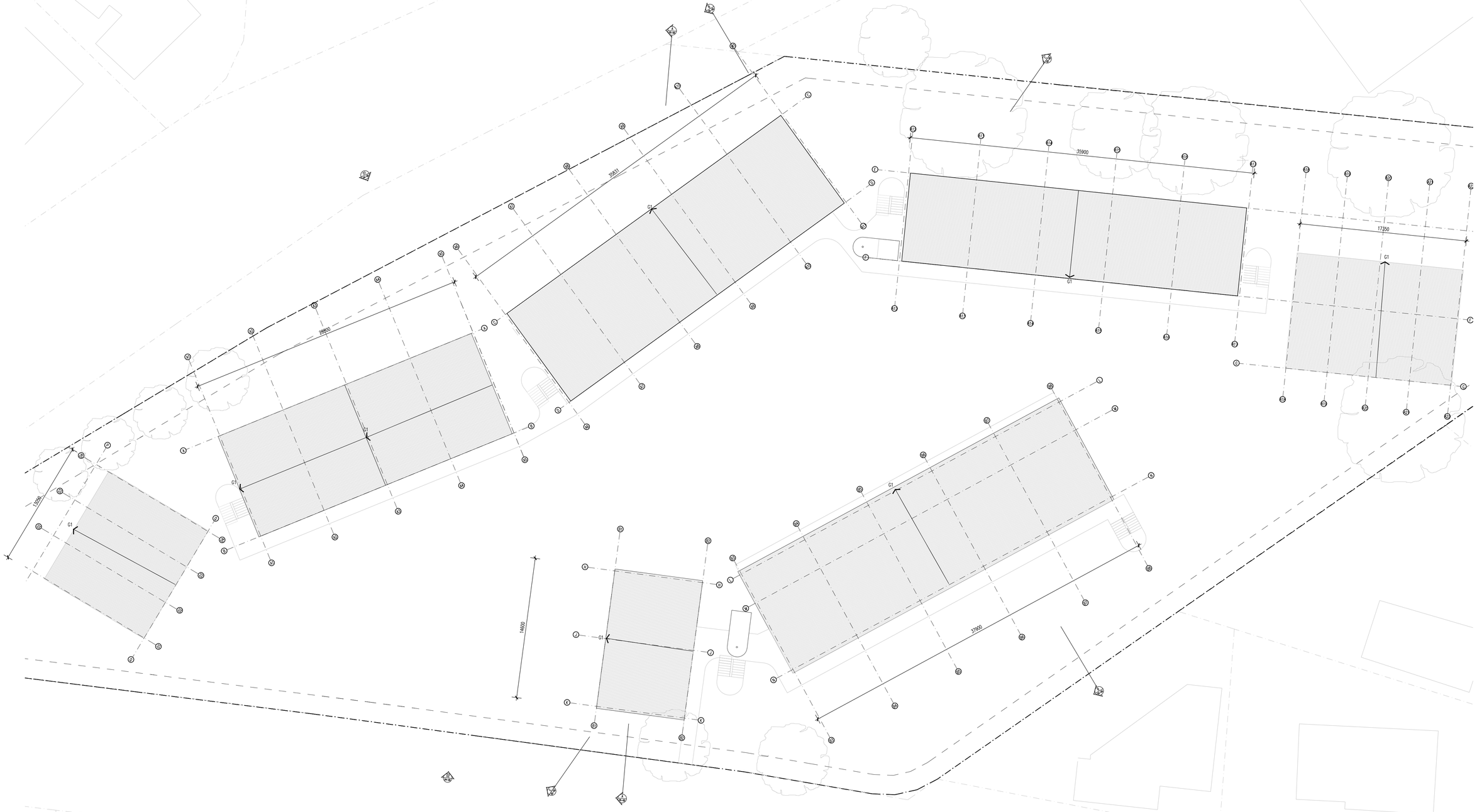
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No
26026

Drawing Number
A02-03
rev K

PRELIMINARY NOT FOR CONSTRUCTION



ROOF PLAN
1:200@A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: ROOF PLAN

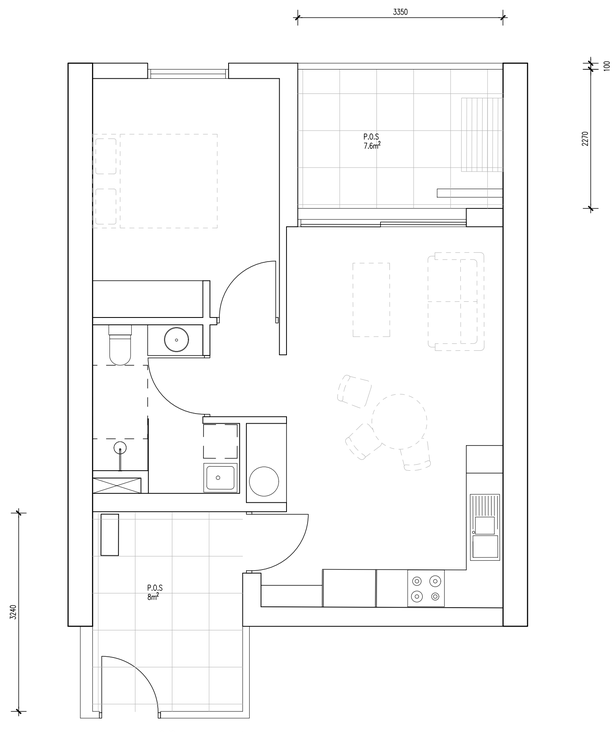
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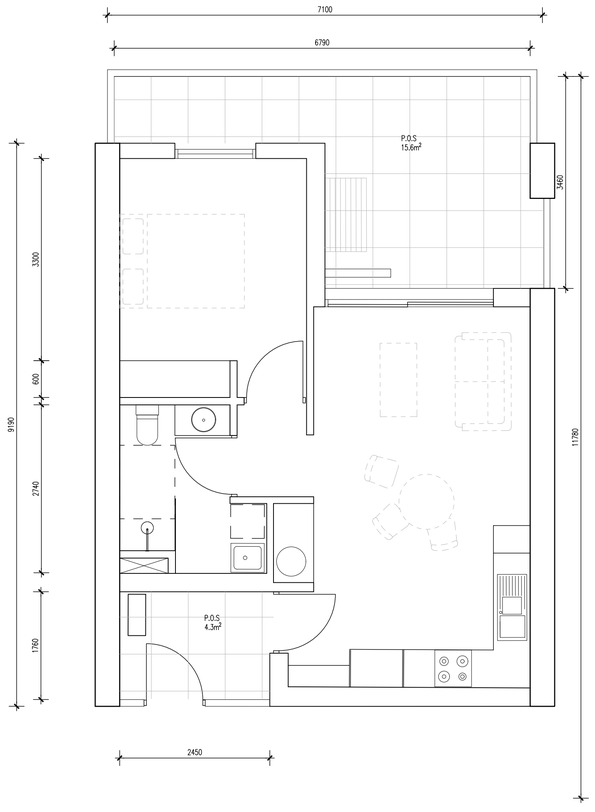
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
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K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

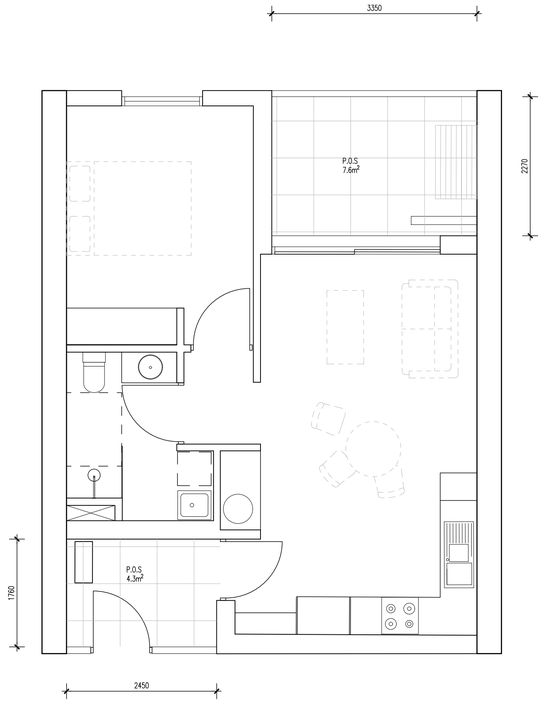
Drawing Number: A02-50 rev K



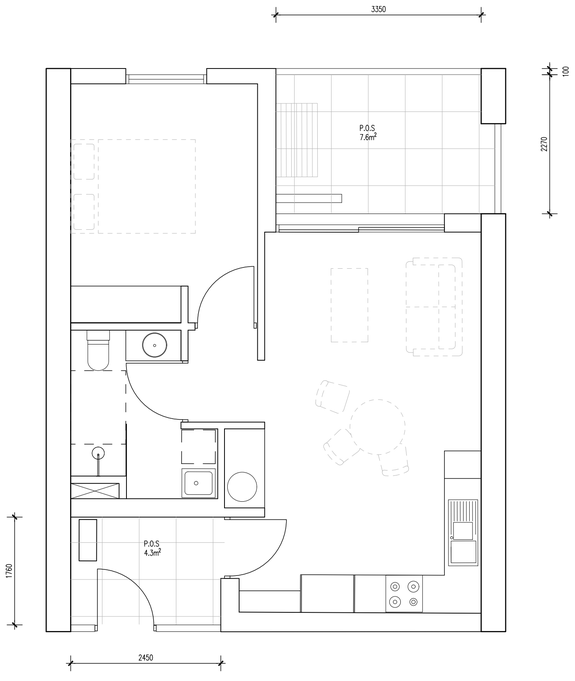
APARTMENT TYPE 1A
1:50



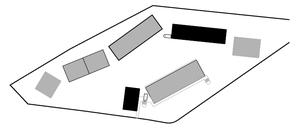
APARTMENT TYPE 1B
1:50



APARTMENT TYPE 1C
1:50



APARTMENT TYPE 1D
1:50



KEY PLAN
1:2000@A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: APARTMENT TYPES

Scale: 1:50 @ A1

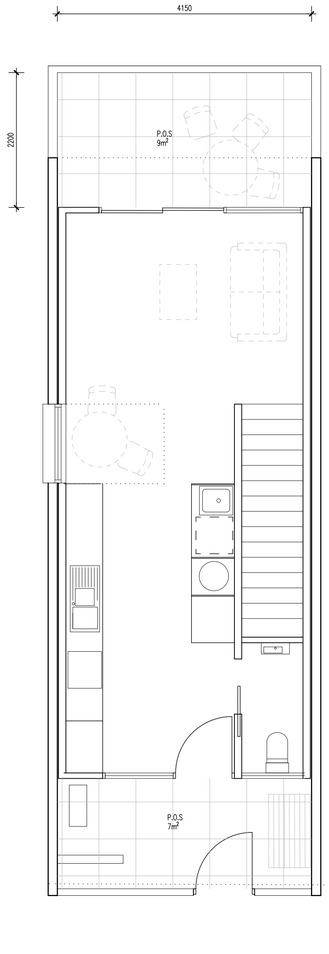
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

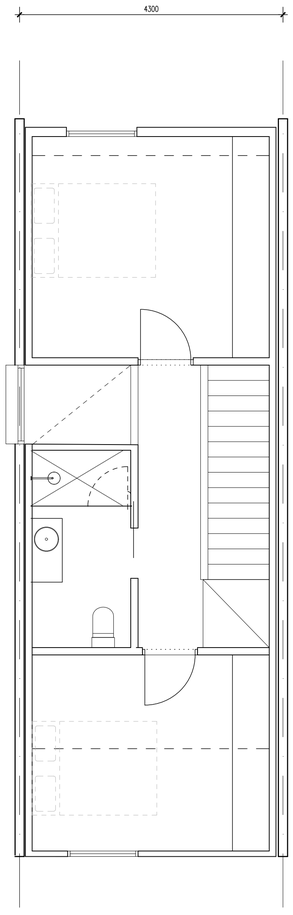
Project No: 26026

Drawing Number: A02-60 rev K

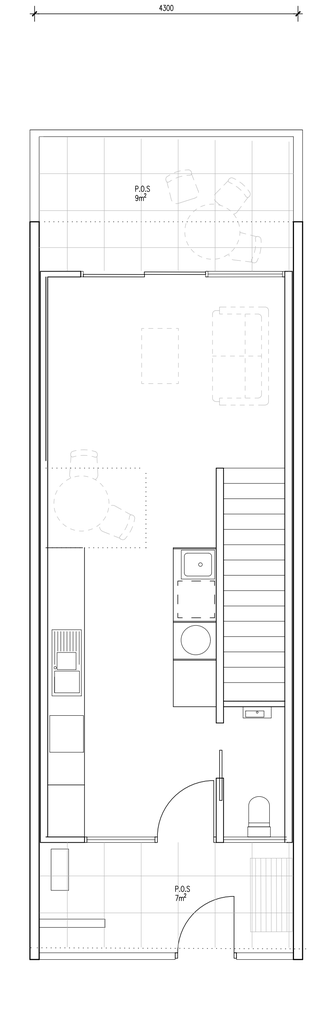
PRELIMINARY NOT FOR CONSTRUCTION



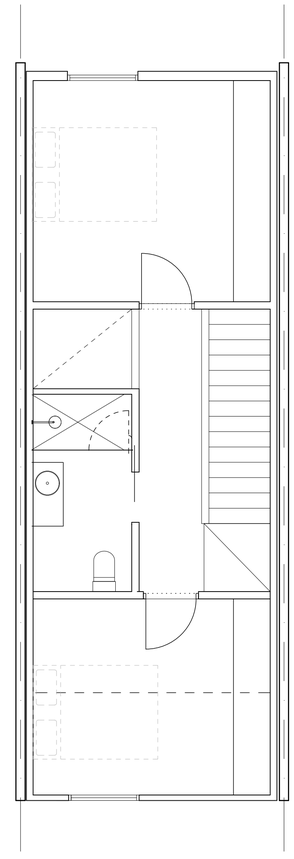
APARTMENT TYPE 1A – GROUND
1:50



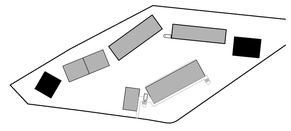
APARTMENT TYPE 1A – LEVEL 01
1:50



APARTMENT TYPE 1B – GROUND
1:50



APARTMENT TYPE 1B – LEVEL 01
1:50



KEY PLAN
1:2000@A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: APARTMENT TYPES
-

Scale: 1:50 @ A1

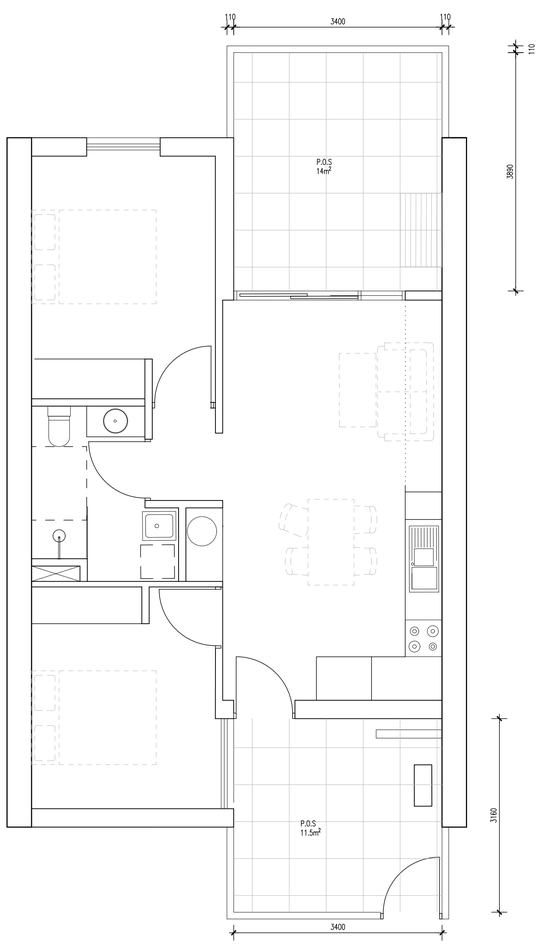
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

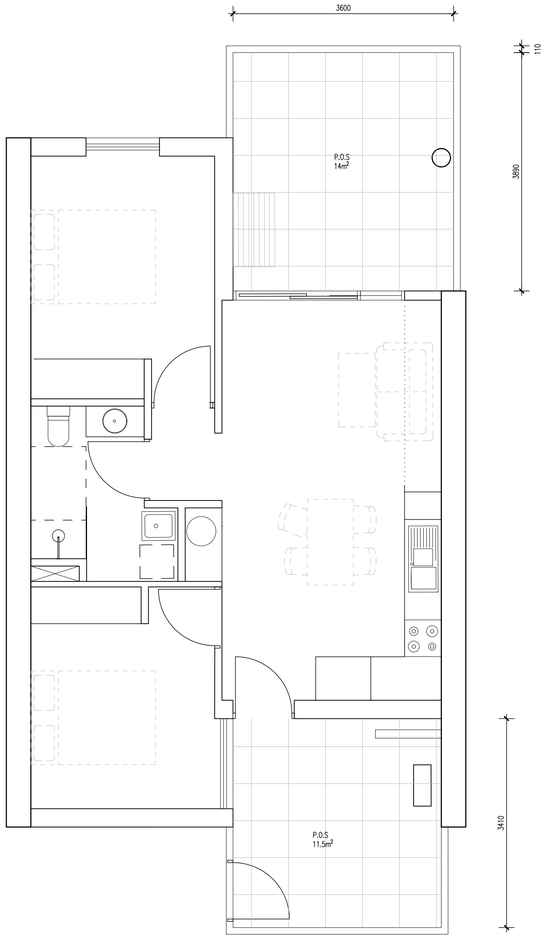
Project No: 26026

Drawing Number: A02-61 rev K

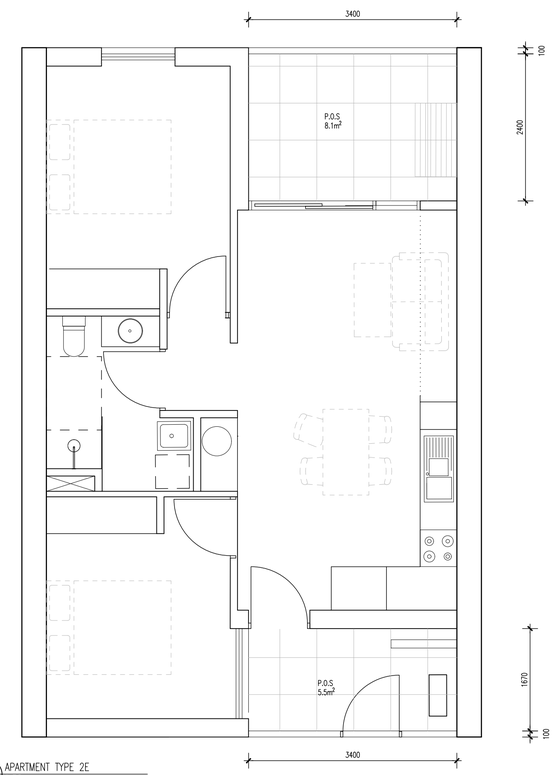
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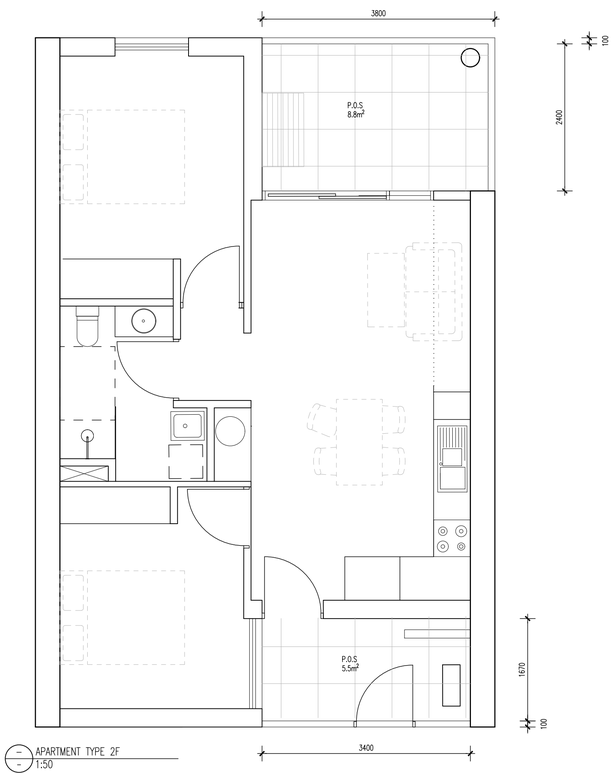
APARTMENT TYPE 2C
1:50



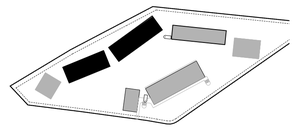
APARTMENT TYPE 2D
1:50



APARTMENT TYPE 2E
1:50



APARTMENT TYPE 2F
1:50



KEY PLAN
1:2000@A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: APARTMENT TYPES

Scale: 1:50 @ A1

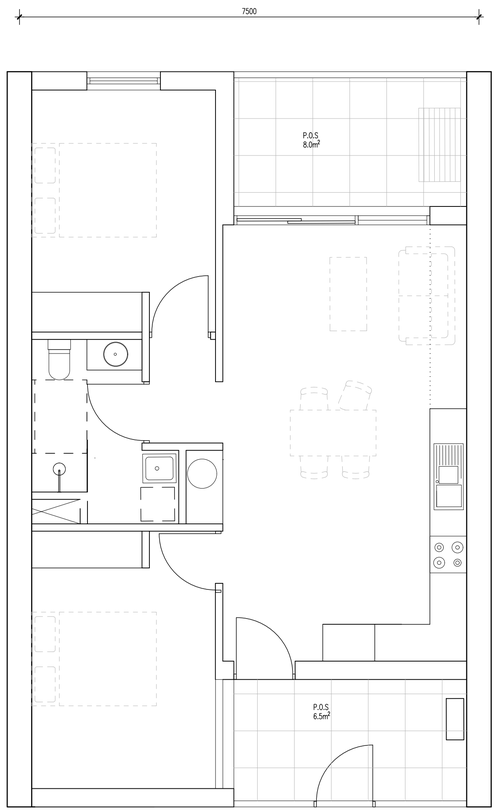
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

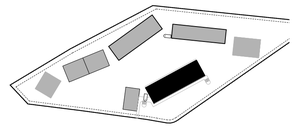
Project No: 26026

Drawing Number: A02-62 rev K

PRELIMINARY NOT FOR CONSTRUCTION



APARTMENT TYPE 2G
1:50



KEY PLAN
1:2000@A1

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Proprietor
HOMES TASMANIA

Project
155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing
APARTMENT TYPES
-

Scale
1:50 @ A1

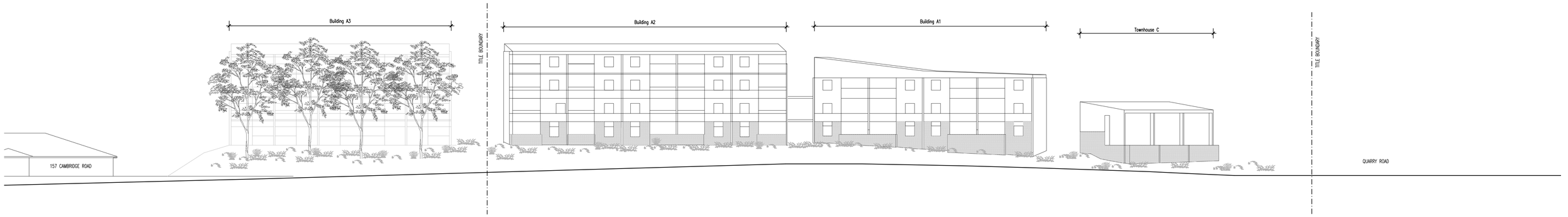
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

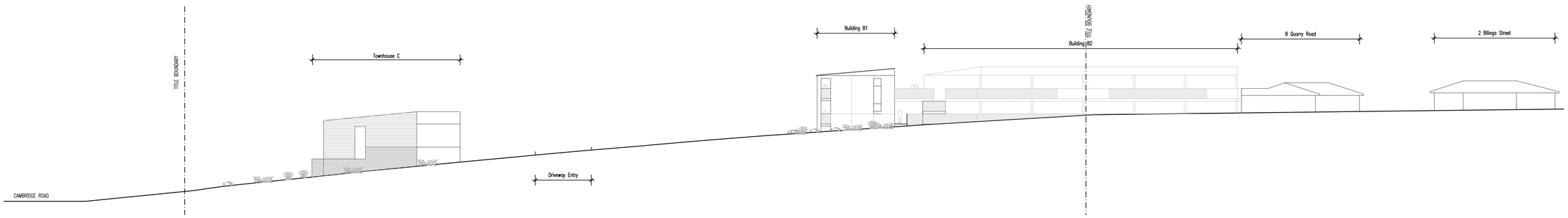
Project No
26026

Drawing Number
A02-63 rev K

PRELIMINARY NOT FOR CONSTRUCTION



01 – CAMBRIDGE ROAD ELEVATION
1:250@A1



02 – QUARRY ROAD ELEVATION
1:250@A1

EXTERIOR WALL FINISHES

CS1	Lightweight cladding 01 – smooth finish. Colour to future selection.
CS2	Lightweight cladding 02 – linear texture. Colour to future selection.
BR1	Masonry 01. Colour to future selection.
BR2	Feature Masonry 02. Colour to future selection.
CR1	Metal sheet roof. Colour to future selection.
FEN1	Metal Fence. Colour to future selection.
FEN2	Solid Fence. Colour to future selection.
PC1	Concrete – texture finish 01. Colour to future selection.
PC2	Concrete – texture finish 02. Colour to future selection.
PC3	Concrete – smooth finish 01. Colour to future selection.
PC4	Concrete – smooth finish 02. Colour to future selection.
w	Window
d	Door
g	Gate
col.	Column.
NGL	Natural ground level

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: OVERALL ELEVATIONS

Scale: 1:250 @ A1

Revision

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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG DL
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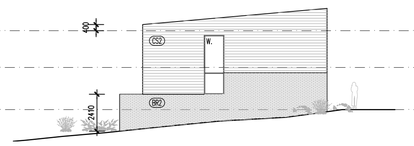
Project No: 26026

Drawing Number: A04-00 rev K

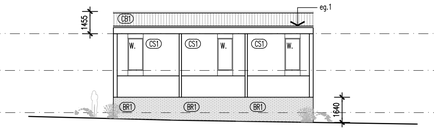
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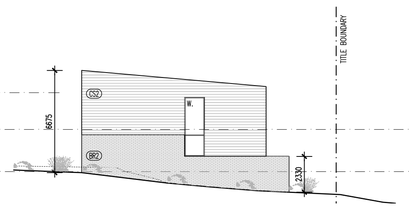
01 TOWNHOUSE C – EAST ELEVATION
– 1:200@A1



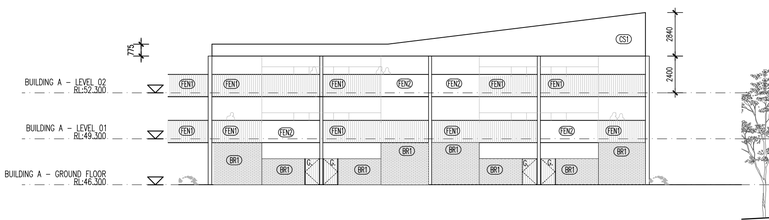
02 TOWNHOUSE C – SOUTH ELEVATION
– 1:200@A1



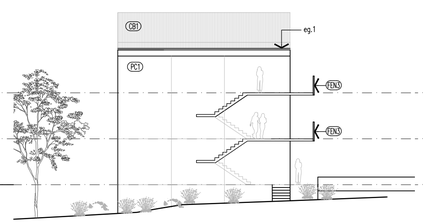
03 TOWNHOUSE C – WEST ELEVATION
– 1:200@A1



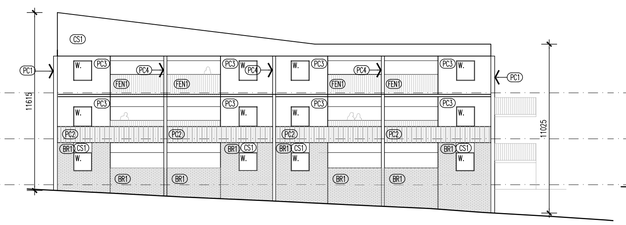
04 TOWNHOUSE C – NORTH ELEVATION
– 1:200@A1



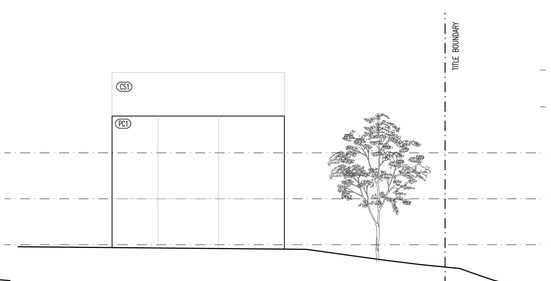
05 BUILDING A1 – EAST ELEVATION
– 1:200@A1



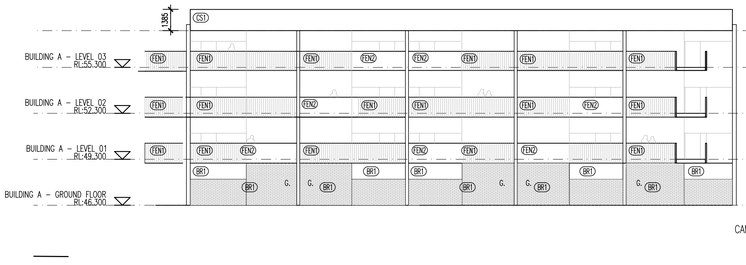
06 BUILDING A1 – SOUTH ELEVATION
– 1:200@A1



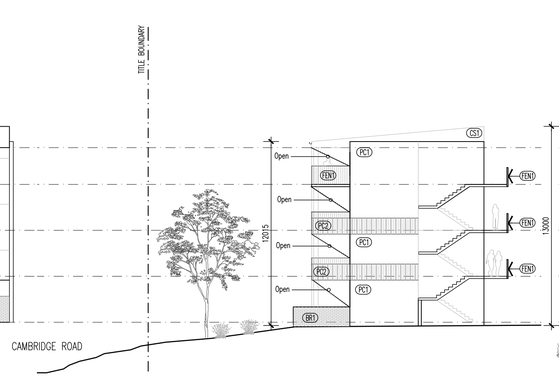
07 BUILDING A1 – WEST ELEVATION
– 1:200@A1



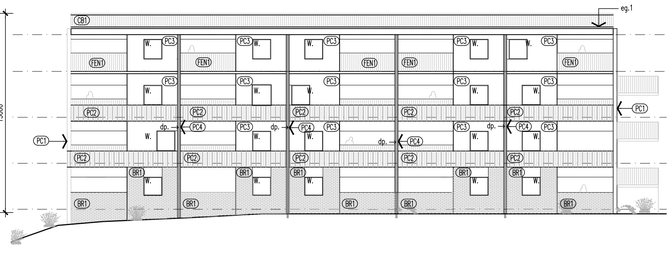
08 BUILDING A1 – NORTH ELEVATION
– 1:200@A1



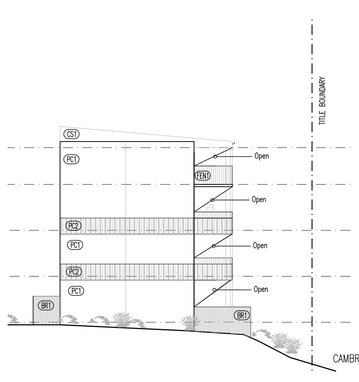
09 BUILDING A2 – EAST ELEVATION
– 1:200@A1



10 BUILDING A2 – SOUTH ELEVATION
– 1:200@A1



11 BUILDING A2 – WEST ELEVATION
– 1:200@A1



12 BUILDING A2 – NORTH ELEVATION
– 1:200@A1

EXTERIOR WALL FINISHES

- CS1 Lightweight cladding 01 – smooth finish. Colour to future selection.
- CS2 Lightweight cladding 02 – linear texture. Colour to future selection.
- BR1 Masonry 01. Colour to future selection.
- BR2 Feature Masonry 02. Colour to future selection.
- CR1 Metal sheet roof. Colour to future selection.
- FEN1 Metal Fence. Colour to future selection.
- FEN2 Solid Fence. Colour to future selection.
- PC1 Concrete – texture finish 01. Colour to future selection.
- PC2 Concrete – texture finish 02. Colour to future selection.
- PC3 Concrete – smooth finish 01. Colour to future selection.
- PC4 Concrete – smooth finish 02. Colour to future selection.

w Window
d Door
g Gate
col. Column.
NGL Natural ground level

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

PRELIMINARY NOT FOR CONSTRUCTION

Preston Lane

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: BUILDING ELEVATIONS
-

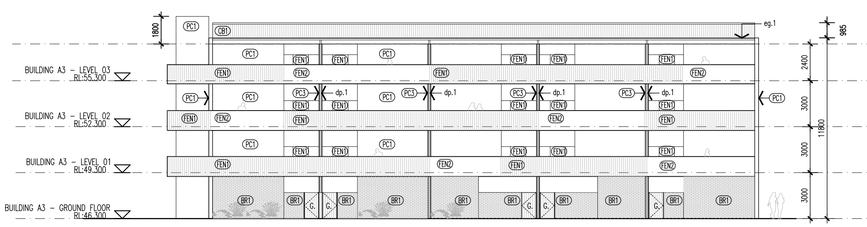
Scale: 1:200 @ A1

Revision

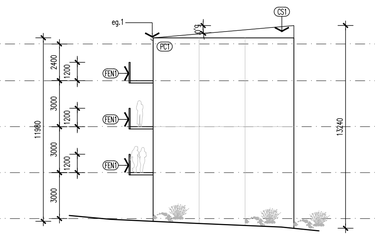
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

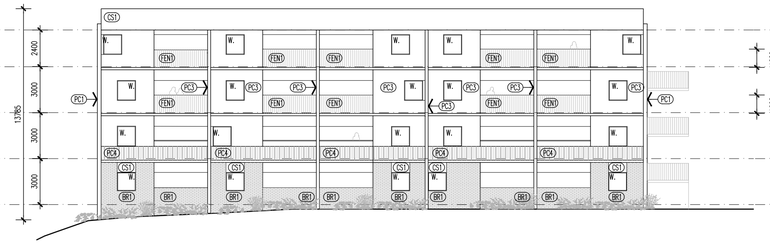
Drawing Number: A04-01 rev K



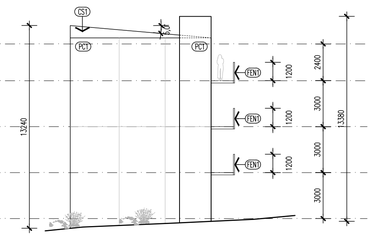
01 BUILDING A3 – SOUTH ELEVATION
1:200@A1



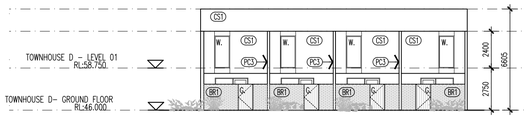
02 BUILDING A3 – EAST ELEVATION
1:200@A1



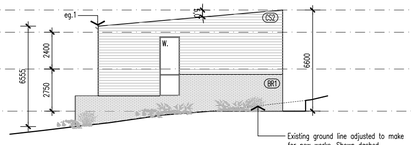
03 BUILDING A3 – NORTH ELEVATION
1:200@A1



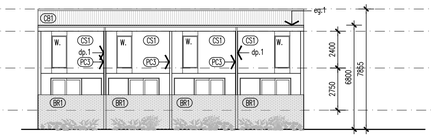
04 BUILDING A3 – WEST ELEVATION
1:200@A1



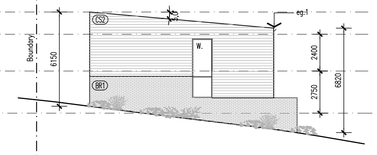
05 TOWNHOUSE D – SOUTH ELEVATION
1:200@A1



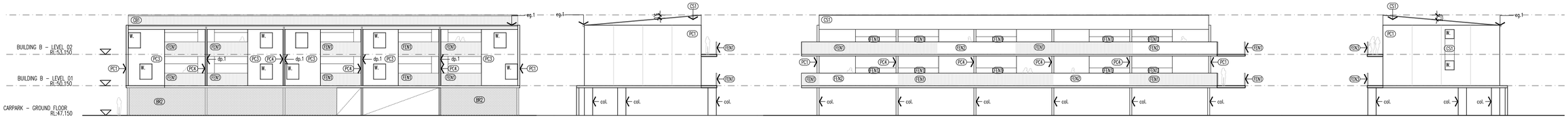
06 TOWNHOUSE D – WEST ELEVATION
1:200@A1



07 TOWNHOUSE D – NORTH ELEVATION
1:200@A1



08 TOWNHOUSE D – EAST ELEVATION
1:200@A1

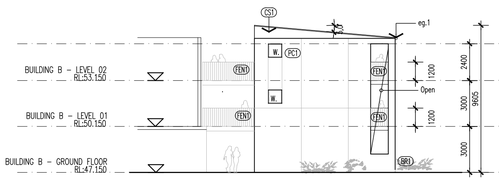


09 BUILDING B2 – WEST ELEVATION
1:200@A1

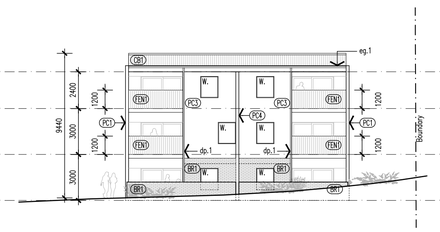
10 BUILDING B2 – SOUTH ELEVATION
1:200@A1

11 BUILDING B2 – EAST ELEVATION
1:200@A1

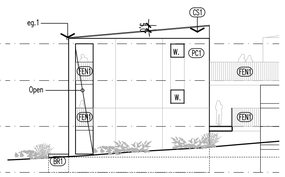
12 BUILDING A3 – NORTH ELEVATION
1:200@A1



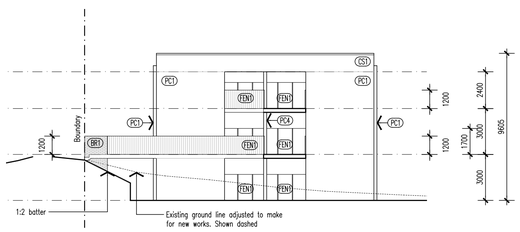
13 BUILDING B1 – NORTH ELEVATION
1:200@A1



14 BUILDING B1 – WEST ELEVATION
1:200@A1



15 BUILDING B1 – SOUTH ELEVATION
1:200@A1



16 BUILDING B1 – EAST ELEVATION
1:200@A1

EXTERIOR WALL FINISHES

CS1	Lightweight cladding 01 – smooth finish. Colour to future selection.
CS2	Lightweight cladding 02 – linear texture. Colour to future selection.
BR1	Masonry 01. Colour to future selection.
BR2	Feature Masonry 02. Colour to future selection.
CB1	Metal sheet roof. Colour to future selection.
FEN1	Metal Fence. Colour to future selection.
FEN2	Solid Fence. Colour to future selection.
PC1	Concrete – texture finish 01. Colour to future selection.
PC2	Concrete – texture finish 02. Colour to future selection.
PC3	Concrete – smooth finish 01. Colour to future selection.
PC4	Concrete – smooth finish 02. Colour to future selection.

w Window
d Door
g Gate
col. Column.
NGL Natural ground level

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

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Proprietor
HOMES TASMANIA

Project
155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing
BUILDING ELEVATIONS

Scale
1:200 @ A1

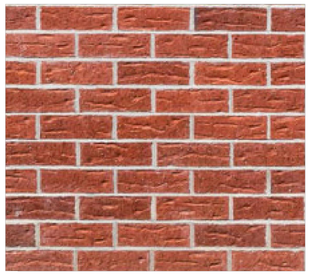
Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG DL

Project No
26026

Drawing Number
A04-02 rev K

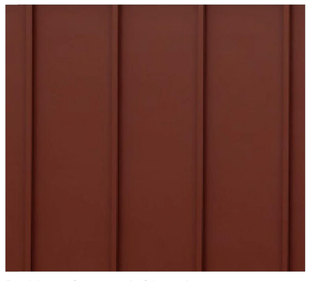
PRELIMINARY NOT FOR CONSTRUCTION



Red brickwork
Scale - Colour - Material



Light Red Precast Concrete Panel
Scale - Colour



Batten Cement Sheet
Scale - Colour



Weatherboard
Scale - Colour - Material



Context - an eclectic mix of weatherboard and brickwork properties in the surrounding neighbourhood. The proposed material palette sits comfortably within this range.



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Proprietor: HOMES TASMANIA
Project: 155 CAMBRIDGE ROAD WARRANE, 7018
Drawing: CONTEXTUAL STUDY
Scale: NTS @ A1
Revision:

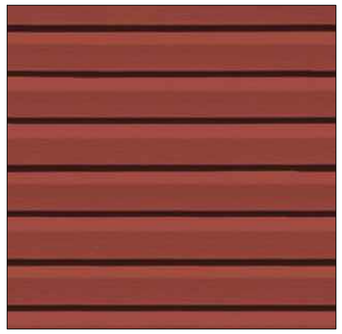
G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026
Drawing Number: A04-40 rev K

PRELIMINARY NOT FOR CONSTRUCTION



CS1 Lightweight cladding 01 – smooth finish. Colour to future selection.



CS2 Lightweight cladding 02 – linear texture. Colour to future selection.



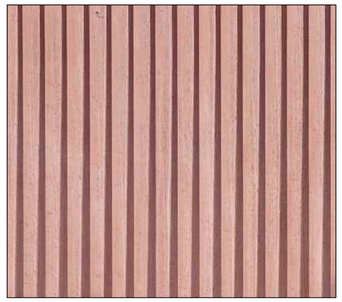
FN1 Metal Fence. Colour to fuuture selection.



CB1 Metal sheet roof. Colour to future selection.



PC1 Concrete – texture finish 01. Colour to future selection.



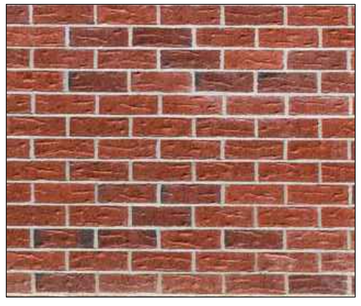
PC2 Concrete – texture finish 02. Colour to future selection.



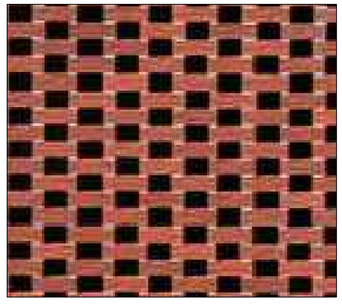
PC3 Concrete – smooth finish 01. Colour to future selection.



PC4 Concrete – smooth finish 02. Colour to future selection.



BR1 Masonry 01. Colour to future selection.



BR2 Feature Masonry 02. Colour to future selection.

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD, WARRANE, 7018

Drawing: MATERIALS SCHEDULE

Scale: NTS @ A1

Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

Project No: 26026

Drawing Number: A04-50 rev K

PRELIMINARY NOT FOR CONSTRUCTION



01 – CAMBRIDGE ROAD VIEW FROM SOUTH – ARTIST IMPRESSION 01
NTS @ A1



02 – CAMBRIDGE ROAD VIEW FROM NORTH – ARTIST IMPRESSION 02
NTS @ A1



03 – QUARRY ROAD VIEW FROM SOUTH – ARTIST IMPRESSION 03
NTS @ A1



04 – QUARRY ROAD VIEW FROM EAST – ARTIST IMPRESSION 04
NTS @ A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: 3D VIEWS

Scale: NTS @ A1

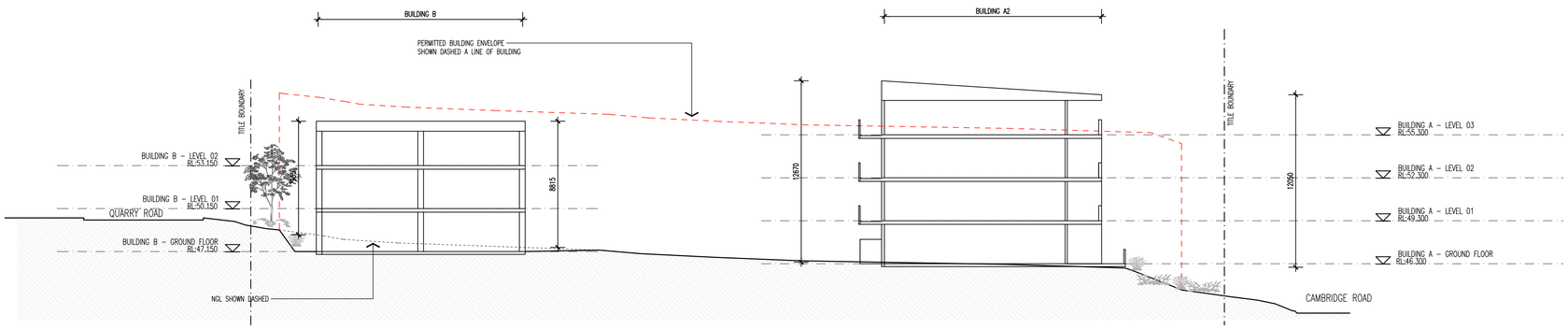
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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

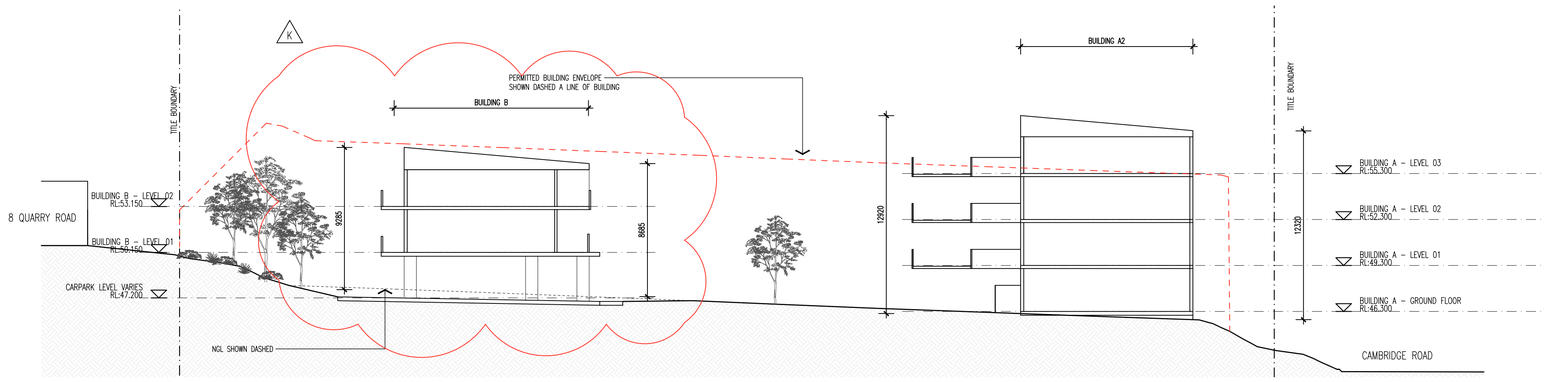
Project No: 26026

Drawing Number: A04-60 rev K

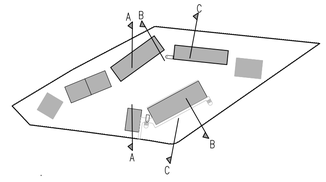
PRELIMINARY NOT FOR CONSTRUCTION



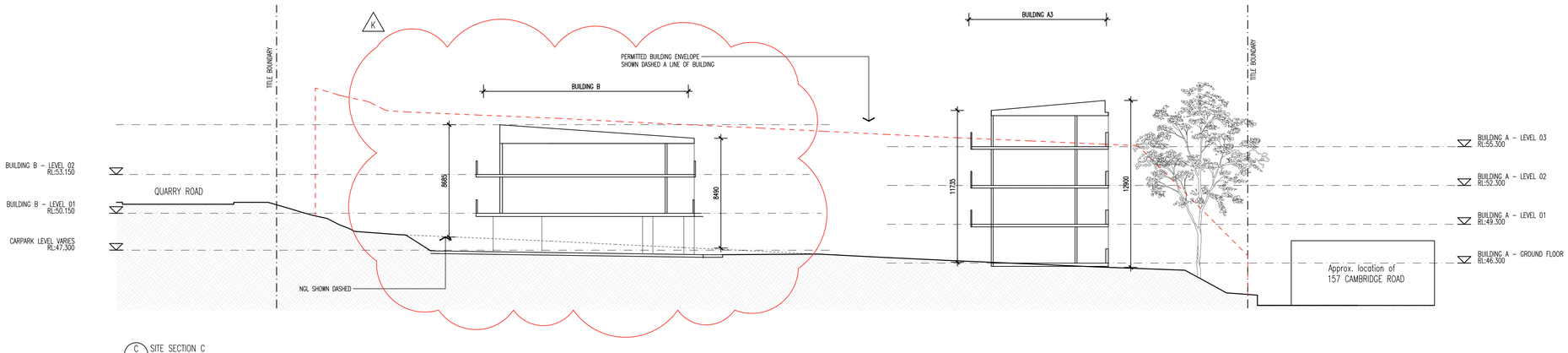
A SITE SECTION A
1:200@A1



B SITE SECTION B
1:200@A1



KEY PLAN
1:2000@A1



C SITE SECTION C
1:200@A1

LOCATION OF ALL NEIGHBOURING STRUCTURES ARE INDICATIVE ONLY

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: OVERALL SITE SECTIONS

Scale: 1:200 @ A1

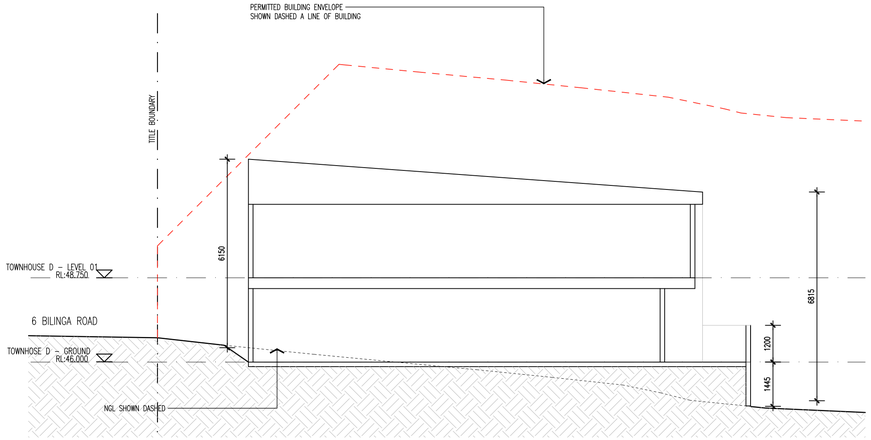
Revision

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H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

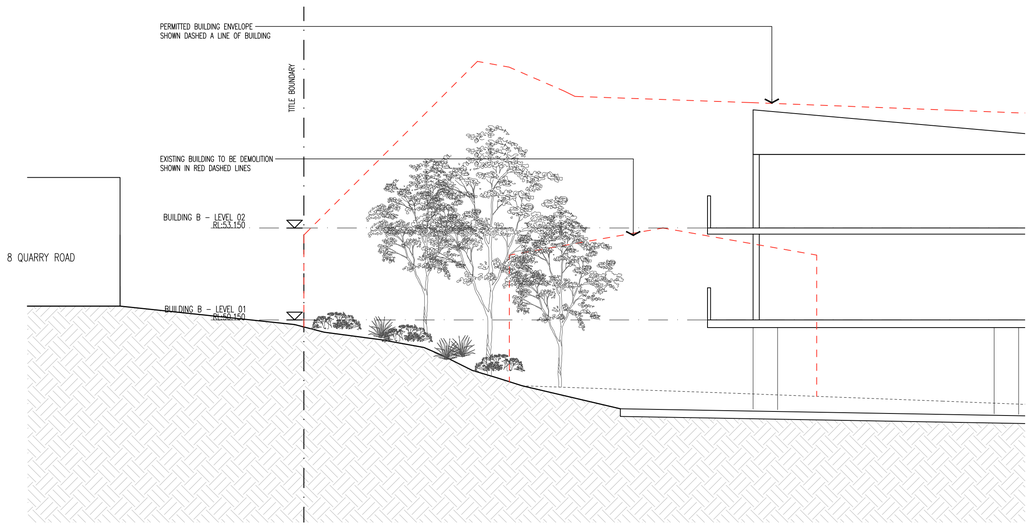
Project No: 26026

Drawing Number: A05-00 rev K

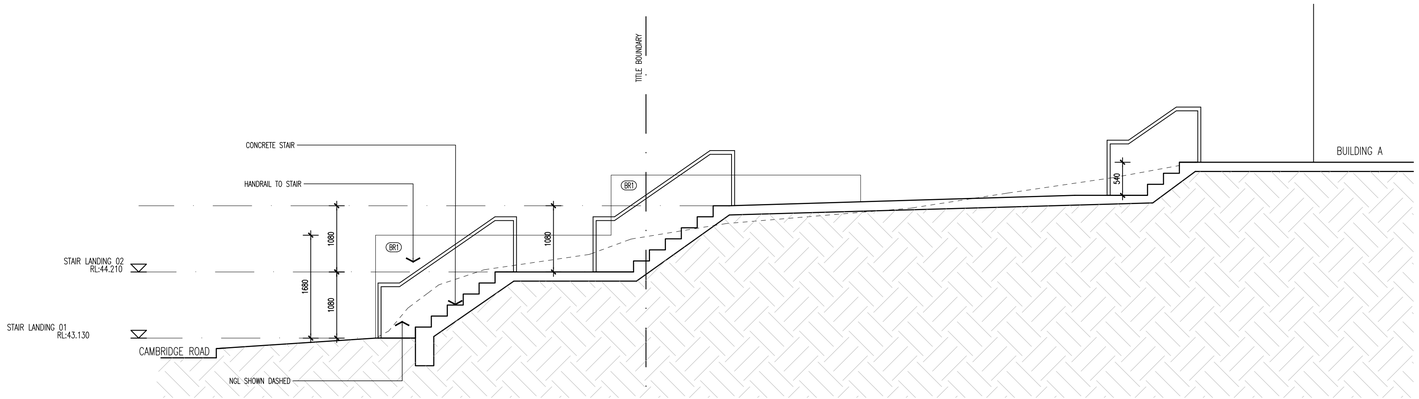
PRELIMINARY NOT FOR CONSTRUCTION



01 SECTION 01
– 1:100@A1

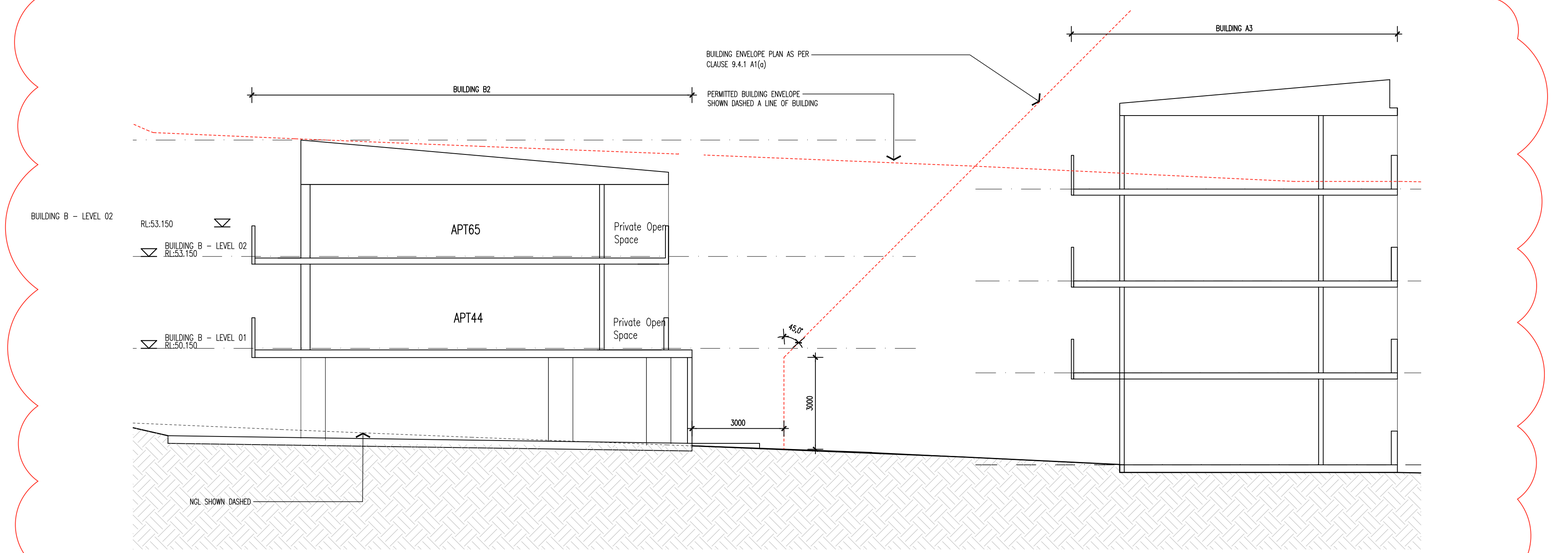


02 SECTION 02
– 1:100@A1

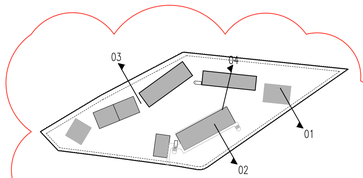


K

03 SECTION 03
– 1:50@A1



04 SECTION 04
– 1:100@A1



KEY PLAN
– 1:2000@A1

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Proprietor: HOMES TASMANIA

Project: 155 CAMBRIDGE ROAD
WARRANE, 7018

Drawing: BOUNDARY SECTIONS
-

Scale: 1:100 & 1:50 @ A1

Revision

G	14/08/2026	ISSUED FOR DRAFT DA REVIEW	RG	DL
H	17/08/2026	ISSUED FOR DRAFT DA CLIENT REVIEW	RG	DL
J	21/08/2026	ISSUED FOR DA SUBMISSION	RG	DL
K	15/10/2026	ISSUED FOR DA RFI 01	RG	DL

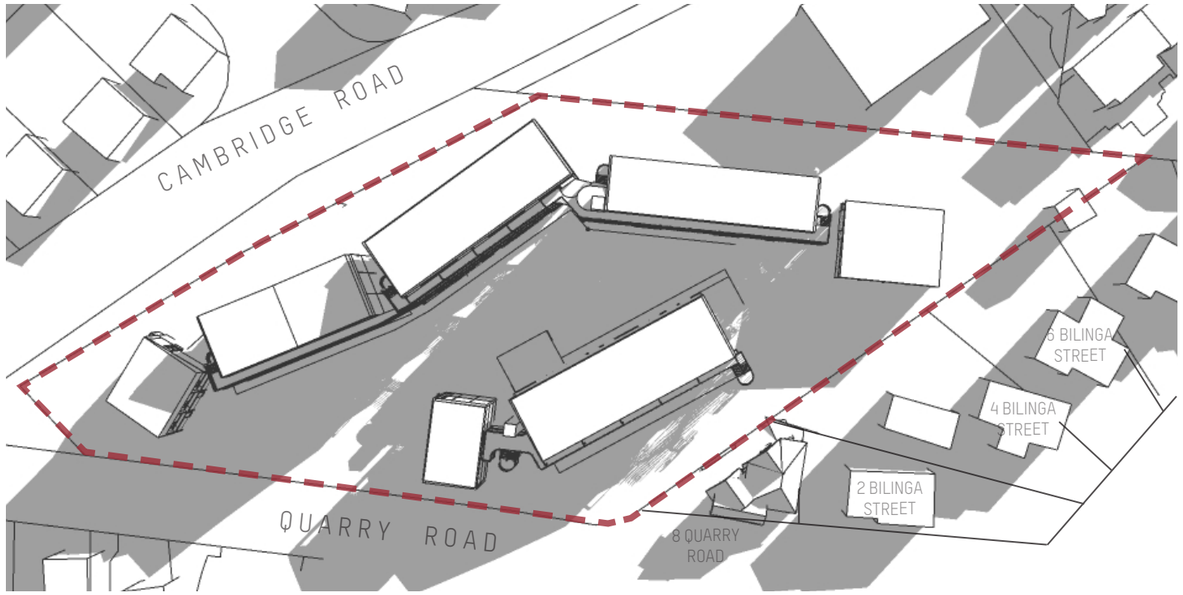
Project No: 26026

Drawing Number: A05-01 rev K

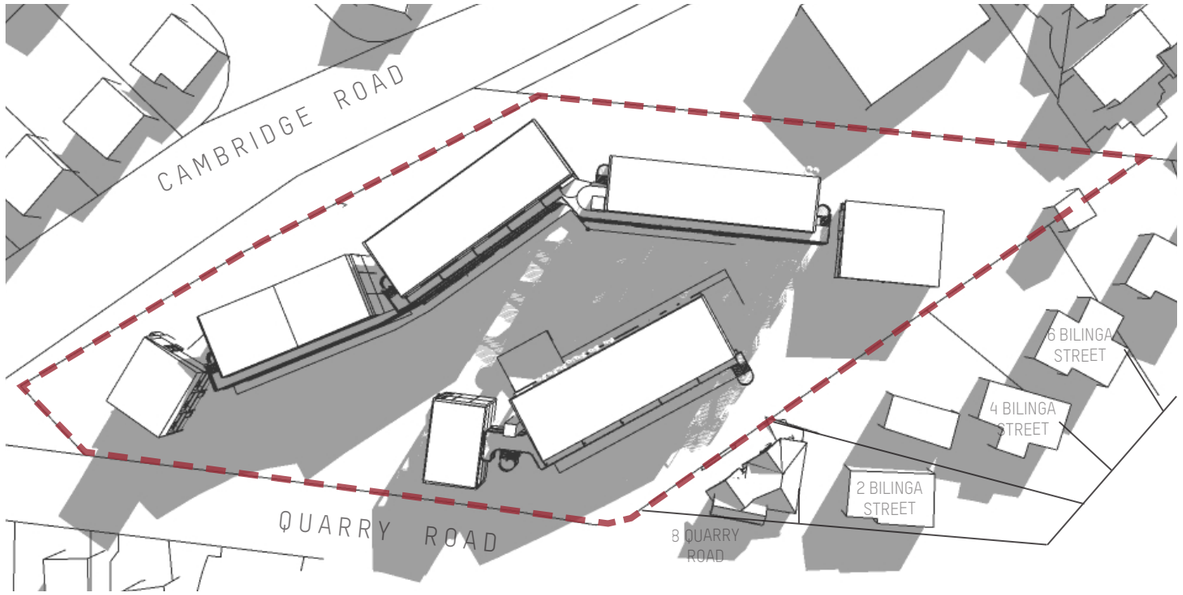
Preston Lane

26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

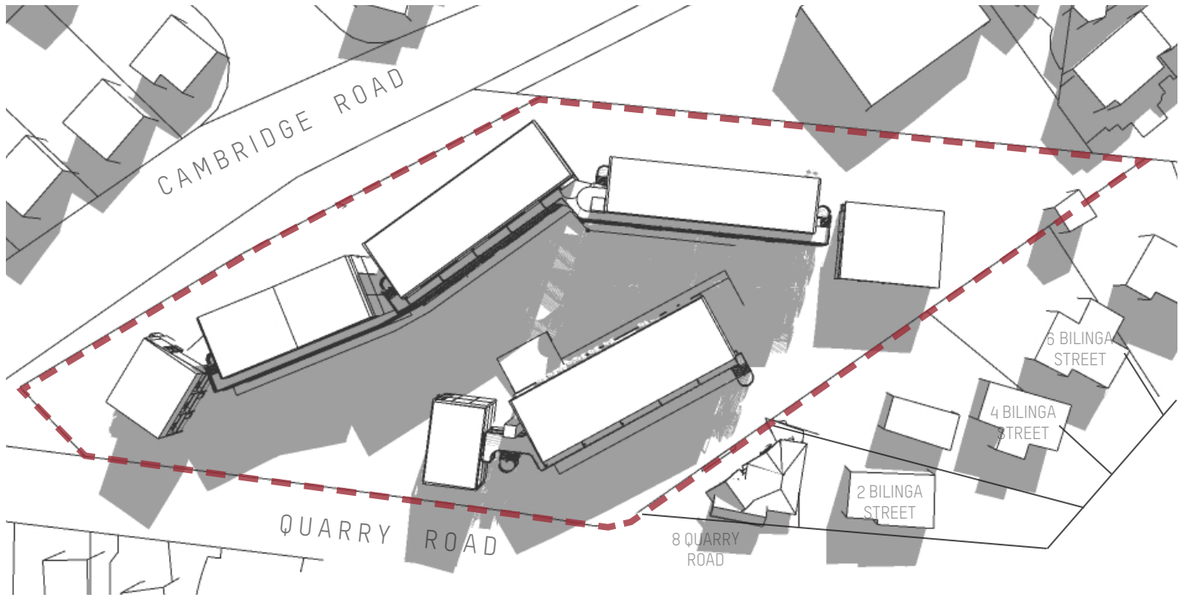
PROPOSED SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026



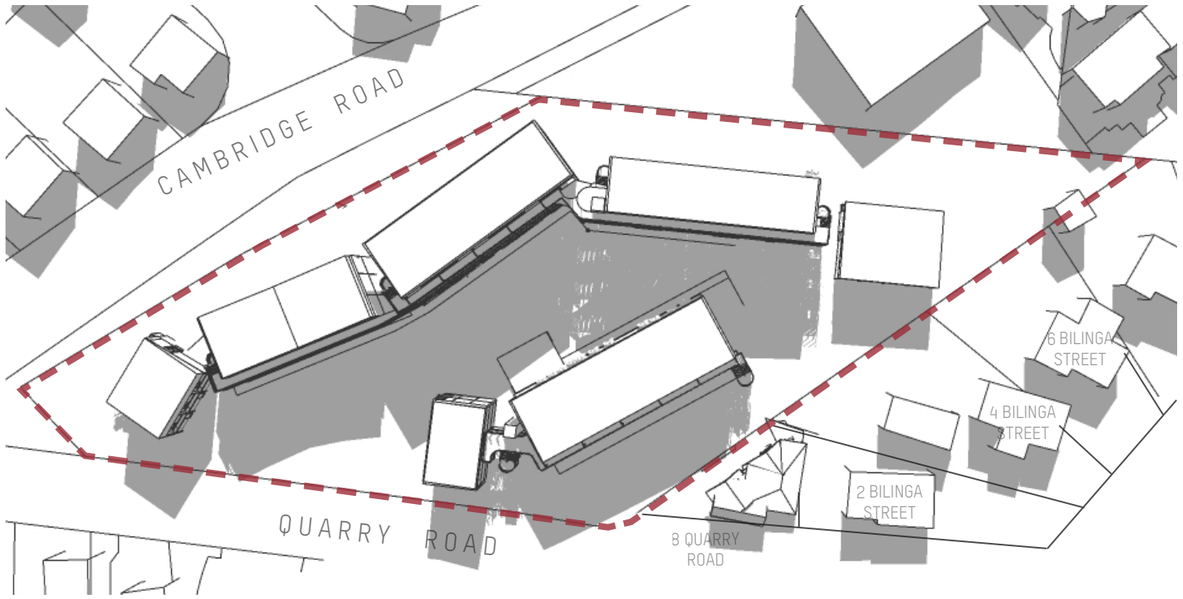
Proposed Condition
June 21st 9am



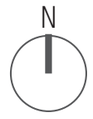
Proposed Condition
June 21st 10am



Proposed Condition
June 21st 11am



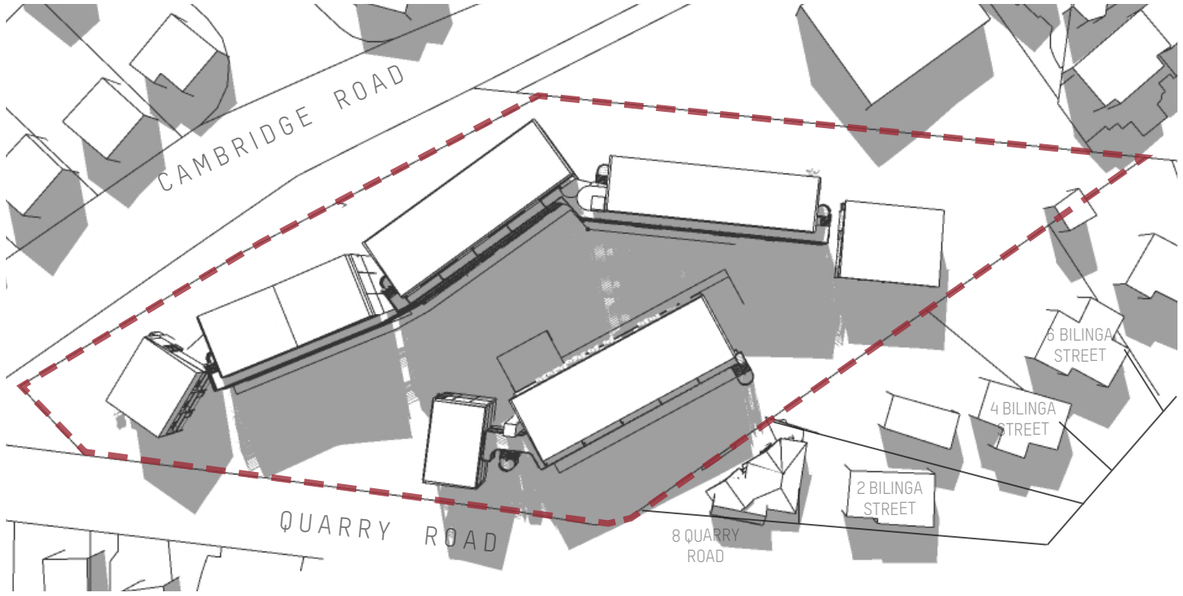
Proposed Condition
June 21st 12 noon



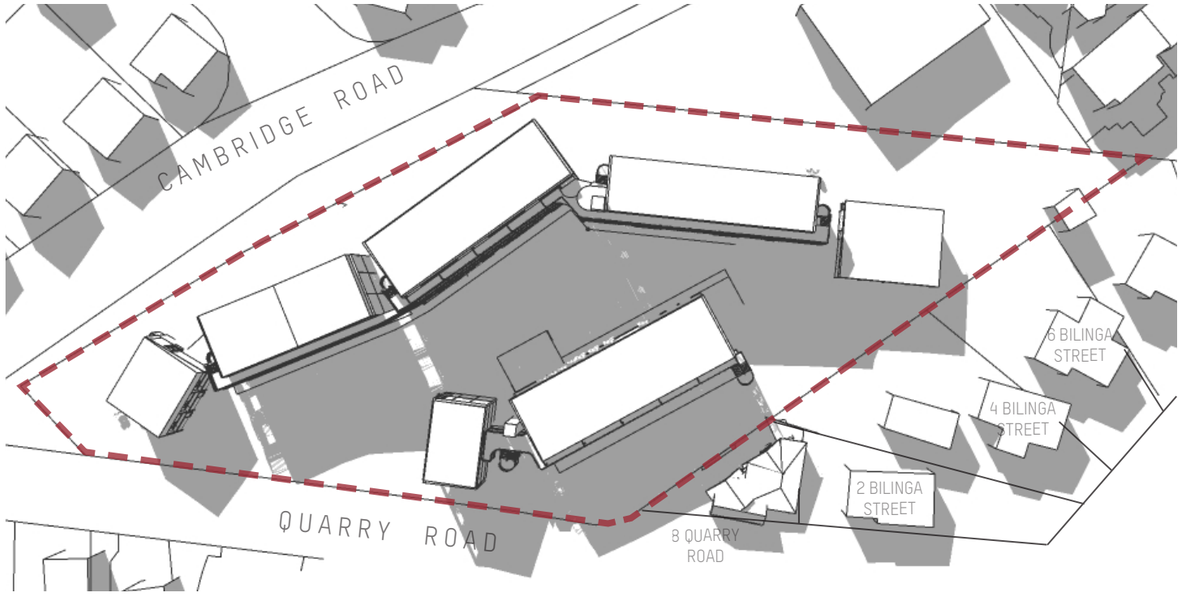
Preston Lane

26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

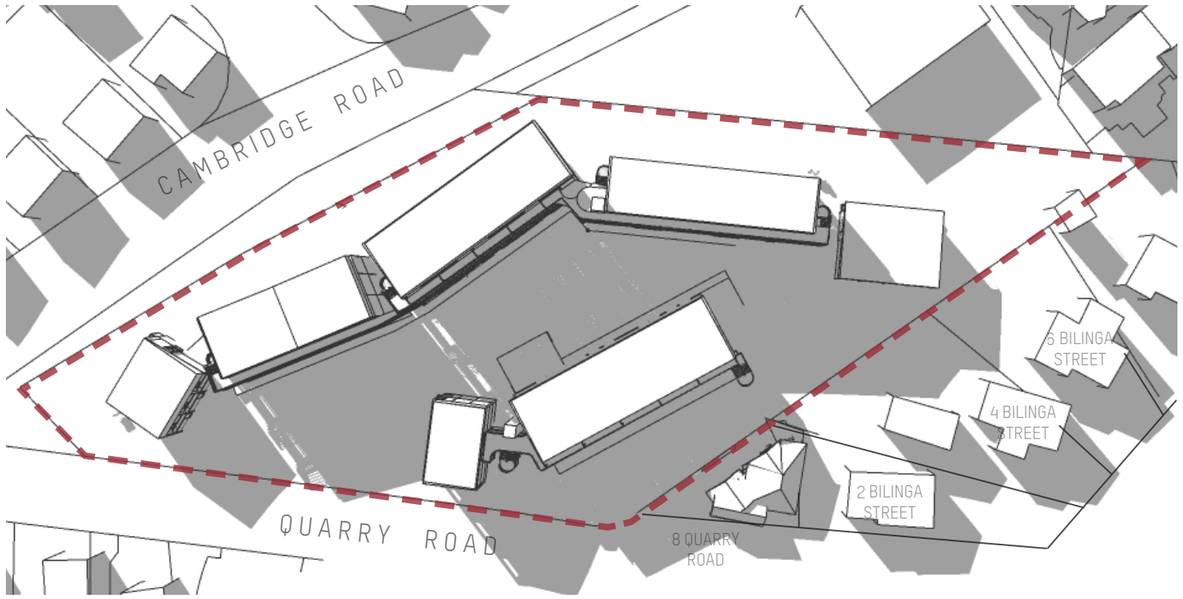
PROPOSED SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026



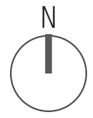
Proposed Condition
June 21st 1pm



Proposed Condition
June 21st 2pm



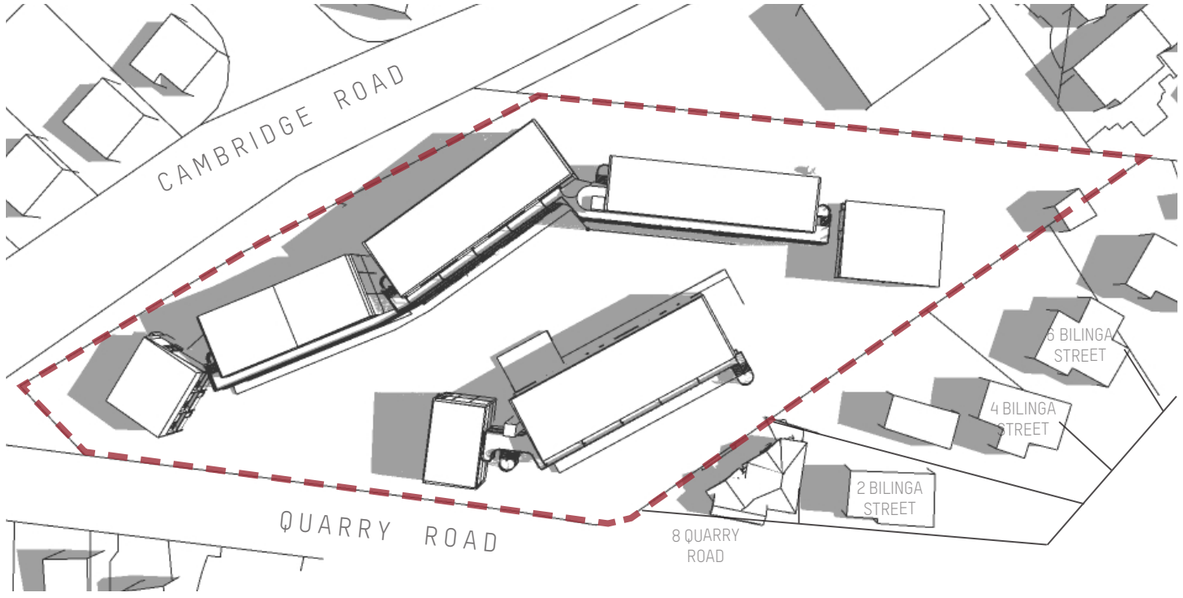
Proposed Condition
June 21st 3pm



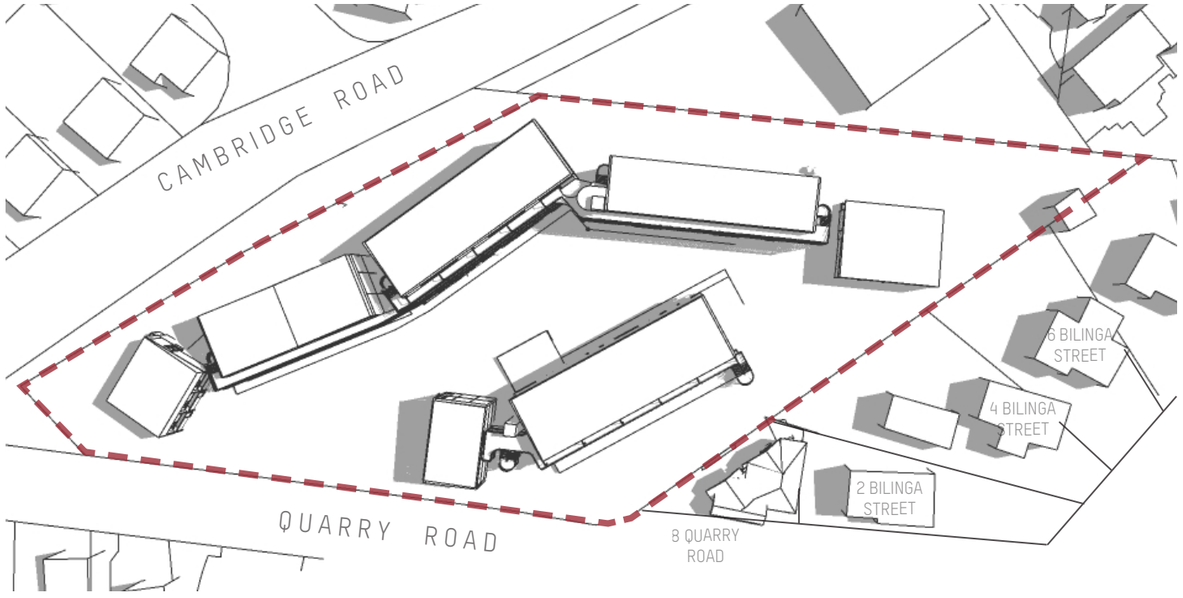
Preston Lane

26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

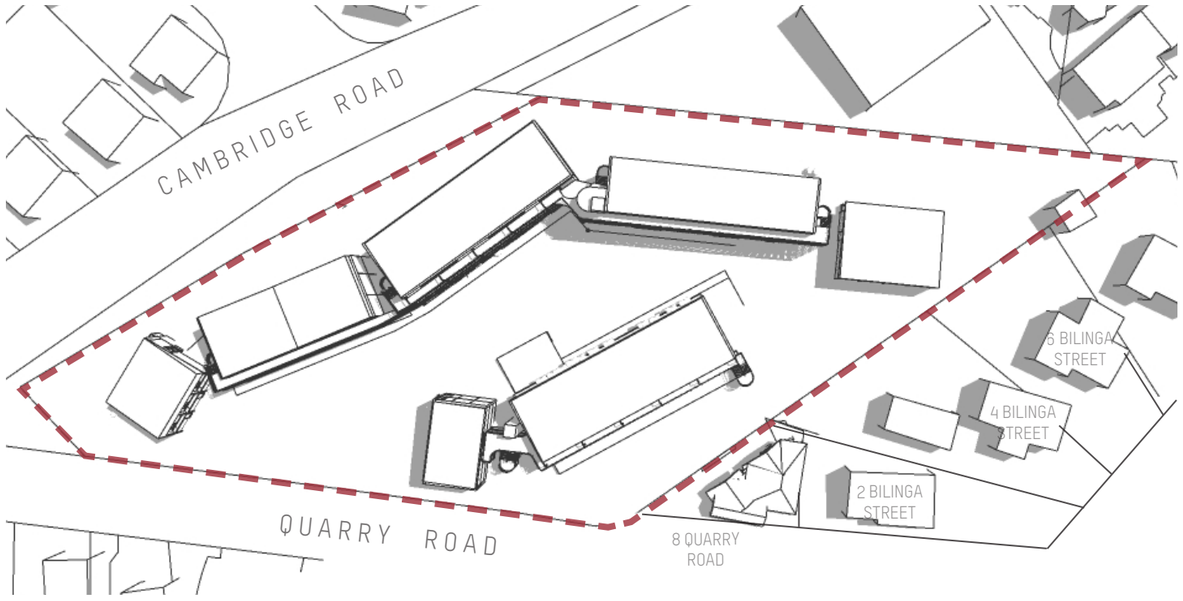
PROPOSED SHADOW DIAGRAMS - SUMMER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026



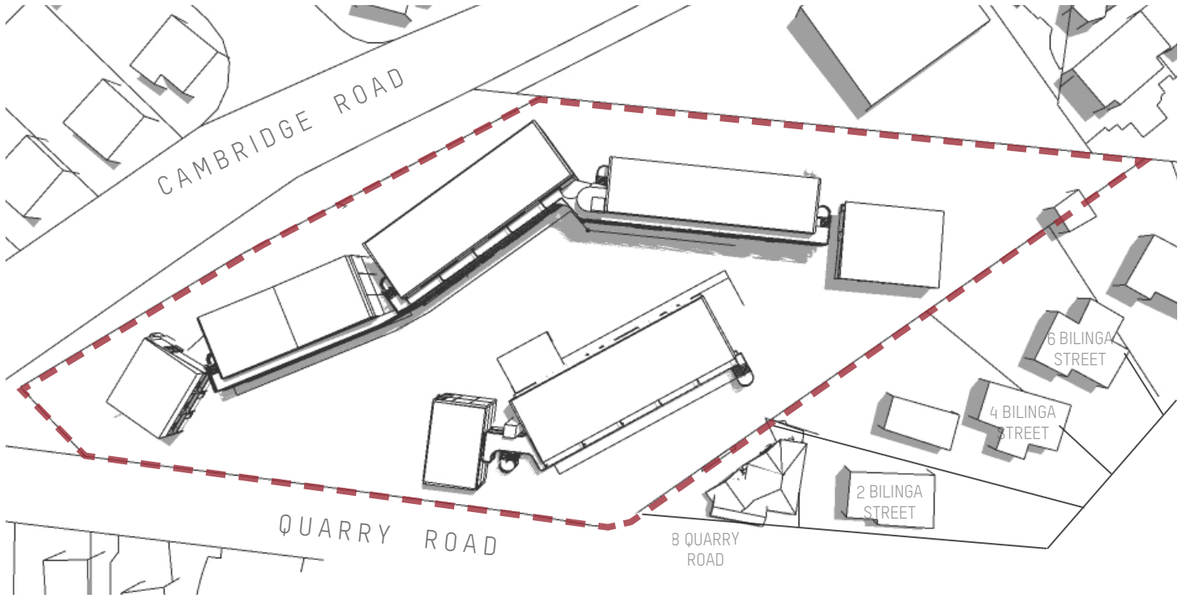
Proposed Condition
December 21st 9am



Proposed Condition
December 21st 10am



Proposed Condition
December 21st 11am



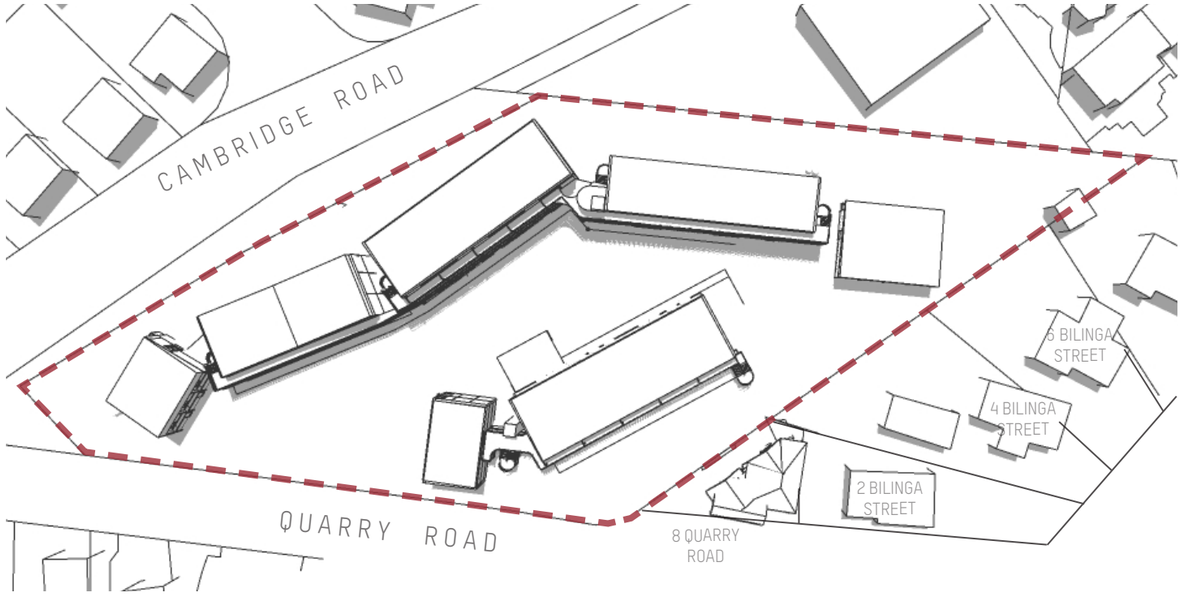
Proposed Condition
December 21st 12 noon

N

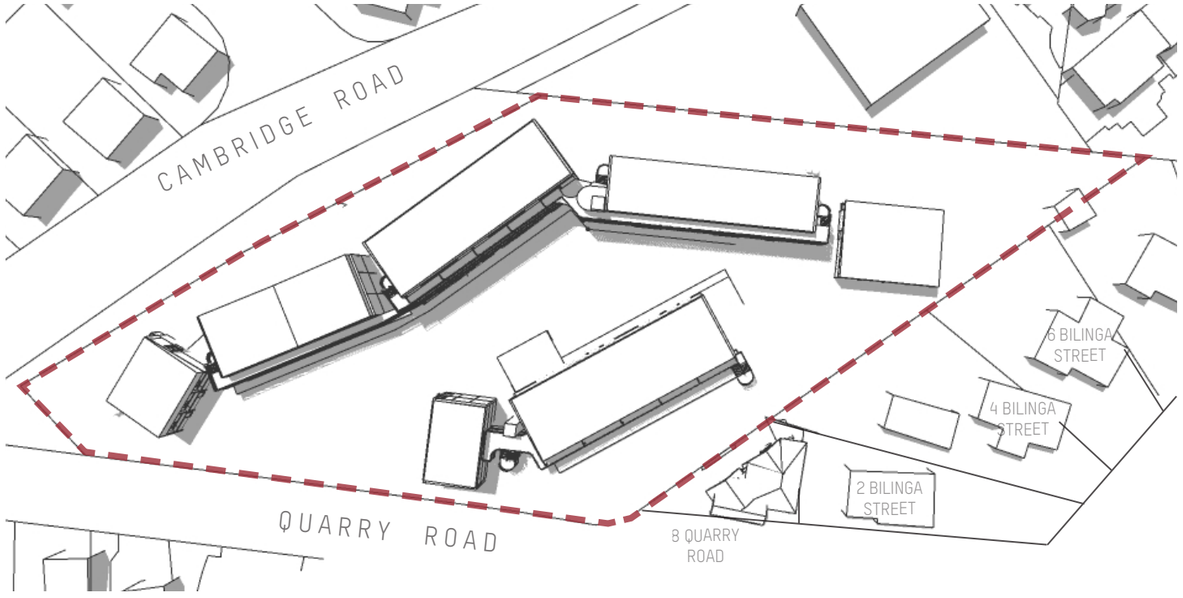
Preston Lane

26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

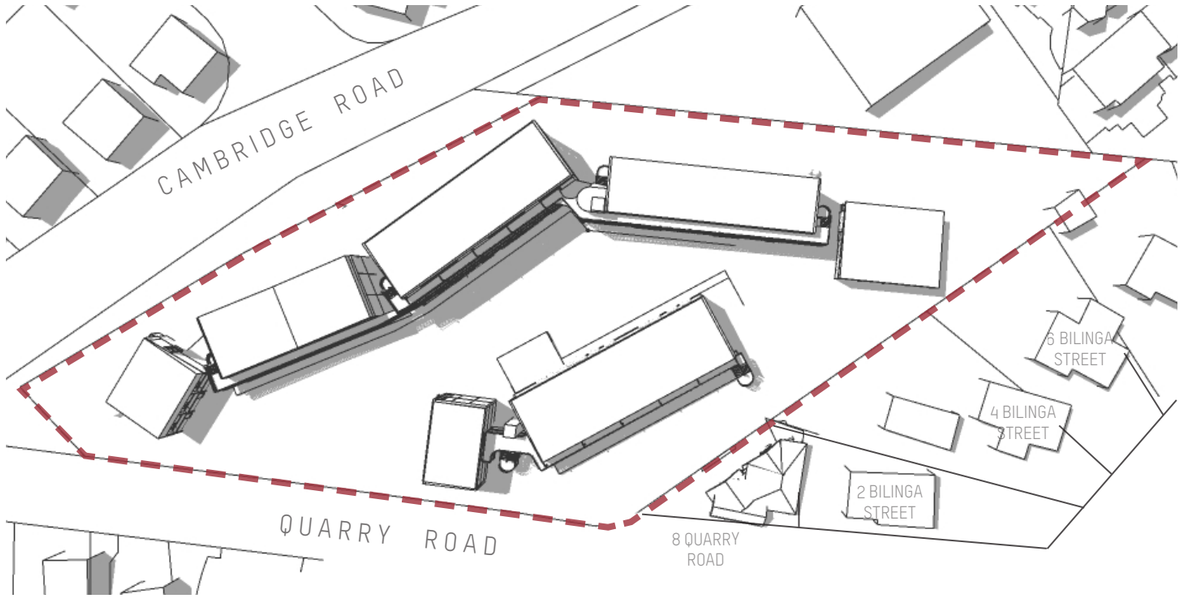
PROPOSED SHADOW DIAGRAMS - SUMMER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026



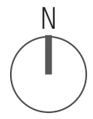
Proposed Condition
December 21st 1pm



Proposed Condition
December 21st 2pm



Proposed Condition
December 21st 3pm

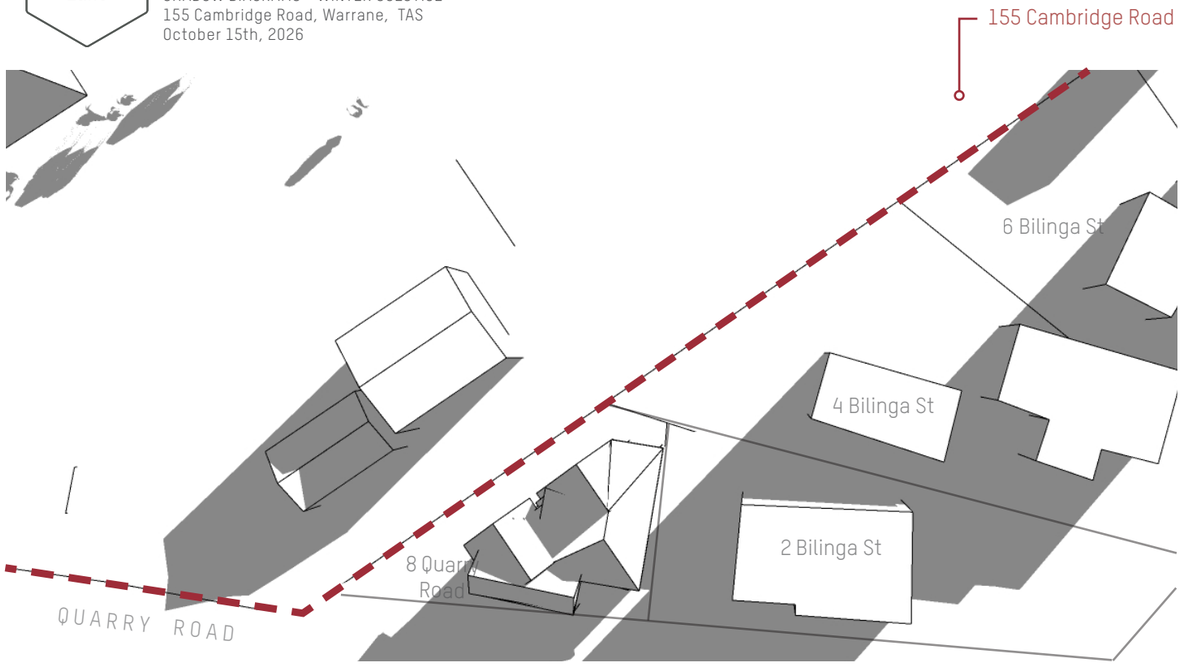


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26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026

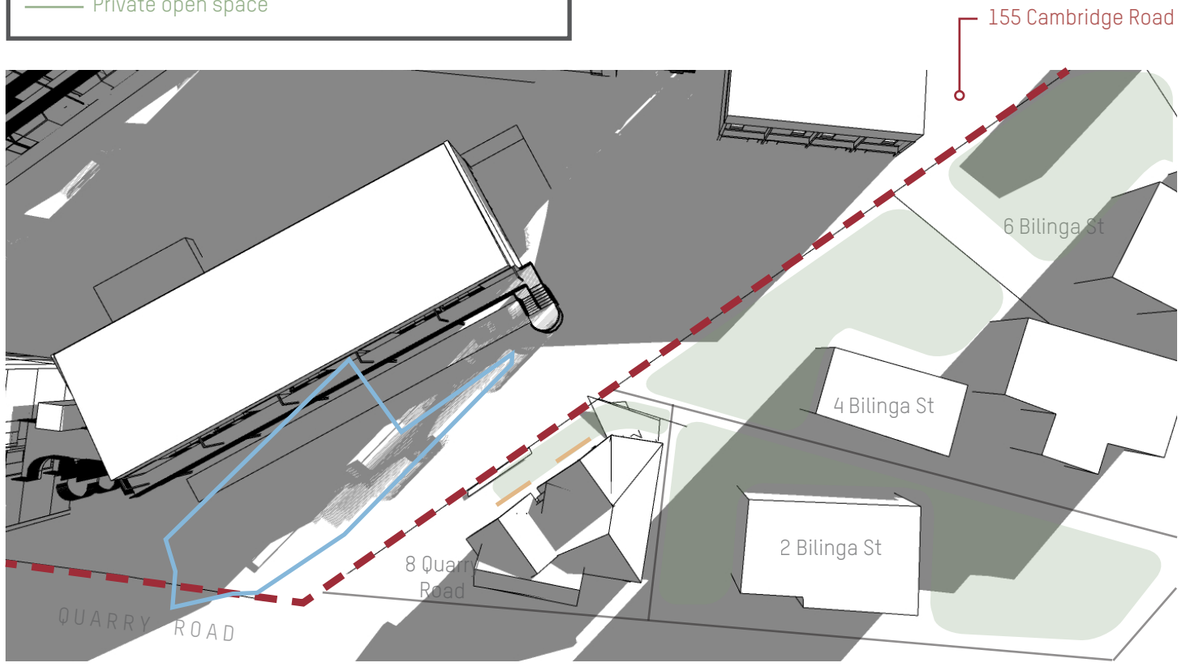
LEGEND
- Outline of existing shadows
- Location of existing habitable windows
- Private open space



Existing Condition
June 21st 9am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

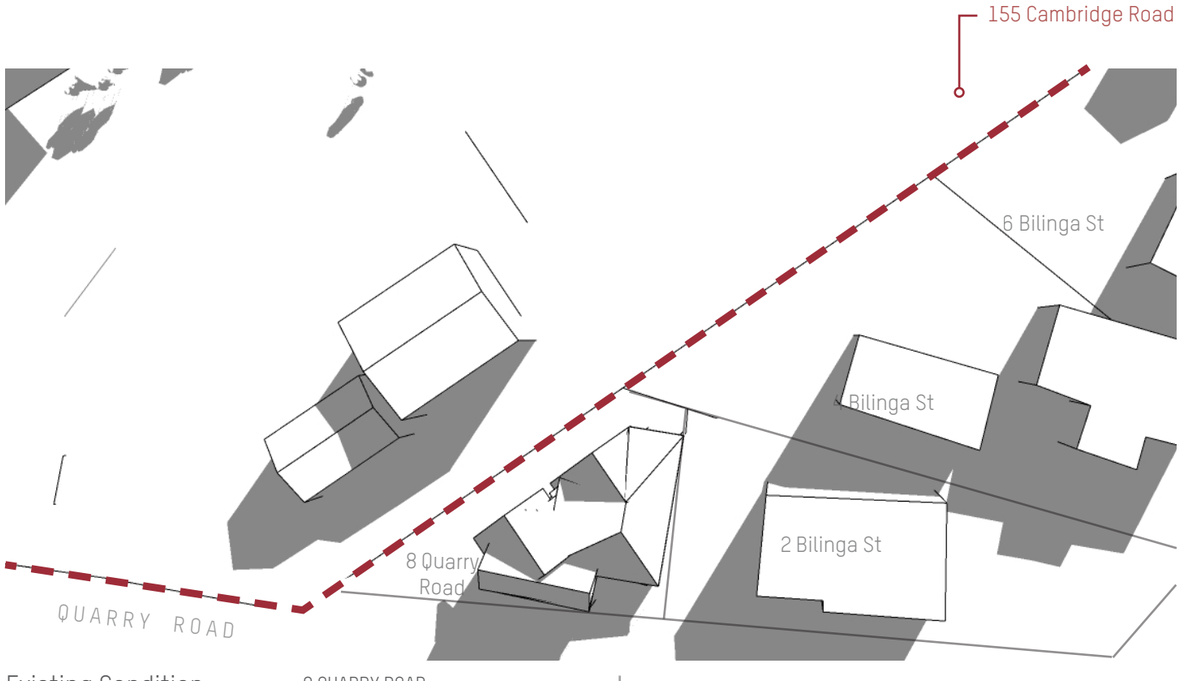
Amount of POS overshadowed: 0%



Proposed Condition
June 21st 9am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

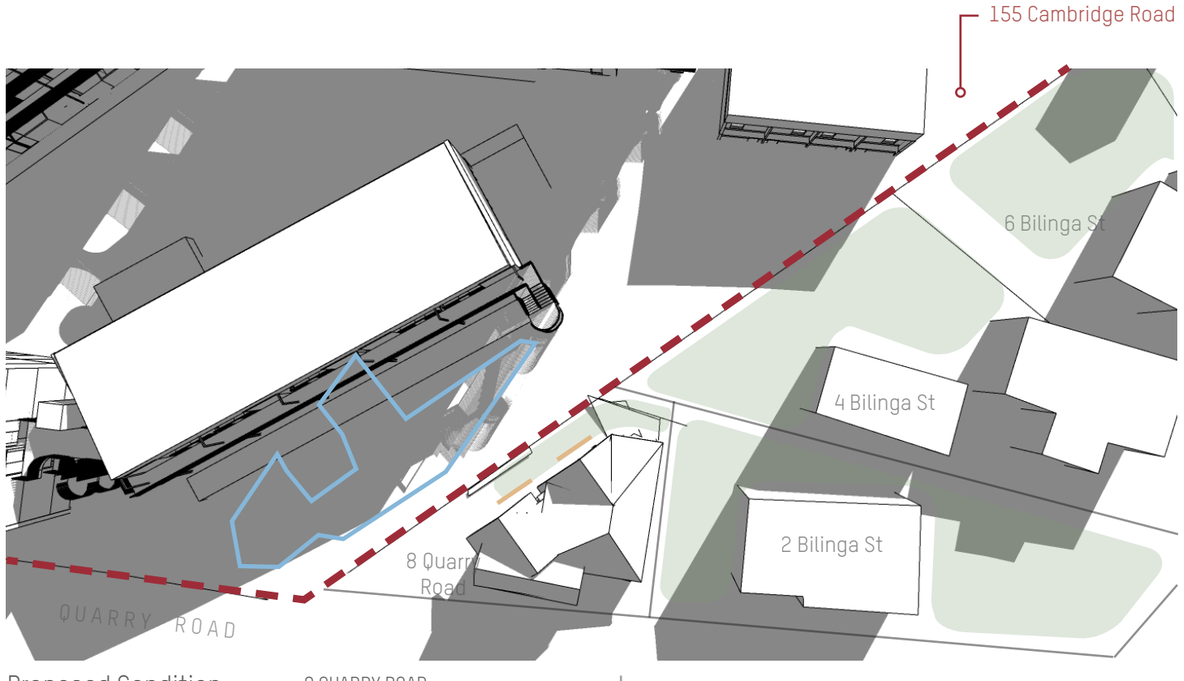
Additional shadow area: 0m2
Amount of POS overshadowed: 0%
Amount increased: 0%



Existing Condition
June 21st 10am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

Amount of POS overshadowed: 0%



Proposed Condition
June 21st 10am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

Additional shadow area: 0m2
Amount of POS overshadowed: 0%
Amount increased: 0%

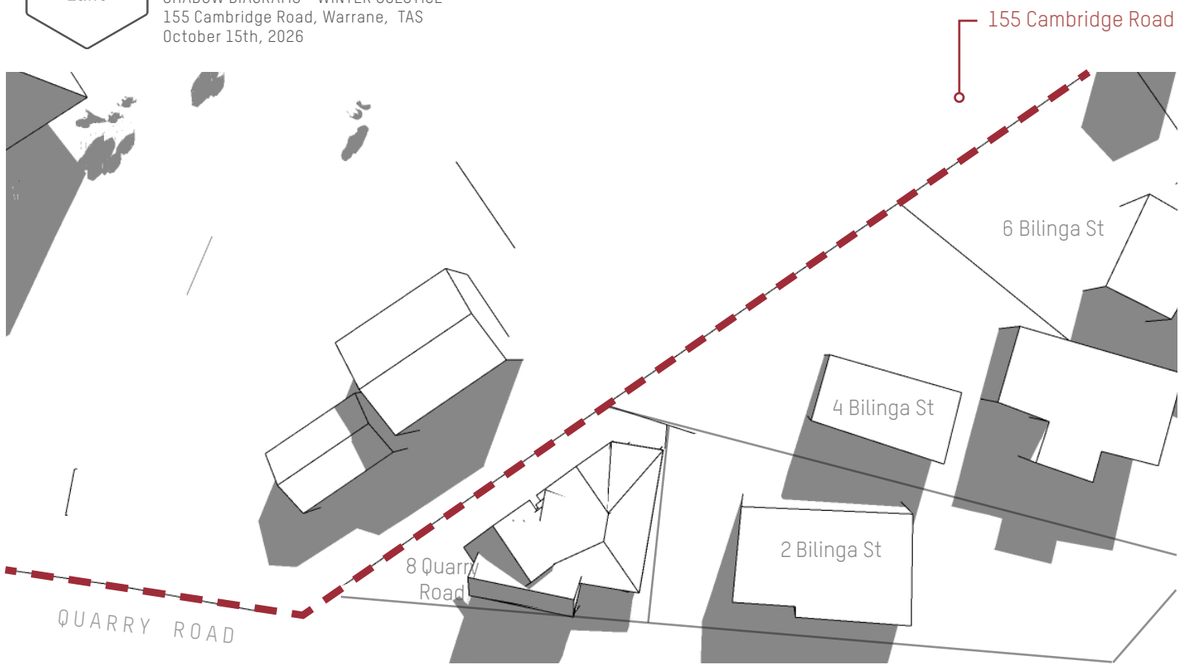
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26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026

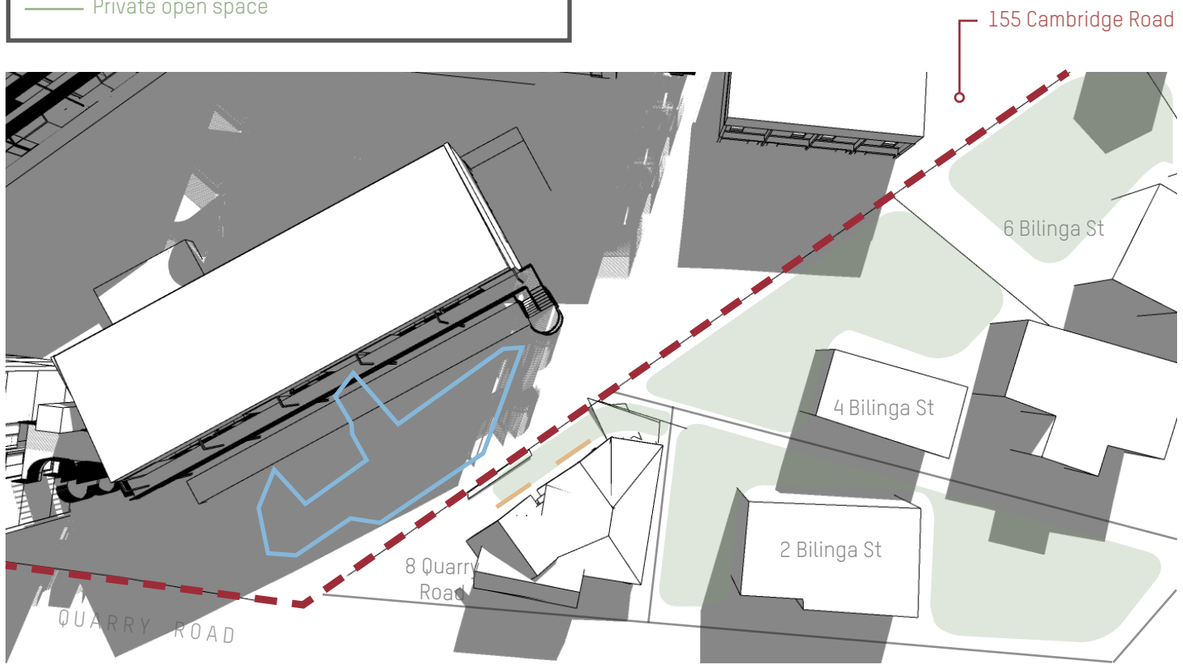
LEGEND
- Outline of existing shadows
- Location of existing habitable windows
- Private open space



Existing Condition
June 21st 11am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

Amount of POS overshadowed: 0%



Proposed Condition
June 21st 11am

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

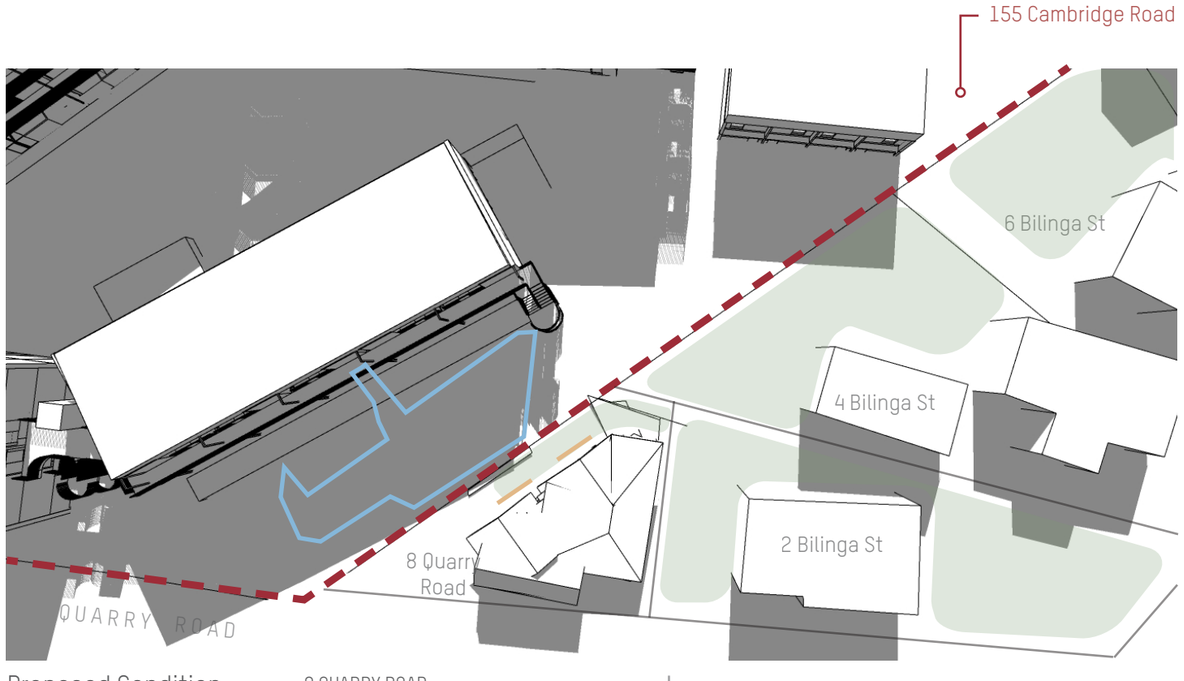
Additional shadow area: 0m2
Amount of POS overshadowed: 0%
Amount increased: 0%



Existing Condition
June 21st 12 noon

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 120m2
POS area overshadowed: 0m2

Amount of POS overshadowed: 0%



Proposed Condition
June 21st 12 noon

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving direct sunlight: 117m2
POS area overshadowed: 3m2

Additional shadow area: 3m2
Amount of POS overshadowed: 2.5%
Amount increased: 2.5%

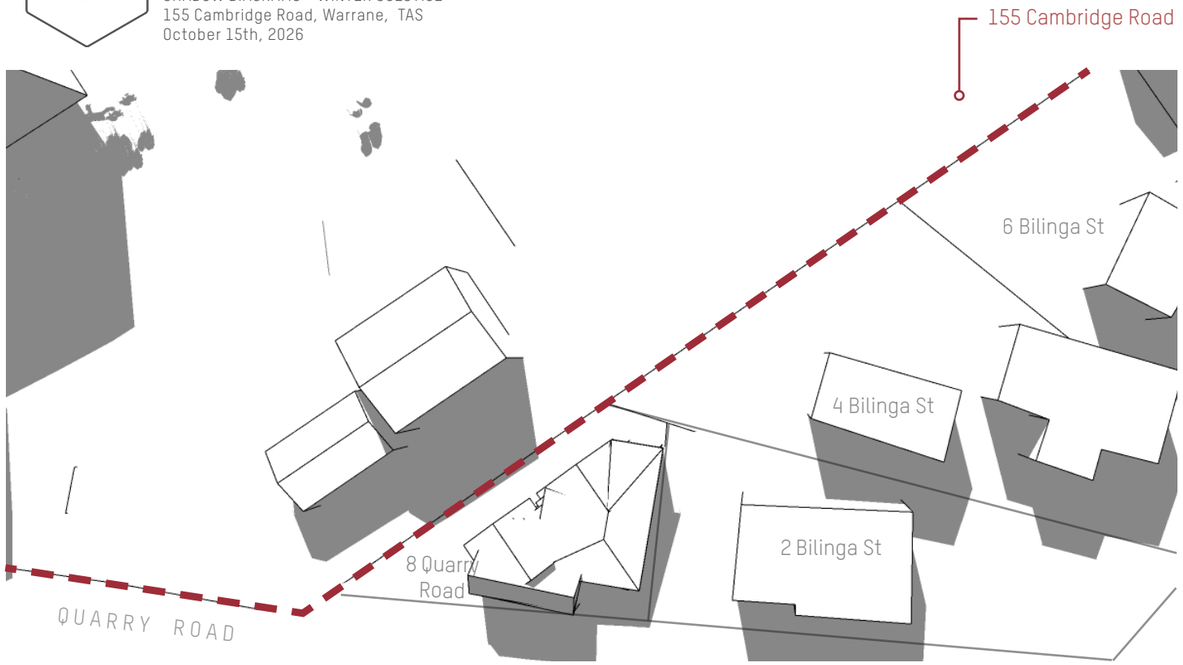
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Preston Lane

26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026

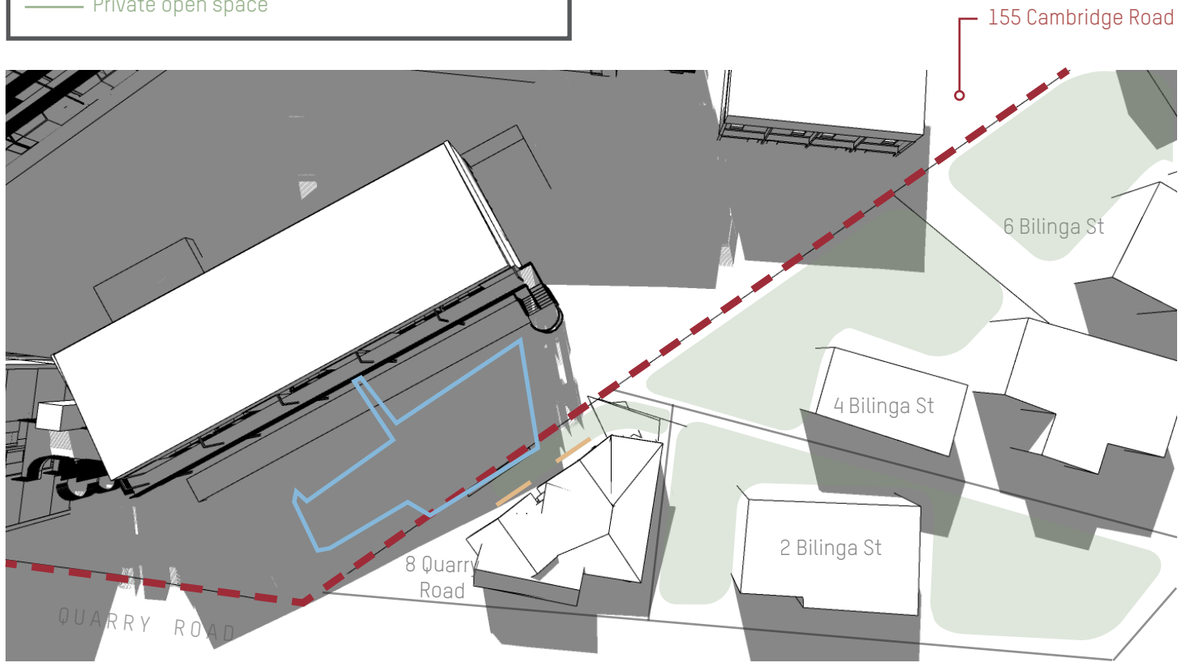
LEGEND
- Outline of existing shadows
- Location of existing habitable windows
- Private open space



Existing Condition
June 21st 1pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 113m2
POS area overshadowed: 7m2

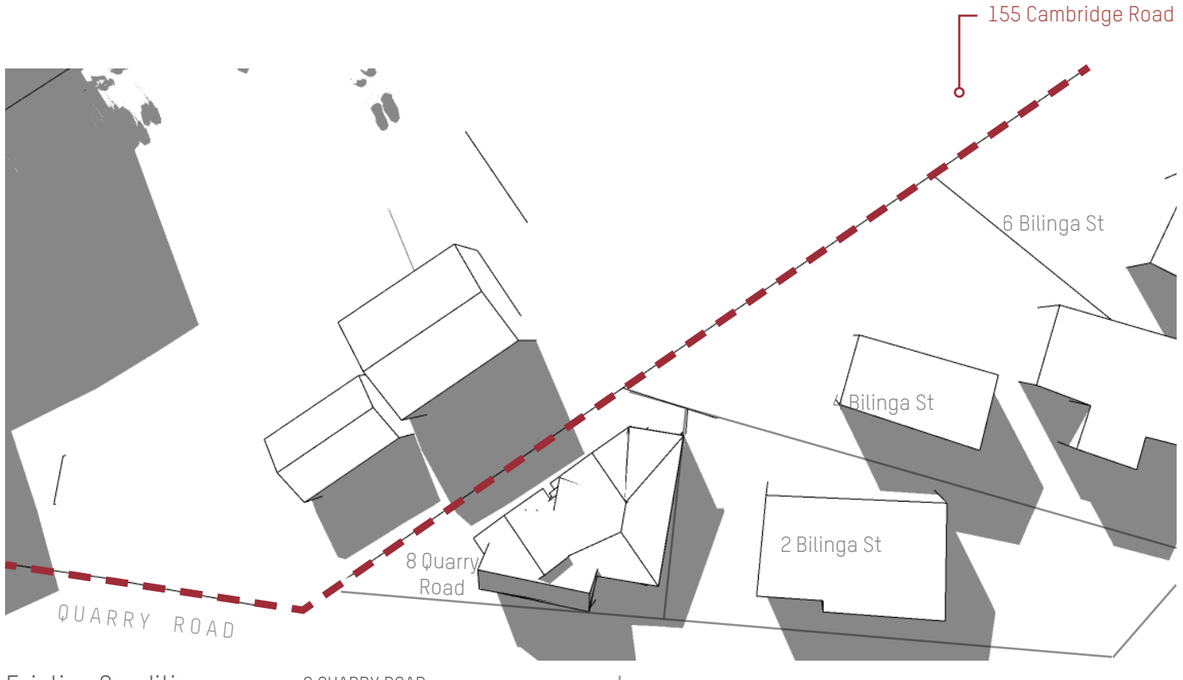
Amount of POS overshadowed: 5.8%



Proposed Condition
June 21st 1pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving direct sunlight: 71m2
POS area overshadowed: 49m2

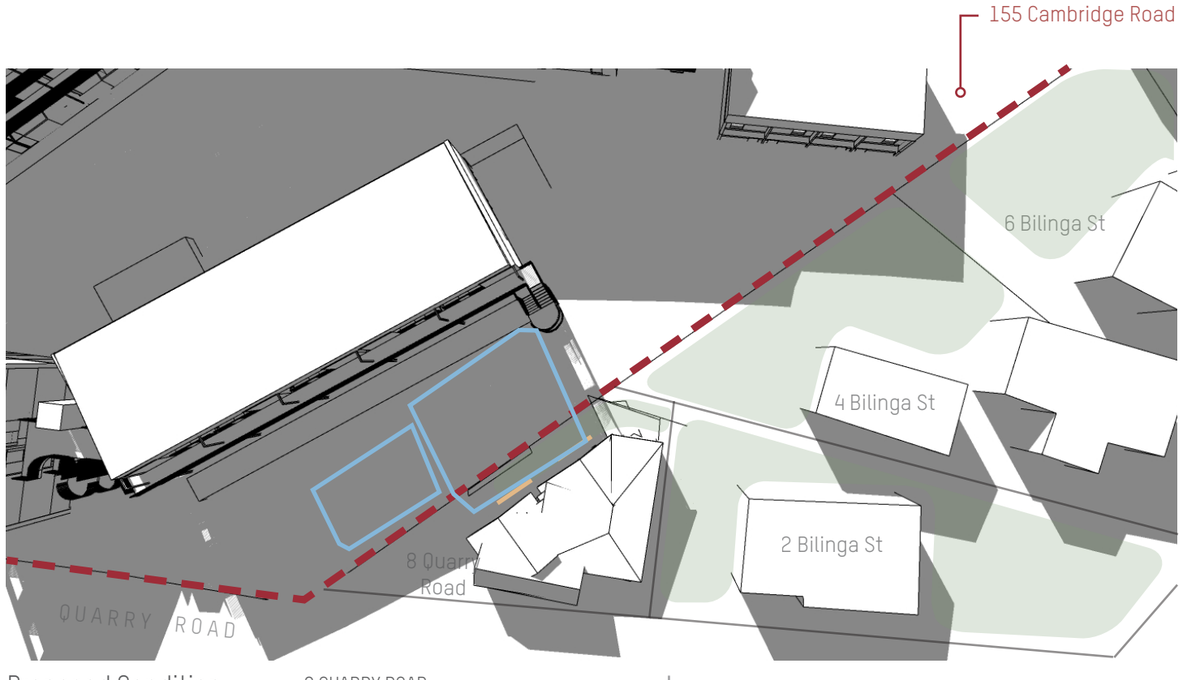
Additional shadow area: 42m2
Amount of POS overshadowed: 40.8%
Amount increased: 35%



Existing Condition
June 21st 2pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 78m2
POS area overshadowed: 51m2

Amount of POS overshadowed: 42.5%



Proposed Condition
June 21st 2pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving direct sunlight: 22m2
POS area overshadowed: 98m2

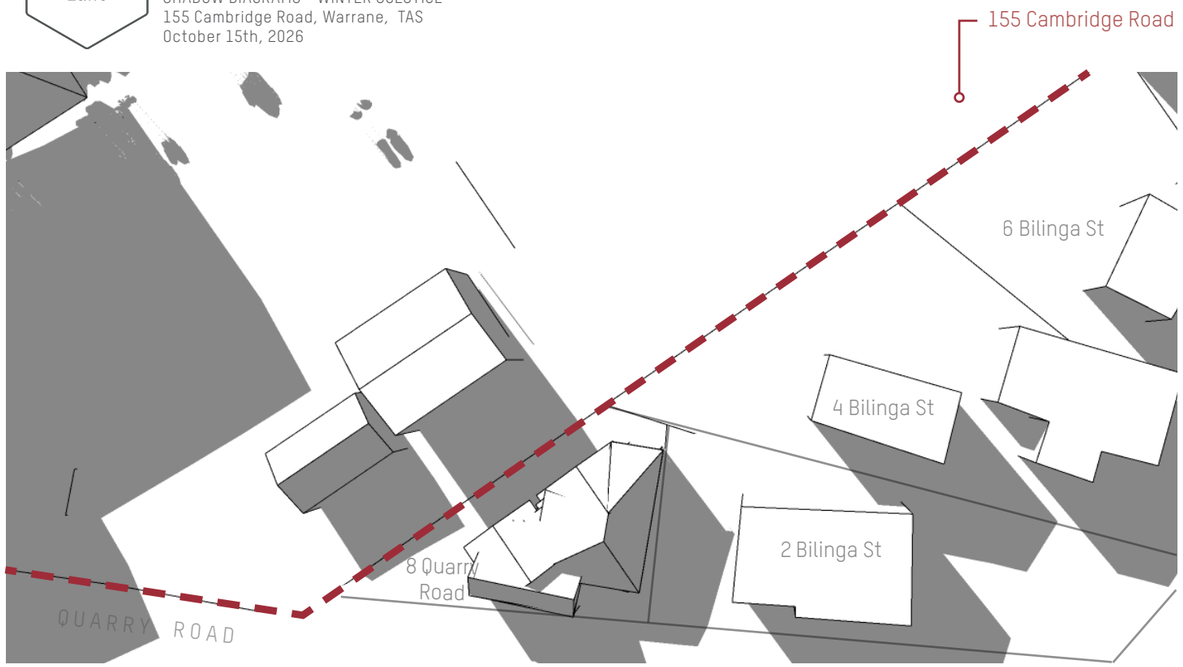
Additional shadow area: 47m2
Amount of POS overshadowed: 81.7%
Amount increased: 39.2%

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26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026

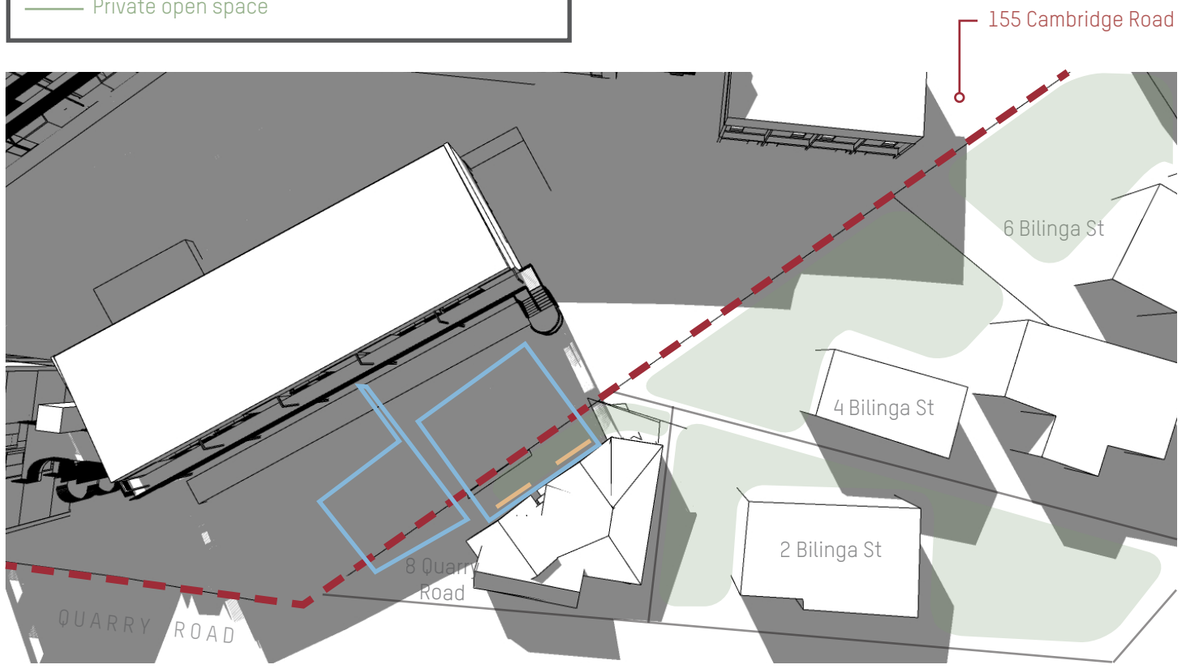


Existing Condition
June 21st 3pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving sunlight: 44m2
POS area overshadowed: 76m2

Amount of POS overshadowed: 63.3%

LEGEND
- Outline of existing shadows
- Location of existing habitable windows
- Private open space



Proposed Condition
June 21st 3pm

8 QUARRY ROAD
Private Open Space Area: 120m2
POS area receiving direct sunlight: 0m2
POS area overshadowed: 120m2

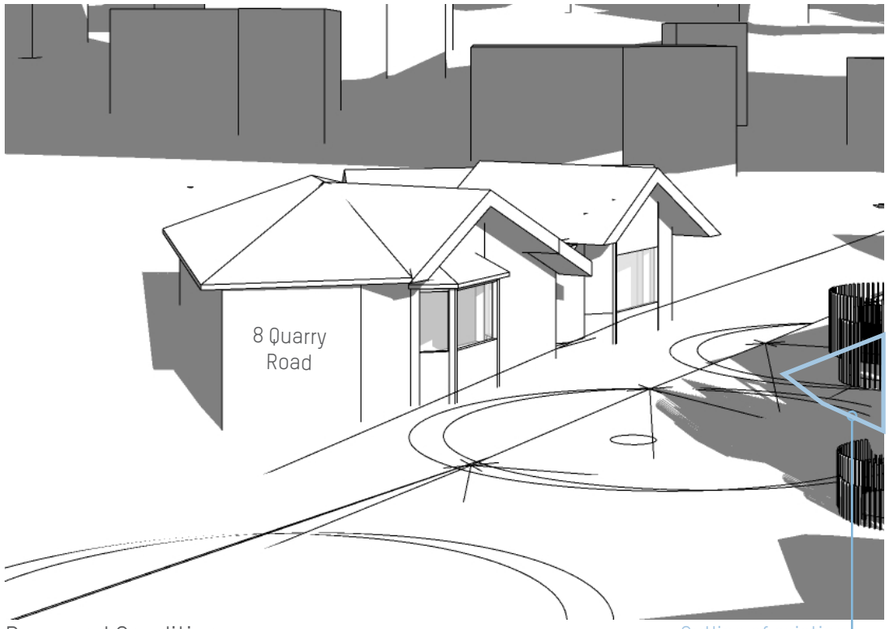
Additional shadow area: 44m2
Amount of POS overshadowed: 100%
Amount increased: 36.7%

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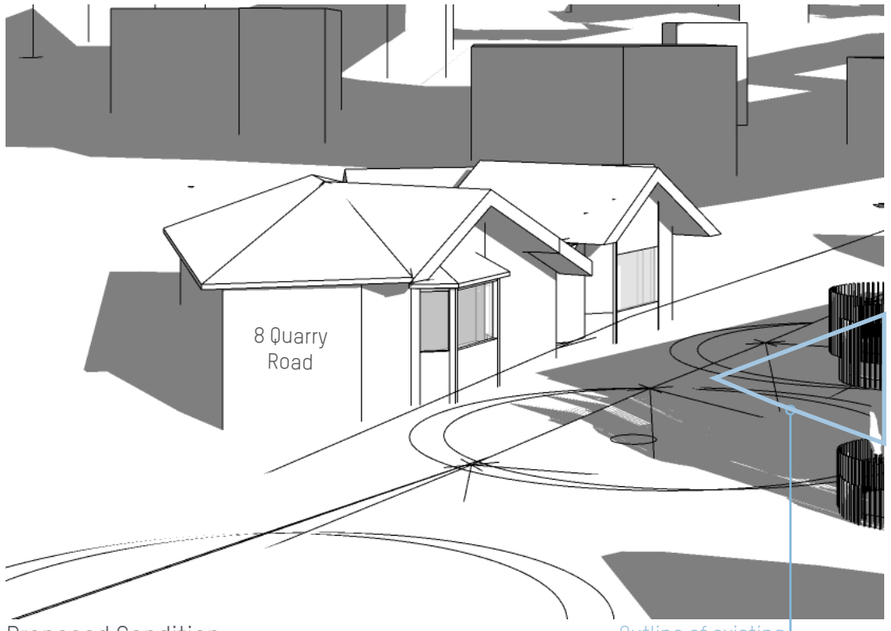
26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

PROPOSED SHADOW DIAGRAMS - WINTER SOLSTICE
155 Cambridge Road, Warrane, TAS
October 15th, 2026



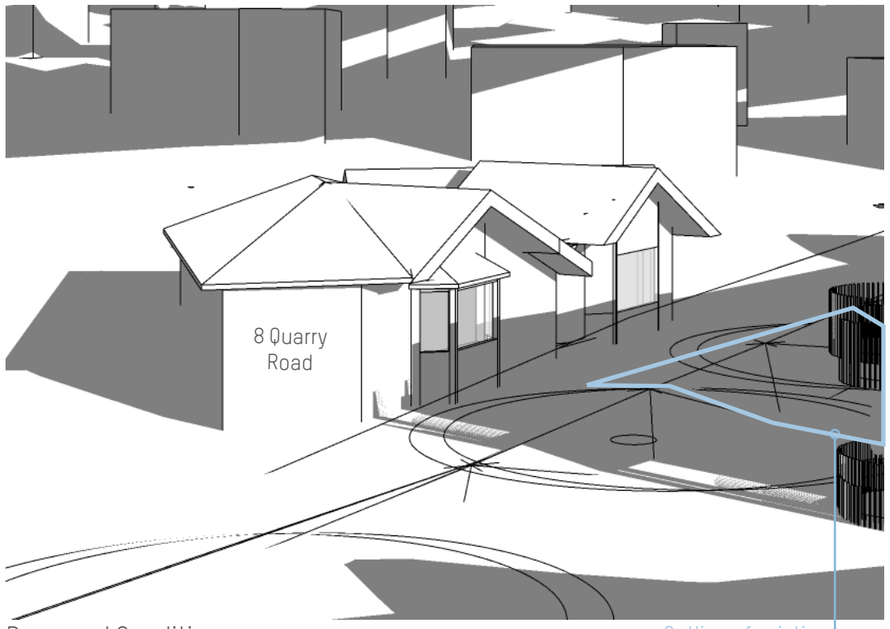
Proposed Condition
June 21st 12 noon

Outline of existing
shadows shown in blue



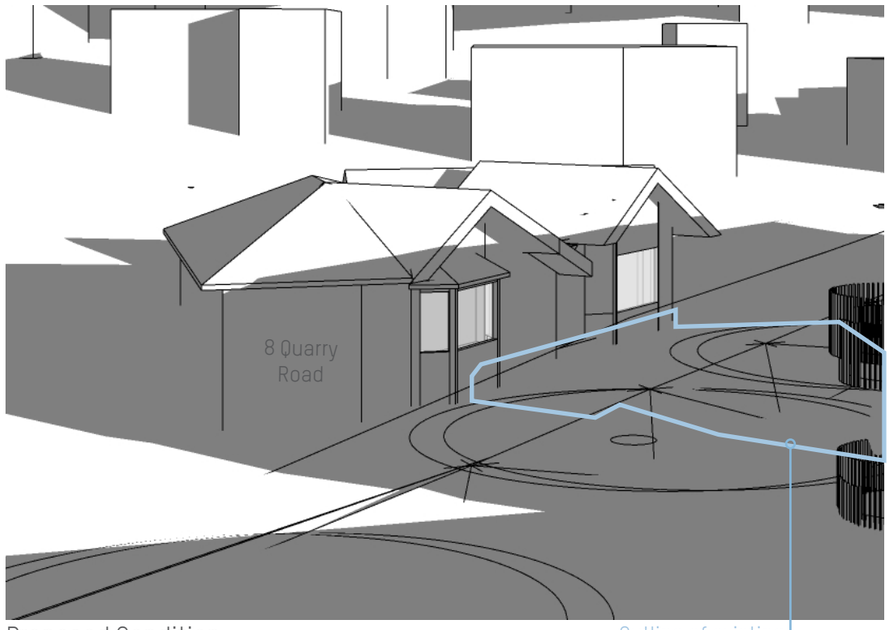
Proposed Condition
June 21st 1pm

Outline of existing
shadows shown in blue



Proposed Condition
June 21st 2pm

Outline of existing
shadows shown in blue



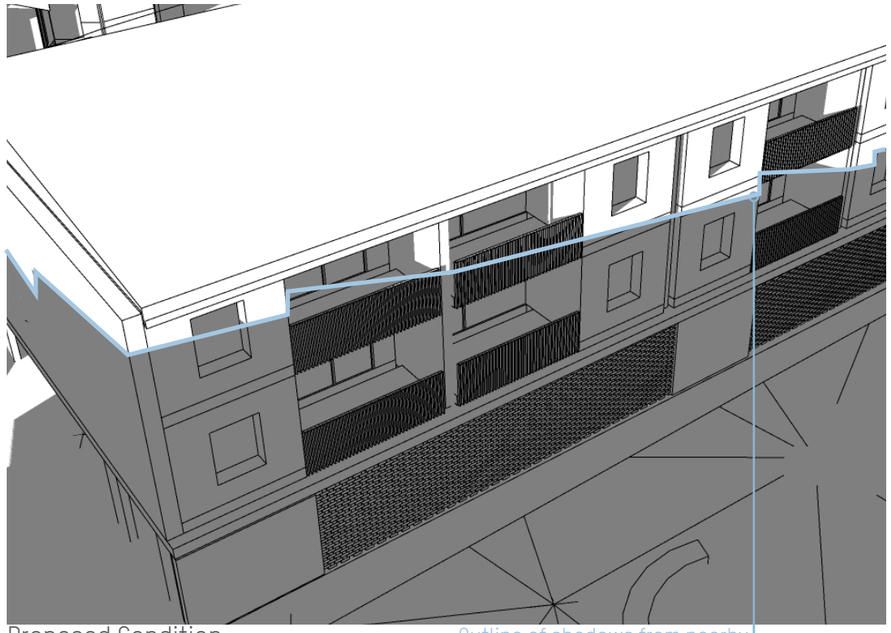
Proposed Condition
June 21st 3pm

Outline of existing
shadows shown in blue

Preston Lane

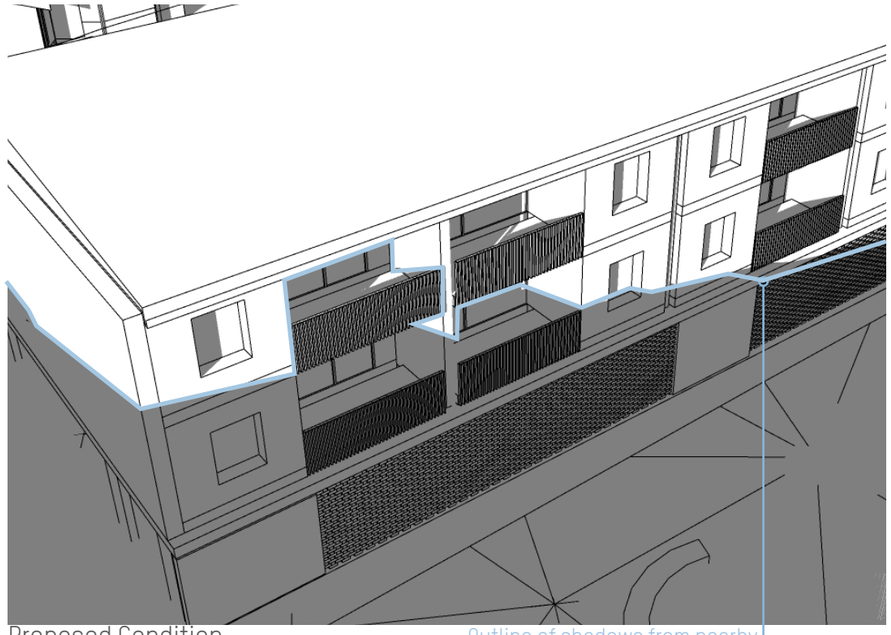
26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

PROPOSED SHADOW DIAGRAMS - BUILDING B2
155 Cambridge Road, Warrane, TAS
October 15th, 2026



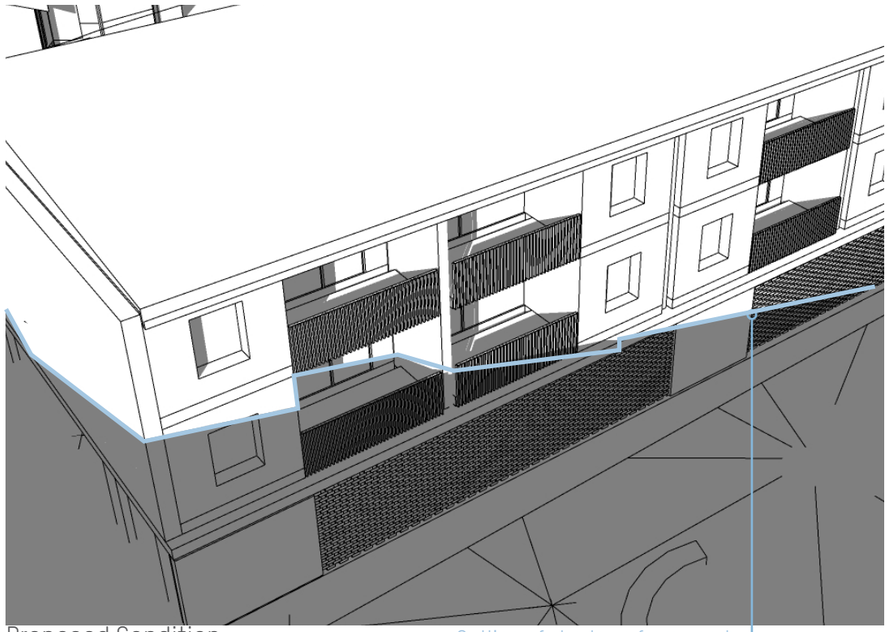
Proposed Condition
June 21st 9am

Outline of shadows from nearby buildings shown in blue



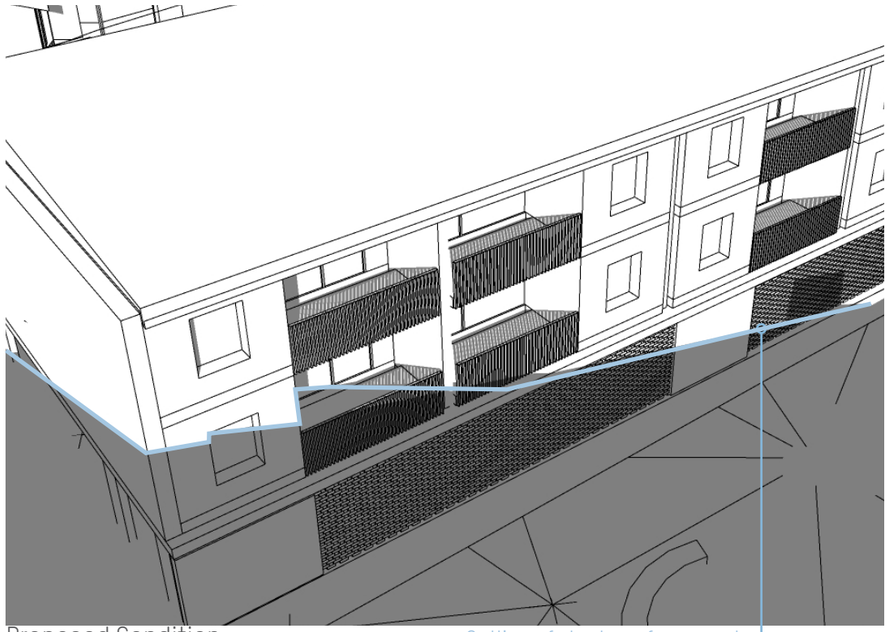
Proposed Condition
June 21st 10am

Outline of shadows from nearby buildings shown in blue



Proposed Condition
June 21st 11am

Outline of shadows from nearby buildings shown in blue



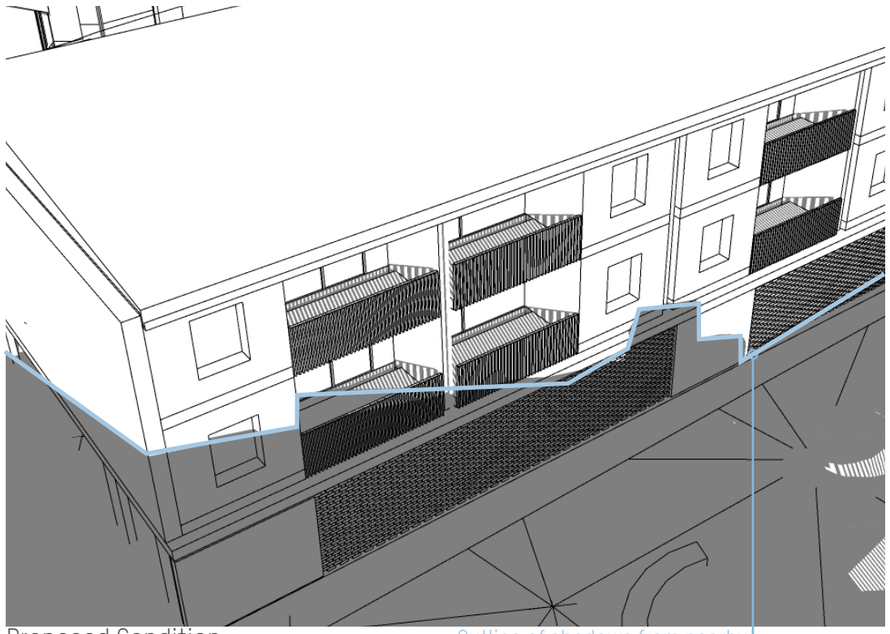
Proposed Condition
June 21st 12noon

Outline of shadows from nearby buildings shown in blue

Preston Lane

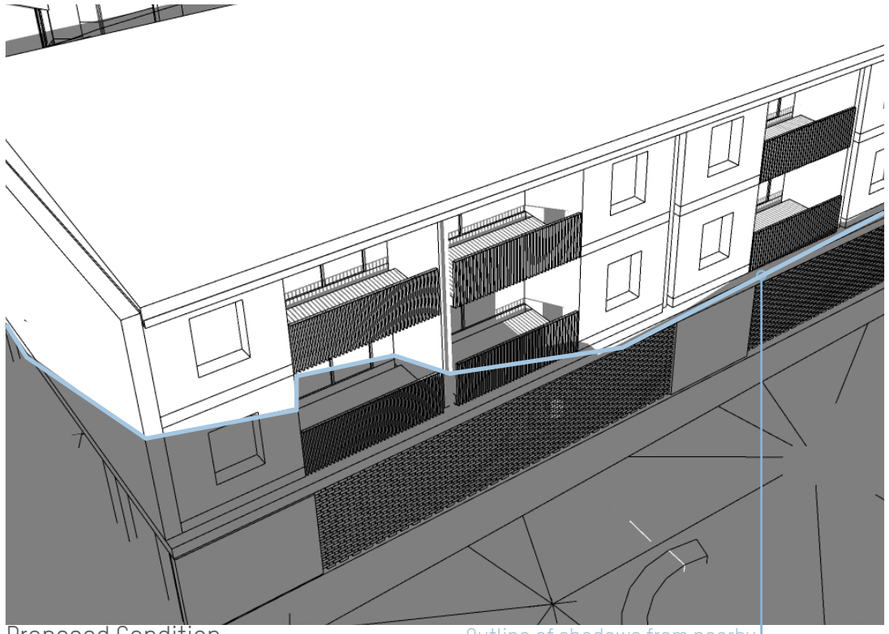
26026 CAMBRIDGE ROAD UNITS
PLANNING PERMIT APPLICATION

PROPOSED SHADOW DIAGRAMS - BUILDING B2
155 Cambridge Road, Warrane, TAS
October 15th, 2026



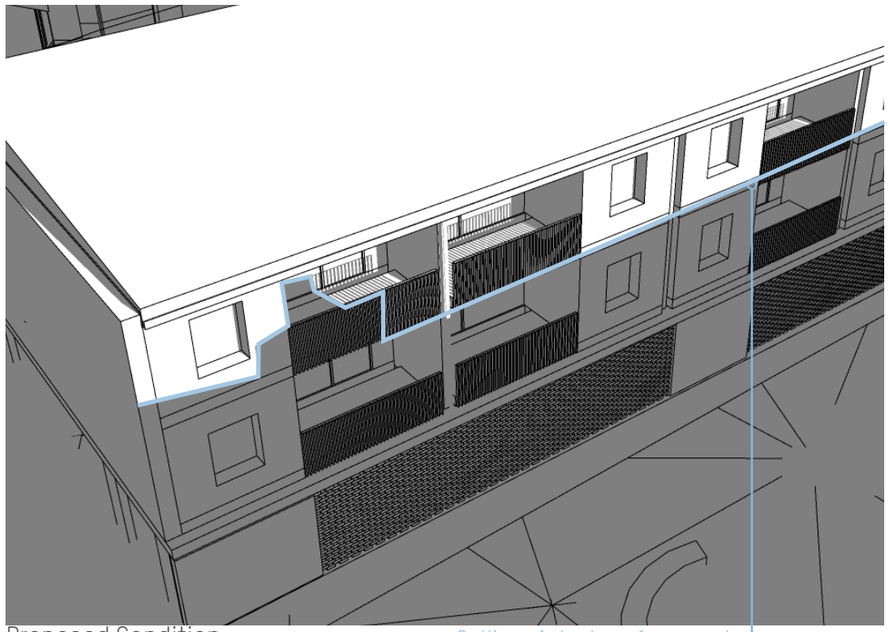
Proposed Condition
June 21st 1pm

Outline of shadows from nearby buildings shown in blue



Proposed Condition
June 21st 2pm

Outline of shadows from nearby buildings shown in blue



Proposed Condition
June 21st 3pm

Outline of shadows from nearby buildings shown in blue

N

0 2.5 5 7.5 10 12.5m
SCALE 1:250

REFER DRG SK01 & SK02 FOR PRE AND POST DEVELOPMENT OVERLAND FLOW PATHS

THIS IS A COLOUR A1 DRAWING AND MUST BE REPRODUCED IN COLOUR AT ALL TIMES

www.byda.com.au DIAL 1100 BEFORE YOU DIG

LEGEND NEW

- NEW PRIVATE STORMWATER PIPEWORK
- NEW PRIVATE STORMWATER OVERSIZED PIPE DETENTION STORAGE
- NEW PRIVATE SEWER PIPEWORK
- NEW TASWATER WATER SUPPLY PIPEWORK
- NEW PRIVATE WATER SERVICE PIPEWORK
- NEW PRIVATE FIRE SERVICE PIPEWORK
- NEW STORMWATER GRATED PIT
- NEW WATER STOP VALVE
- NEW FIRE HYDRANT

LEGEND EXISTING

- EXISTING TASWATER SEWER MAIN
- EXISTING TASWATER WATER MAIN
- EXISTING CCC STORMWATER MAIN
- EXISTING OVERHEAD ELECTRICAL POWER
- PROPERTY BOUNDARY

EXISTING TASWATER FIRE HYDRANT (A243765)

150 CAMBRIDGE ROAD PID: 5161874

EXISTING DN300 STORMWATER MAIN

EXISTING CCC MANHOLE IL: 41.69m

EXISTING DN300 SITE STORMWATER CONNECTION. CONNECTION TO BE REMOVED AND RELAYED FROM COUNCILS EXISTING MANHOLE IN CAMBRIDGE ROAD

NEW GRATED PIT (STORMWATER PROPERTY CONNECTION)

PROPOSED GRATED PIT WITH ORIFICE OUTLET TO LIMIT STORMWATER FLOWS TO 5% AEP PRE-DEVELOPMENT FLOWS IN ACCORDANCE WITH CCC STORMWATER POLICY

157 CAMBRIDGE ROAD PID: 3590894

CUMBERLAND STREET

CAMBRIDGE ROAD

EXISTING DN200 AC WATER MAIN (A246139)

148 CAMBRIDGE ROAD PID: 5161866

EXISTING TASNETWORKS POWER POLE

EXISTING TASNETWORKS POWER POLE STAY WIRE. POTENTIAL RELOCATION OF STAY WIRE TO PROVIDE CLEARANCE FROM PROPOSED STORMWATER PIPEWORK TO BE INVESTIGATED AND COORDINATED WITH TASNETWORKS DURING DETAILED DESIGN

PROPOSED OVERSIZED PIPEWORK TO ACT AS BELOW GROUND STORMWATER DETENTION (VOLUME 15m³)

EXISTING TASWATER FIRE HYDRANT (A243764)

PROPOSED PEDESTRIAN PATH CONNECTION TO EXISTING CLARENCE CITY COUNCIL FOOTPATH

EXISTING SURFACE CONTOUR LABEL (TYPICAL)

PROPERTY BOUNDARY

BUILDING A3 FFL 46.30m

TOWNHOUSE D FFL 46.00m

NEW FIRE SERVICE AND HYDRANTS (F.H.) SHOWN INDICATIVELY ONLY. HOSE COVERAGE AND ASSOCIATED HYDRANT LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN IN CONSULTATION WITH FIRE ENGINEER AND TASFIRE (TYPICAL)

BUILDING A2 FFL 46.30m

F.H.

WASTE ENCLOSURE

BUILDING A1 FFL 46.30m

CAR PARK FFL 47.25m

ALN-Internal Ramp Centreline

CH 0

CH 14

TOWNHOUSE C FFL 45.00m

BUILDING B1 FFL 47.15m

PROPOSED CAR PARK. REFER DRG C02 FOR DETAILS

EXISTING DN150 SEWER PROPERTY CONNECTION TO BE RETAINED IL: 41.32m

EXISTING DN150 SEWER CONNECTION (A345309)

EXISTING TASNETWORKS SUB STATION

NEW FIRE HYDRANT BOOSTER CABINET ADJACENT WATER METER

EXISTING CROSSOVER TO BE REMOVED. REFER DRG C02 FOR DETAILS

PROPOSED PEDESTRIAN PATH CONNECTION TO EXISTING CLARENCE CITY COUNCIL FOOTPATH

EXISTING DN100 FIRE SERVICE TO BE REMOVED AND SEALED TO APPROVAL (BY TASWATER ACCREDITED CONTRACTOR AT DEVELOPERS COST)

PROPOSED PEDESTRIAN PATH CONNECTION TO EXISTING CLARENCE CITY COUNCIL FOOTPATH

PROPOSED CROSSOVER. REFER DRG C02 AND C03 FOR DETAILS

EXISTING DN100 AC WATER MAIN (A250725) (CLARENCE LOW LEVEL PRESSURE ZONE CLW01)

QUARRY ROAD

EXISTING TASWATER FIRE HYDRANT (A243734)

EXISTING DN50 CONNECTION AND WATER METER (ID 14755285) TO BE REMOVED AND SEALED TO APPROVAL AT CONNECTION TO MAIN. METER TO BE RETURNED TO TASWATER (BY TASWATER ACCREDITED CONTRACTOR AT DEVELOPERS COST)

PROPOSED DN100 FIRE AND DOMESTIC WATER SERVICE ABOVE GROUND LOW HAZARD WATER METER ASSEMBLY TO TASWATER SPECIFICATION. DOMESTIC WATER SERVICE SIZE TO BE CONFIRMED DURING DETAILED DESIGN FOLLOWING CONFIRMATION OF BOUNDARY SUPPLY PRESSURE

TASWATER PROPOSED DN100 WATER INTERCONNECTION BETWEEN EXISTING DN100 AC TASWATER WATER MAIN (A250725) AND 419 MSCL TASWATER WATER MAIN (A261353). ARRANGEMENT SHOWN IS CONCEPT AND DIAGRAMMATIC ONLY AND IS AND SUBJECT TO FURTHER ASSESSMENT AND CONFIRMATION BY TASWATER. WORKS TO BE UNDERTAKEN BY A TASWATER ACCREDITED CONTRACTOR AT THE DEVELOPER'S COST

EXISTING TASWATER FIRE HYDRANT (A244108)

8 BILINGA STREET PID: 5158069

6 BILINGA STREET PID: 5158050

4 BILINGA STREET PID: 5158042

2 BILINGA STREET PID: 7856135

8 QUARRY ROAD PID: 7856143

EXISTING 419 MSCL WATER MAIN (A261360)

EXISTING DN150 SEWER MAIN

NOT FOR CONSTRUCTION

REV	DATE	REMARK
DA2	19/08/2026	REVISED DA ISSUE
DA1	17/08/2026	DEVELOPMENT APPLICATION

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL

This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.

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PROJECT
HOMES TASMANIA
155 CAMBRIDGE ROAD
WARRANE, 7018

TITLE
CIVIL SERVICES
GENERAL ARRANGEMENT

Accepted ADS (Discipline Head)		Date 20/8/2026
Accepted BHL (Team Leader)		Date 20/8/2026
Approved CJM (Principal)		Date 20/8/2026

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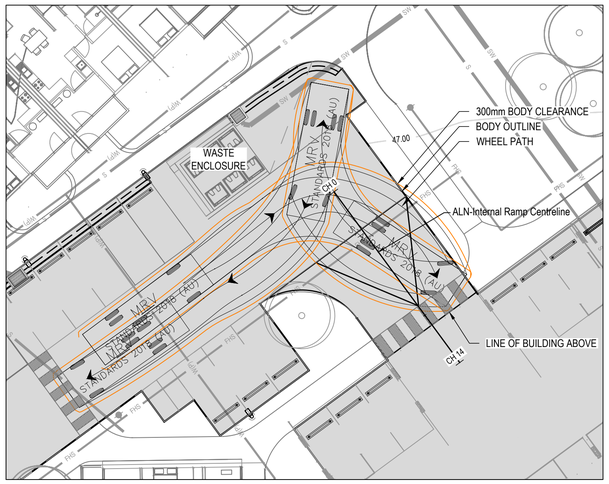
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PLOT DETAILS 240698CS - GENERAL ARRANGEMENTS.DWG

PROJECT NO. 260222CS

DWG NO. C01 REVISION DA2

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MRV SWEPT PATH
SCALE: 1:200

N

0 2 4 6 8 10m
SCALE 1:200

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NOTE: ELECTRIC VEHICLE CHARGING ELECTRICAL LOAD IS NOT PROPOSED TO BE INCLUDED IN THE SITE ELECTRICAL CONNECTION. ON-SITE PROVISION IS PROPOSED TO BE MADE TO FACILITATE FUTURE EV CHARGING UPGRADES IF REQUIRED.

CAMBRIDGE ROAD

PROPERTY BOUNDARY

157 CAMBRIDGE ROAD
PID: 3590894

EXISTING CONCRETE FOOTPATH

EXISTING SURFACE CONTOUR LABEL (TYPICAL)

BUILDING A1
FFL 46.30m

BUILDING A2
FFL 46.30m

BUILDING A3
FFL 46.30m

TOWNHOUSE C
FFL 45.00m

TOWNHOUSE D
FFL 46.00m

BUILDING B1
FFL 47.15m

8 QUARRY ROAD
PID: 7856143

PROPOSED AS2890.2 MRV TURN AREA WITH NO STANDING SIGNAGE AND LINE MARKING

CAR PARK DESIGN SURFACE (DS) AND EXISTING SURFACE (NS) SPOT LEVEL (TYPICAL)

ALN-Internal Ramp Centreline

ALN-Access Centreline

ALN-Access LER

ALN-Access REB

WASTE ENCLOSURE

600 WIDE STORMWATER SPOON DRAIN

WHEELSTOP TO AS2890.1 (TYPICAL ALL CAR PARK SPACES)

CAR PARK DESIGN SURFACE SLOPE (TYPICAL)

5.4 x 2.4m PARKING SPACE IN ACCORDANCE WITH AS2890.1 USER CLASS 1A. (TYPICAL)

INDICATIVE LOCATION OF LIGHT POLES TO BE DESIGNED AND LOCATED IN ACCORDANCE WITH AS1158.3.1

ALL DRIVEWAY, PARKING AISLES AND PARKING SPACES TO BE CONSTRUCTED WITH A HARD-WEARING SEALED SURFACE (CONCRETE OR ASPHALT)

UNDERCOVER PARKING AREA. LIGHTING TO BE IN ACCORDANCE WITH AS1680.2.1

LOW CLEARANCE 2.2m SIGN IN CONJUNCTION WITH APPROPRIATE WARNING DEVICES TO AS2890.1 AT ENTRY TO UNDERCOVER CARPARK AREA

IPWEA COMPLIANT 2% FOOTPATH CROSSFALL PERPENDICULAR TO QUARRY ROAD. NOTE VEHICLE WHEEL PATH GRADIENT ACROSS FOOTPATH EXCEEDS 2% DUE TO 9% LONGITUDINAL GRADE OF QUARRY ROAD

NEW 8.85m WIDE TYPE KC CROSSOVER TO IPWEA STD DRG TSD-R14

REMOVE EXISTING CROSS OVER AND MAKE GOOD WITH NEW BARRIER KERB AND CHANNEL (TYPE KC) TO IPWEA STD DRG TSD-R14 AND NEW FOOTPATH TO IPWEA STD DRG TSD-R11

AS2890.1 B99 SWEPT PATHS WITH 300mm BODY CLEARANCE ENVELOPE (TYPICAL)

QUARRY ROAD

EXISTING CONCRETE FOOTPATH

PROPERTY BOUNDARY

8.85m

5.50m SEALED ACCESS

NOT FOR CONSTRUCTION

REV	DATE	REMARK
DA2	19/08/2026	REVISED DA ISSUE
DA1	17/08/2026	DEVELOPMENT APPLICATION

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PROJECT
HOMES TASMANIA
155 CAMBRIDGE ROAD
WARRANE, 7018

TITLE
CAR PARKING
GENERAL ARRANGEMENT

Accepted (Discipline Head)	ADS	Date 20/8/2026
Accepted (Team Leader)	BHL	Date 20/8/2026
Approved (Principal)	CJM	Date 20/8/2026

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PLOT DETAILS 240698CS - GENERAL ARRANGEMENTS.DWG

PROJECT NO. 260222CS

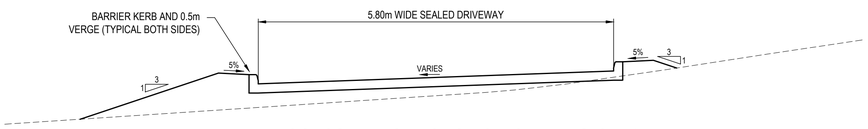
DWG NO.	REVISION
C02	DA2

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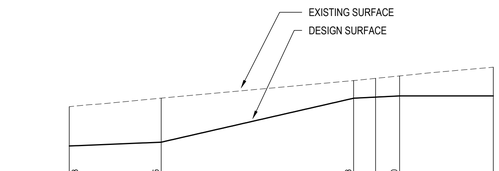
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0 1 2 3 4 5m
SCALE 1:100

0 0.5 1 1.5 2 2.5m
SCALE 1:50

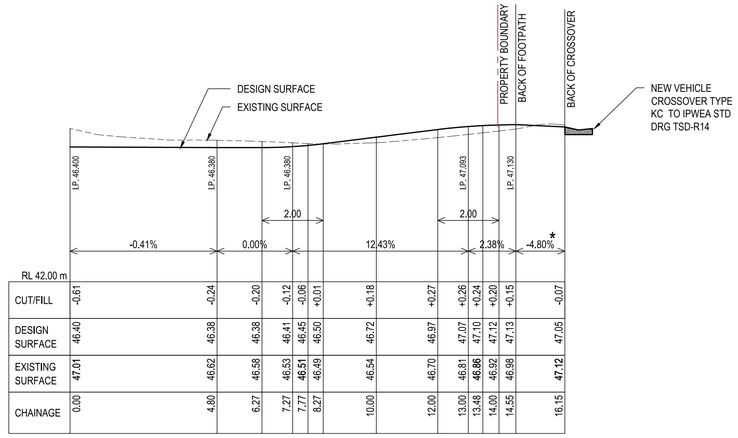


ALN-ACCESS TYPICAL SECTION CH1.6 TO CH12
SCALE: 1:50



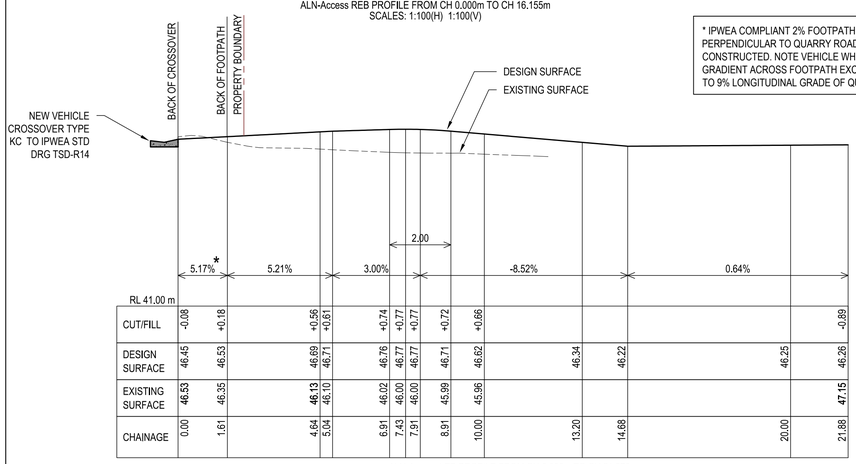
RL 44.00 m						
CUT/FILL	-0.64	-0.72		-0.29	-0.31	-0.33	-0.47
DESIGN SURFACE	46.43	46.49		47.21	47.23	47.25	47.25
EXISTING SURFACE	47.07	47.21		47.50	47.54	47.58	47.72
CHAINAGE	0.00	3.00		9.28	10.00	10.78	13.84

ALN-Internal Ramp Centreline PROFILE FROM CH 0.000m TO CH 13.842m
SCALES: 1:100(H) 1:50(V)



RL 42.00 m													
CUT/FILL	-0.61	-0.24	-0.20	-0.12	-0.06	+0.01	+0.18	+0.27	+0.26	+0.24	+0.20	+0.15	-0.07
DESIGN SURFACE	46.40	46.38	46.38	46.41	46.45	46.50	46.72	46.97	47.07	47.10	47.12	47.13	47.05
EXISTING SURFACE	47.01	46.62	46.58	46.53	46.51	46.49	46.54	46.70	46.81	46.86	46.92	46.98	47.12
CHAINAGE	0.00	4.80	6.27	7.27	7.77	8.27	10.00	12.00	13.00	13.48	14.00	14.55	16.15

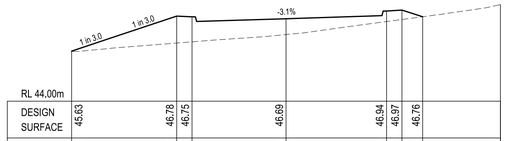
ALN-Access REB PROFILE FROM CH 0.000m TO CH 16.155m
SCALES: 1:100(H) 1:100(V)



RL 41.00 m													
CUT/FILL	-0.08	+0.18		+0.56	+0.61		+0.74	+0.77	+0.77	+0.72	+0.66		-0.89
DESIGN SURFACE	46.45	46.53		46.69	46.71		46.76	46.77	46.77	46.71	46.62	46.34	46.22	46.25	46.26
EXISTING SURFACE	46.53	46.35		46.13	46.10		46.02	46.00	46.00	45.99	45.96				47.15
CHAINAGE	0.00	1.61		4.64	5.04		6.91	7.43	7.91	8.91	10.00	13.20	14.68	20.00	21.88

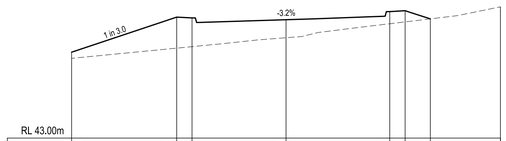
ALN-Access LEB PROFILE FROM CH 0.000m TO CH 21.876m
SCALES: 1:100(H) 1:100(V)

* IPWEA COMPLIANT 2% FOOTPATH CROSSFALL PERPENDICULAR TO QUARRY ROAD TO BE CONSTRUCTED. NOTE VEHICLE WHEEL PATH GRADIENT ACROSS FOOTPATH EXCEEDS 2% DUE TO 9% LONGITUDINAL GRADE OF QUARRY ROAD



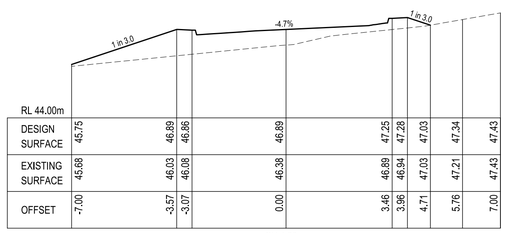
RL 44.00m							
DESIGN SURFACE	45.83	46.78	46.75	46.89	46.94	46.97	46.76	
EXISTING SURFACE	45.62	45.90	45.94	46.18	46.60	46.67	46.76	47.15
OFFSET	-7.00	-3.57	-3.07	-0.00	3.28	3.78	4.46	7.00

CH 8.00 m



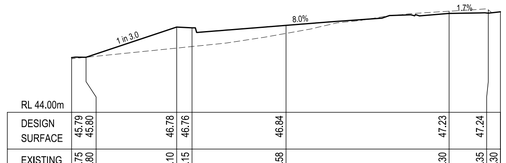
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DESIGN SURFACE	45.80	46.85	46.92	46.86	47.13	47.16	46.89	
EXISTING SURFACE	45.60	45.93	45.98	46.27	46.73	46.79	46.89	47.28
OFFSET	-7.00	-3.57	-3.07	0.00	3.39	3.89	4.71	7.00

CH 6.00 m



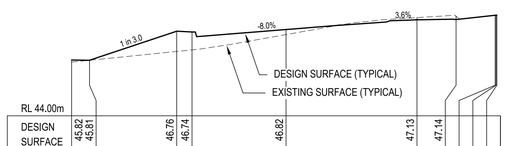
RL 44.00m									
DESIGN SURFACE	45.75	46.89	46.86	46.89	47.25	47.28	47.03	47.34	47.43
EXISTING SURFACE	45.68	46.03	46.08	46.38	46.89	46.94	47.03	47.21	47.43
OFFSET	-7.00	-3.57	-3.07	0.00	3.46	3.96	4.71	5.76	7.00

CH 4.00 m



RL 44.00m						
DESIGN SURFACE	45.79	45.80	46.78	46.76	46.84	47.23	47.24
EXISTING SURFACE	45.75	45.80	46.10	46.15	46.58	47.30	47.35	47.30
OFFSET	-7.00	-6.53	-3.57	-3.07	-0.00	5.33	6.60	7.00

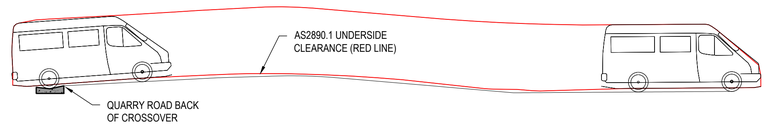
CH 2.00 m



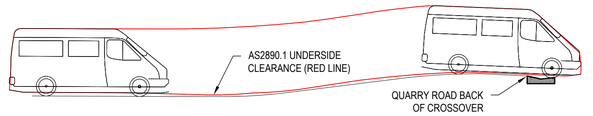
RL 44.00m									
DESIGN SURFACE	45.82	45.81	46.76	46.74	46.82	47.13	47.14		
EXISTING SURFACE	45.75	45.81	46.10	46.15	46.65	47.21	47.25	47.28	47.28
OFFSET	-7.00	-6.42	-3.57	-3.07	-0.00	4.27	5.55	6.83	6.86	6.89	7.00

CH 1.60 m
ALN-Access Centreline

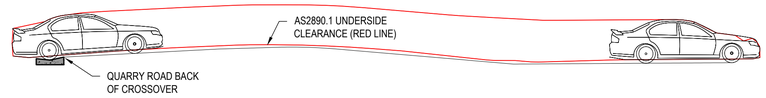
ALN-Access Centreline CROSS SECTIONS
SCALES: 1:100(H) 1:100(V)



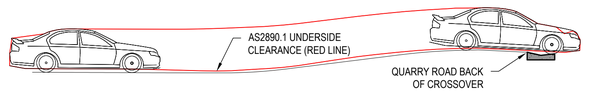
ACCESS ENTRY B99 VERTICAL CLEARANCE
SCALE: 1:100



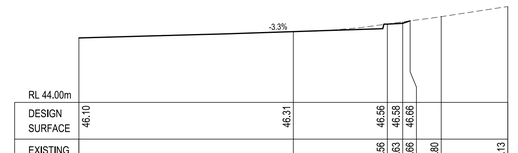
ACCESS EXIT B99 VERTICAL CLEARANCE
SCALE: 1:100



ACCESS ENTRY B85 VERTICAL CLEARANCE
SCALE: 1:100

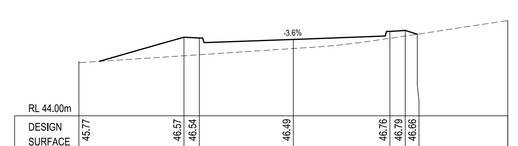


ACCESS EXIT B85 VERTICAL CLEARANCE
SCALE: 1:100



RL 44.00m						
DESIGN SURFACE	-46.10	46.31	46.56	46.58	46.66	
EXISTING SURFACE			46.56	46.63	46.66	46.80	47.13
OFFSET	-7.00	0.00	3.07	3.57	3.81	4.83	7.00

CH 12.00 m



RL 44.00m									
DESIGN SURFACE	45.77	46.57	46.54	46.49	46.76	46.79	46.66		
EXISTING SURFACE	45.73	45.96	45.99	46.20	46.53	46.60	46.66	47.11	
OFFSET	-7.00	-3.57	-3.07	0.00	3.15	3.65	4.05	7.00	

CH 10.00 m

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REV	DATE	DEVELOPMENT APPLICATION REMARK
DA1	17/08/2026	

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This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.

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PROJECT
HOMES TASMANIA
155 CAMBRIDGE ROAD
WARRANE, 7018

TITLE
DRIVEWAY PROFILES AND CROSS SECTIONS

Accepted (Discipline Head)	ADS	Date 17/08/2026
Accepted (Team Leader)	BHL	Date 17/08/2026
Approved (Principal)	CJM	Date 17/08/2026

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AS SHOWN	BHL	JFB
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PLOT DETAILS 240698CS - ROAD PROFILES.DWG

PROJECT NO. 260222CS

DWG NO.	REVISION
C03	DA1

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AllUrbanPlanning PTY LTD

Planning Assessment Report
Multiple Dwellings
155 Cambridge Road, Warrane



Date 19 October 2026

19 Mawhera Ave, Sandy Bay Tasmania 7005 **Call** 0400 109 582
Email frazer@allurbanplanning.com.au **allurbanplanning.com.au**

Cover image: Preston Lane

Version Control			
Version	**Author**	**Date**	**Changes**
1	Frazer Read	21.08.2026	
2	Frazer Read	22.09.2026	
3	Frazer Read	19.10.2026	

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1. Introduction

All Urban Planning Pty Ltd has been engaged by Homes Tasmania to prepare the following Planning Assessment Report for a proposed multiple dwelling development at 155 Cambridge Road, Warrane. The assessment has been prepared in accordance with the provisions of the *Clarence Local Provisions Schedule* of the *Tasmanian Planning Scheme* (planning scheme).

Site & Surrounds

The subject land is located at 155 Cambridge Road, Warrane, on the north-eastern corner of Cambridge Road and Quarry Road. The site comprises a single title with an area of approximately 8,588 m². It is owned by Homes Tasmania

Site Description

The land is contained within Certificate of Title 84951/1. It was formerly occupied by the Department of Defence and used as an administration and training facility by the Australian Army Reserve and Army Cadets.

The former facility includes a two-storey administration and training building, together with several smaller buildings and sheds formerly used for offices, classrooms, vehicle garaging and equipment storage. Existing sealed accessways, parking and service infrastructure also remain across the site. The buildings are currently unoccupied and are proposed to be demolished as part of a separate application for a planning permit to facilitate the redevelopment.

The land is zoned Inner Residential. It is also subject to the Potentially Contaminated Land and Airport Obstacle Limitation Area overlays. No other planning scheme overlays affect the site.

The central portion of the site is generally level, having previously been formed through cutting into the natural slope and filling toward the lower part of the land. The site rises toward its southern and eastern boundaries and falls toward Cambridge Road to the north and west. A moderate slope extends along the northern boundary toward Cambridge Road.

The land contains a mixture of asphalt, concrete and grassed surfaces, with established vegetation concentrated principally around its perimeter. Several mature trees are located along the Cambridge Road frontage and other boundaries.

Surrounding Context

The site is located within an established urban residential area. Cambridge Road adjoins the site to the north and west, while Quarry Road forms its southern boundary. Residential properties are located to the east and on the opposite sides of Cambridge Road and Quarry Road. A childcare centre is situated immediately to the north, adjacent at the Cambridge Road frontage. The surrounding residential land is predominantly zoned General Residential.

The site is approximately 300 m east of the commercial and community facilities within the Central Business Zone and Clarence's Rosny Park Principal Activity Centre. The site has convenient access to public transport. Bus stops on Cambridge Road are located within approximately 150 m of the site, while further stops on Bilinga Street are approximately 100 m away. These stops provide access to multiple Metro services connecting with Rosny Park and the broader Greater Hobart public transport network.



Figure 1– Location Plan (source: theLIST)

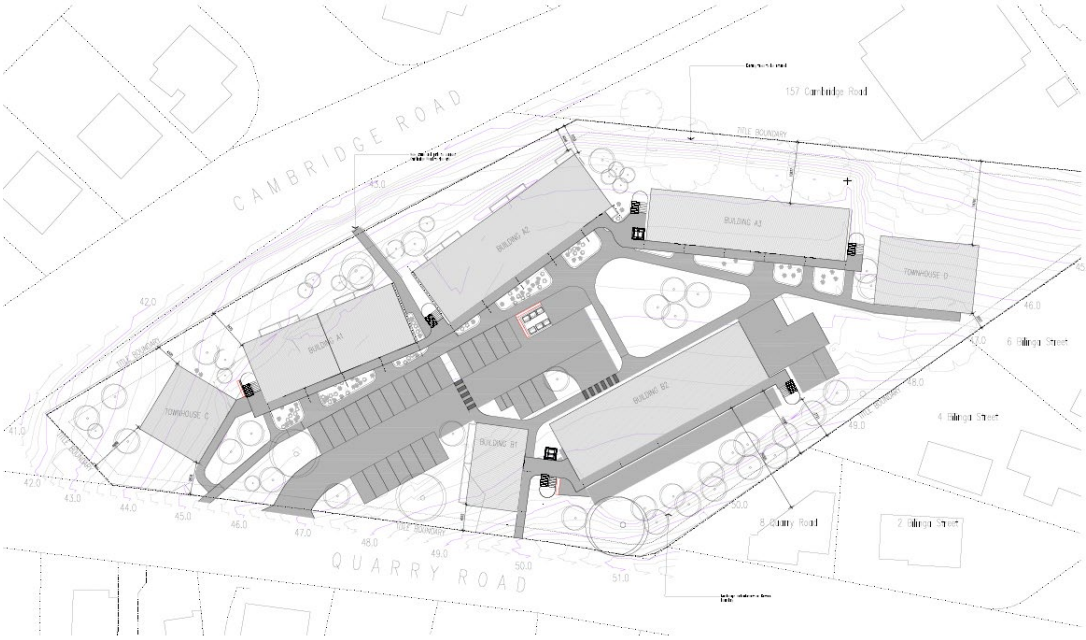


Figure 2 – proposed site plan (Source: Preston Lane)

Title Information

The proposal relates to the following land as shown on Figure 3 below.

Address	Title	Area	Owner
155 Cambridge Road	84951/1	8588m^2	Homes Tasmania

Owners consent from Homes Tasmania's delegate, Director-Community Infrastructure accompanies the application.

The proposal includes demolition and a replacement vehicle access on the Quarry Road frontage. These works are on Council land and the application therefore requires landowner consent from Council's General Manager pursuant top Section 52(1B) of the Act.



Figure 3– The Site (Source: annotated aerial photo and cadastre from theList)

2. Proposal

The proposal is for the redevelopment of the site to provide a medium density social and affordable housing development for Homes Tasmania. The development comprises 75 multiple dwellings as a series of apartment buildings and townhouses, together with associated parking, access, landscaping and communal open space.

The key components of the proposal include:

- demolition of the existing administration, training, storage and ancillary buildings and works[1];
- construction of 75 dwellings within five apartment buildings identified as Buildings A1, A2, A3, B1 and B2, and two townhouse buildings identified as Townhouses C and D;

[1] A separate application for a planning permit for demolition has also been made under DA PDPLAMPNTP-2026/062882.

- a mix of 26 one-bedroom and 49 two-bedroom dwellings;
- buildings ranging between two and four storeys, arranged across the site to respond to its slope and adjoining residential interfaces;
- 58 on-site car parking spaces accommodated within central surface parking areas and beneath Building B2;
- two motorcycle parking spaces;
- removal of the existing vehicular access from Quarry Road and construction of a new access closer to Cambridge Road, with internal driveways providing access to the parking areas and residential buildings;
- an internal pedestrian network connecting the dwellings, parking areas, communal spaces and surrounding road network;
- landscaped communal open space within the central and northern parts of the site;
- private open space for individual dwellings in the form of ground-level courtyards or upper-level balconies;
- retention of selected established trees around the perimeter of the site, together with new landscaping and tree planting;
- removal of trees and other vegetation where necessary to accommodate the development, accessways, infrastructure and associated works;
- a communal waste enclosure and associated collection and vehicle manoeuvring area;
- retaining walls, fencing and associated site works required to respond to the existing topography; and
- new and upgraded stormwater, water and sewerage infrastructure.

The buildings have been arranged as a series of separate forms. This provides visual separation between the buildings, establishes landscaped spaces throughout the site and assists the development in responding to the site's irregular configuration and changing ground levels.

The proposal will deliver additional social and affordable housing within an established urban area that has convenient access to public transport, shops, employment and community facilities. The proposed density and mix of dwellings support State housing objectives, while the distribution of built form across the site, the provision of landscaping and the retention of selected perimeter trees assist in integrating the development with its surrounding residential context.

3. The Planning Scheme

Under Clause 6.10.1 of the planning scheme the planning authority must, in addition to the matters required by ss51(2) of the Act, take into consideration:

> *(a) all applicable standards and requirements in this planning scheme; and*
>
> *(b) any representations received pursuant to and in conformity with ss57(5) of the Act,*
>
> *but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.*

A standard is applicable if the site is within the relevant zone, specific area plan or an area where a site-specific qualification applies and the standard deals with a matter that could affect or be affected by the proposed development; cl.5.6.2.

A standard is defined to mean the objective for a particular planning issue and the means for satisfying that objective through either an acceptable solution or corresponding performance criterion.

Compliance with a standard is achieved by complying with either the acceptable solution or corresponding performance criterion; cl.5.6.3.

The objective of the standard may be considered to help determine whether the proposed use or development complies with the performance criterion of that standard; cl.5.6.4.

TASCAT Precedent – Residential Density

In *ACN 078 006 514 Pty Ltd v Glenorchy City Council [2026] TASCAT 90*, the Tribunal considered the meaning of "significant social or community benefit" under the materially equivalent General Residential Zone, residential density performance criterion in Clause 8.4.1.

That proposal comprised 12 social housing dwellings at a density exceeding the acceptable solution. The Tribunal held that significance is not determined by the proportion of overall housing demand met by an individual development, nor by whether the development accommodates the full range of people requiring housing. Rather, the relevant question is whether the benefit, considered in its particular context, is of real importance or consequence. This may be demonstrated where a proposal responds to a clearly identified community need and produces a meaningful benefit to the community or society, having regard to the immediacy and duration of that benefit and the level of demand in the proposed location ([31]–[37]).

The Tribunal also confirmed that the assessment is not a comparison with the benefits of a hypothetical "ordinary" multiple dwelling development. In the context of acute housing demand, even an incremental addition to housing supply may be significant, particularly where it is directed toward people most affected by housing stress. The provision of secure and affordable housing was found to benefit both its occupants and the wider community by reducing housing stress and releasing other housing supply ([31]–[39]).

This decision provides relevant interpretive context for Clause 9.4.1 P1(b), particularly in assessing whether the proposed Homes Tasmania development responds meaningfully and with sufficient duration to an identified need for social and affordable housing.

Inner Residential Zone

The land is zoned Inner Residential.

The Zone Purpose Statements under Clause 9.1 are as follows:

9.1.1 To provide for a variety of residential use or development that accommodates a range of dwelling types at higher densities.

9.1.2 To provide for the efficient utilisation of available social, transport and other service infrastructure.

9.1.3 To provide for non-residential use that:

(a) primarily serves the local community; and

(b) does not cause an unreasonable loss of amenity, through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.

9.1.4 To provide for Visitor Accommodation that is compatible with residential character.

Local Area Objectives

There are no applicable Local Area Objectives for this site under the planning scheme.

Use Table

The proposed multiple dwellings are a Permitted Use in the Zone.

Use Standards

There are no applicable Use Standards for this Permitted, Residential Use.

Development Standards for Dwellings

9.4.1 Residential density for multiple dwellings

Objective:

That the density of multiple dwellings:

(a) makes efficient use of land for housing; and

(b) optimises the use of infrastructure and community services.

Acceptable Solution	**Performance Criteria**
A1 *Multiple dwellings must have a site area per dwelling of not less than 200m².*	***P1*** *Multiple dwellings must only have a site area per dwelling less than 200m² if:* *(a) the development contributes to a range of dwelling types and sizes appropriate to the surrounding area; or* *(b) the development provides for a specific accommodation need with significant social or community benefit.*

Assessment:

The proposal comprises 75 multiple dwellings on a site having an area of 8,588m². This equates to a site area of approximately 114.5m² per dwelling.

As the site area per dwelling is less than the 200m² required by Acceptable Solution A1, the proposal must be assessed against Performance Criterion P1. P1 provides two alternative pathways to compliance. The proposal is considered to satisfy both P1(a) and P1(b), for the reasons set out below.

Specific accommodation need and significant social or community benefit – P1(b)

The proposal provides for a specific accommodation need comprising social and affordable housing for eligible smaller households within Clarence. The development will be delivered by Homes Tasmania and will provide 26 one-bedroom and 49 two-bedroom dwellings in a combination of apartments and townhouses. The dwelling mix is directed principally towards single occupants, couples and small families requiring housing assistance.

There is a clearly identified and substantial demand for this form of accommodation. Department of Treasury and Finance population projections indicate that Clarence is expected to experience the largest population increase of any Tasmanian municipality, with an additional 12,218 residents projected over the 30 years to 2053.

More particularly, as at June 2026, 472 Housing Register applicants had nominated Clarence as their first preference. Of those applicants, 262 sought one-bedroom accommodation and 134 sought two-bedroom accommodation. Accordingly, approximately 84% of applicants sought accommodation corresponding with the dwelling sizes proposed.

The development therefore responds directly to an identified accommodation need by providing 75 additional dwellings within the segment of the housing market experiencing substantial unmet demand.

In *ACN 078 006 514 Pty Ltd v Glenorchy City Council* [2026] TASCAT 90, the Tribunal held that the significance of a social or community benefit is not determined by the proportion of total housing demand met by an individual proposal. Housing supply is necessarily delivered incrementally, and an individual development may provide a significant benefit where it responds meaningfully to an identified community need, particularly where the housing is directed towards those most affected by housing stress. The relevant question is whether the benefit, considered in its context, is of real importance or consequence, having regard to its immediacy, duration and the level of demand in the proposed location.

In this case, the provision of 75 social and affordable housing dwellings represents a substantial and meaningful response to the identified demand within Clarence. The proposal will:

- provide secure and affordable accommodation for eligible households;
- deliver 75 additional dwellings directed towards an identified need for one- and two-bedroom accommodation;
- reduce housing stress for future occupants and contribute to reducing unmet demand on the Housing Register;
- increase the supply of smaller dwellings suitable for single occupants, couples and small families;
- locate residents close to employment, public transport, shops and community services; and
- make efficient use of land that has been specifically identified and rezoned to facilitate higher-density social and affordable housing.

The benefit is not confined to the future occupants of the development. It extends to the broader community through the addition of secure and affordable housing, the reduction of pressure on the existing social housing system and the release of other housing opportunities for households remaining on the Housing Register.

The proposal is also consistent with the strategic directions of the *Tasmanian Housing Strategy 2023–2043* and the *Tasmanian Housing Action Plan 2023–2027*, particularly the delivery of well-located housing for people requiring housing assistance.

The site is especially suitable for this purpose because it is:

- approximately 300m from the commercial, community and employment services of the Rosny Park Principal Activity Centre;

- located on Cambridge Road, which provides access to frequent public transport services;
- within approximately 150m of bus stops on Cambridge Road and approximately 100m of further stops on Bilinga Street; and
- within an established urban area served by reticulated water, sewerage, stormwater, electricity and telecommunications infrastructure.

These characteristics will enable residents to conveniently access employment, shops, community facilities and public transport. The proposed density will also make efficient use of existing infrastructure and community services, consistent with the objective of Clause 9.4.1 and the purposes of the Inner Residential Zone.

Having regard to the above, the proposed development will provide for a specific accommodation need with a significant social and community benefit and therefore satisfies P1(b).

Range of dwelling types and sizes – P1(a)

It is considered that the proposal also satisfies P1(a) because it contributes to a range of dwelling types and sizes appropriate to the surrounding area.

The surrounding residential area is predominantly characterised by detached dwellings on individual lots, with some multiple dwelling and medium-density development closer to Cambridge Road and the Rosny Park Principal Activity Centre. Against that background, the proposal will broaden the available housing choice by providing:

- one- and two-bedroom dwellings;
- apartments within separate buildings of varying scale;
- two-storey townhouses;
- ground-level dwellings with private courtyards; and
- upper-level dwellings with private balconies.

This mix will provide housing options for single occupants, couples and small families, complementing the larger detached dwellings that predominate in the surrounding area.

The site's Inner Residential zoning, proximity to the Rosny Park Principal Activity Centre and access to frequent public transport make it an appropriate location for this additional housing diversity. The distribution of the development across separate apartment and townhouse buildings also provides a transition between the higher-density form proposed within the site and the established detached dwellings adjoining it.

Having regard to these factors it is considered that the proposal will contribute to a range of dwelling types and sizes appropriate to the surrounding area and therefore also satisfy P1(a).

The proposal complies with Clause 9.4.1.

9.4.2 Setbacks and building envelope for all dwellings

Objective:

That the siting and scale of dwellings:

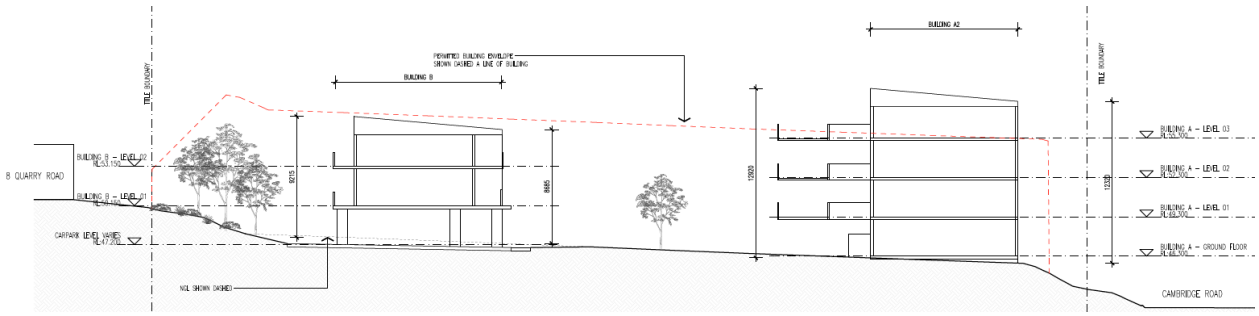
(a) provides reasonably consistent separation between dwellings and their frontage within a street;

(b) provides consistency in the apparent scale, bulk, massing and proportion of dwellings; and

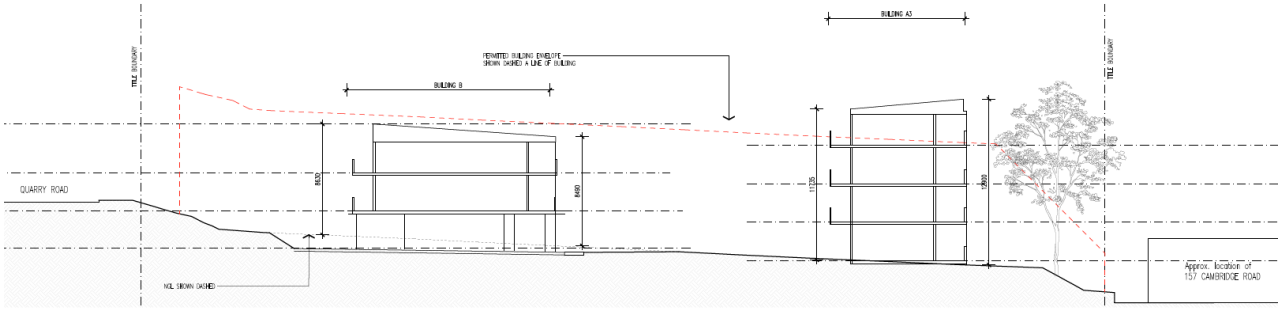
(c) provides separation between dwellings on adjoining properties to allow a reasonable opportunity for daylight and sunlight to enter habitable rooms and private open space.

Acceptable Solutions	**Performance Criteria**
A1 *Unless within a building area on a sealed plan, a dwelling, excluding garages, carports and protrusions that extend not more than 0.9m into the frontage setback, must have a setback from a frontage that is:* *(a) if the frontage is a primary frontage, not less than 3m, or, if the setback from the primary frontage is less than 3m, not less than the setback, from the primary frontage, of any existing dwelling on the site;* *(b) if the frontage is not a primary frontage, not less than 2m, or, if the setback from the frontage is less than 2m, not less than the setback, from a frontage that is not a primary frontage, of any existing dwelling on the site;* *(c) if for a vacant site and there are existing dwellings on adjoining properties on the same street, not more than the greater, or less than the lesser, setback for the equivalent frontage of the dwellings on the adjoining sites on the same street; or* *(d) if located above a non-residential use at ground floor level, not less than the setback from the frontage of the ground floor level.*	***P1*** *A dwelling must have a setback from a frontage that is compatible with the streetscape having regard to any topographical constraints.*
Assessment: The proposal complies with A1 in that the proposed buildings are setback more than 2m (4.05m) from the Cambridge Road, secondary frontage and more than 3m (4.59m) from the primary, Quarry Road frontage.	
A2	***P2*** *A garage or carport for a dwelling must have a setback from a primary frontage that is compatible with the*

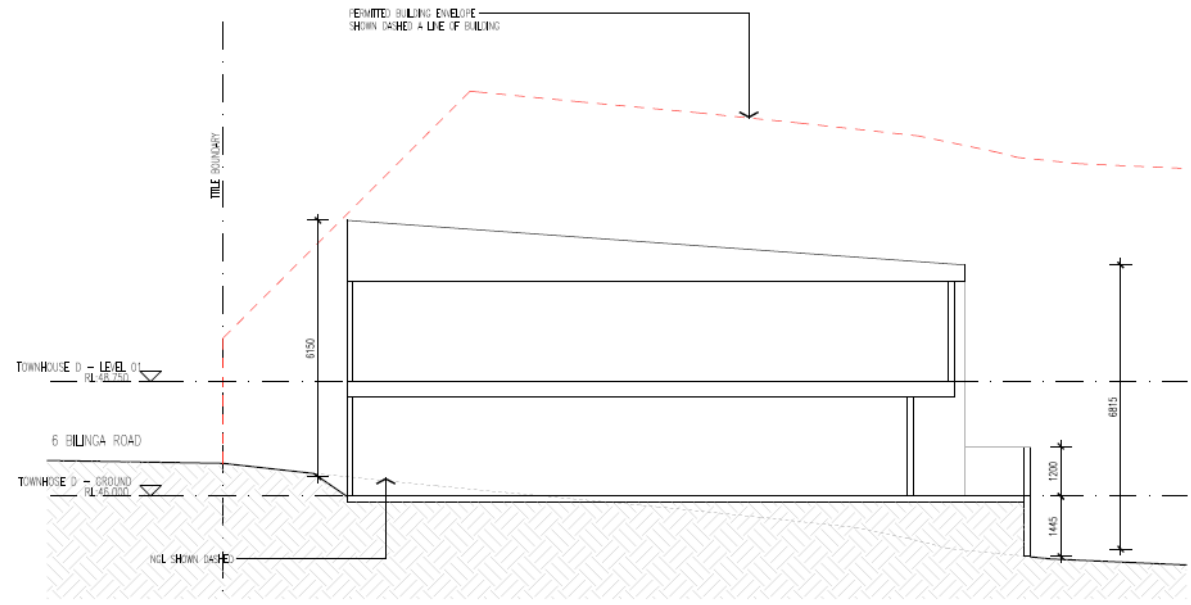
A garage or carport for a dwelling must have a setback from a primary frontage of not less than: *(a) 4m, or alternatively 1m behind the building line;* *(b) the same as the building line, if a portion of the dwelling gross floor area is located above the garage or carport; or* *(c) 1m, if the existing ground level slopes up or down at a gradient steeper than 1 in 5 for a distance of 10m from the frontage.*	*setbacks of existing garages or carports in the street, having regard to any topographical constraints.*
Assessment: The proposal complies with A2 in that no garages or carports are sited within 4m of a frontage.	
A3 *A dwelling, excluding outbuildings with a building height of not more than 2.4m and protrusions that extend not more than 0.9m horizontally beyond the building envelope, must:* *(a) be contained within a building envelope (refer to Figures 9.1, 9.2 and 9.3) determined by:* *(i) a distance equal to the frontage setback or, for an internal lot, a distance of 3m from the rear boundary of a property with an adjoining frontage; and* *(ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above existing ground level at the side and rear boundaries to a building height of not more than 9.5m above existing ground level; and* *(b) only have a setback within 1.5m of a side or rear boundary if the dwelling:* *(i) does not extend beyond an existing building built on or within 0.2m of the boundary of the adjoining property; or* *(ii) does not exceed a total length of 9m or one-third the length of the side boundary (whichever is the lesser).*	***P3*** *The siting and scale of a dwelling must:* *(a) not cause an unreasonable loss of amenity to adjoining properties, having regard to:* *(i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property;* *(ii) overshadowing the private open space of a dwelling on an adjoining property;* *(iii) overshadowing of an adjoining vacant property; and* *(iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property; and* *(b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area.*



Section B showing the height, siting and scale of the proposal relative to the permitted building envelope and adjoining property at 8 Quarry Road (left)



Section C showing the height, siting and scale of the proposal relative to the adjoining property at 157 Cambridge Road.



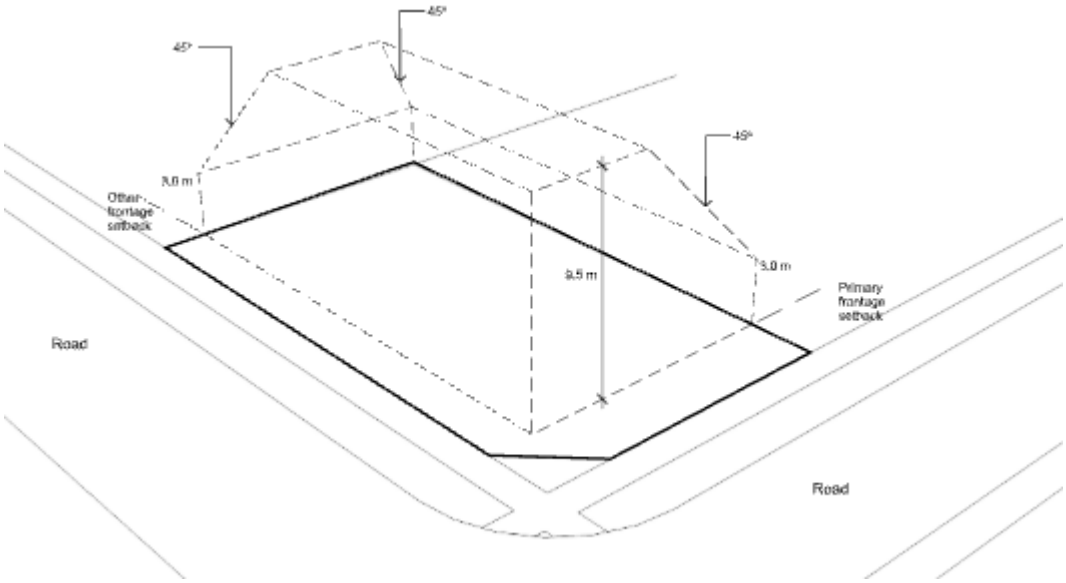
Section 01 showing the height, siting and scale of the proposal relative to the permitted building envelope and adjoining property at 6 Bilinga Road (left)



Section 02 showing the height, siting and scale of the proposal relative to the permitted building envelope and adjoining property at 8 Quarry Road (left)

Assessment:

The proposed four-storey apartment buildings near the Cambridge Road frontage extend beyond the building envelope prescribed by Acceptable Solution A3. The siting and scale of the proposal must therefore be assessed against Performance Criterion P3.



In Table 3.1 of the planning scheme, *"adjoining" means next to, or having a common boundary with.* The following properties adjoin the site:

- 8 Quarry Road
- 4, 6 and 8 Bilinga Street
- 157 Cambridge Road

- 4 Paige Court

Properties on the opposite side of Quarry Road or Cambridge Road, and other properties that do not share a boundary with the site, are not adjoining properties for the purposes of P3.

In Table 3.1 defines "*amenity"* as:

> *Means, in relation to a locality, place or building, any quality, condition or factor that makes or contributes to making the locality, place or building harmonious, pleasant or enjoyable.*

Determining whether the proposal will cause an unreasonable loss of amenity requires consideration of:

- the existing amenity of each adjoining property;
- the nature and extent of any diminution of that amenity resulting from the proposal; and
- whether that loss is unreasonable, having regard to the matters specified in P3(a)(i)–(iv).

An unreasonable loss is more than a discernible or material change. It must be a loss that is excessive in the circumstances, in the sense of being immoderate or exorbitant.

The existing outlook across the subject site is not, in itself, a protected planning outcome. The relevant question is whether the siting and scale of the proposed buildings will cause an unreasonable loss of amenity having regard to the specific considerations identified in P3.

Existing amenity and effects on adjoining properties

8 Quarry Road

No. 8 Quarry Road adjoins the site to the south-east. Building B2 is the closest proposed building to this property, although it is separated from the common boundary by a landscaped setback incorporating retained vegetation.

The existing amenity of No. 8 Quarry Road includes its detached residential setting, private open space, solar access and outlook towards the subject site. That outlook currently includes the existing green steel shed shown in Section 02, which will be demolished as part of the proposal. The development will materially change the outlook by introducing Building B2 into the broader visual setting of the property. However, a change in outlook does not, of itself, constitute an unreasonable loss of amenity.

Building B2 is contained within the building envelope prescribed by A3 and is not positioned immediately adjacent to the common boundary. It is setback approximately 12.6m from the boundary, with approximately 20.3m of separation between Building B2 and the dwelling at No. 8 Quarry Road. This separation will be reinforced by landscaping and retained vegetation within the intervening setback.

Building B2 is also located downslope of No. 8 Quarry Road. Consequently, notwithstanding its overall height, it will present as approximately two storeys above the adjoining ground level when viewed from that property. The stepped site levels, substantial separation, articulated building form and intervening landscaping will collectively moderate its apparent height, scale and bulk.

The shadow diagrams indicate that No. 8 Quarry Road will remain unaffected by additional overshadowing during the morning on 21 June. Some additional shadow will extend into its private open space during the afternoon, principally between 2:00pm and 3:00pm. The diagrams also indicate that no unreasonable reduction in sunlight to a habitable room, other than a bedroom, will occur.

The proposal will result in a discernible change to the setting of No. 8 Quarry Road. Nevertheless, having regard to the compliant building envelope of Building B2, its relative presentation as a two-storey building,

the substantial physical separation, topographical relationship and intervening landscaping, it is assessed that the resulting effect will not be immoderate or exorbitant. It is therefore concluded that the proposal will not cause an unreasonable loss of amenity to No. 8 Quarry Road.

4, 6 and 8 Bilinga Street

The properties at 4, 6 and 8 Bilinga Street adjoin the eastern part of the site. Their existing amenity is principally derived from their residential setting, private open space, solar access and separation from development on the subject land.

The development closest to these properties comprises Building B2, Townhouse D and the eastern part of Building A3. The proposal locates lower-scale townhouse development towards part of the eastern boundary, while the larger apartment buildings are setback further within the site. In particular, Building B2 is setback approximately 7.7m from the boundary with No. 4 Bilinga Street and is contained within the building envelope prescribed by A3.

The proposed buildings are separated from the adjoining properties by boundary setbacks, landscaped areas and the north to north-westerly aspect of the site that falls away below the ground level of these neighbours. The development is also distributed across separate buildings, with breaks and landscaped spaces between them, rather than presenting as a continuous wall of development along the eastern boundary.

The proposal will increase the amount of built form visible from the Bilinga Street properties. However, its apparent scale and bulk will be moderated by:

- the lower-scale townhouses located nearer parts of the eastern boundary;
- the setbacks of Buildings B2 and A3;
- the separation between the individual buildings;
- the articulation of the building elevations;
- the site's topography; and
- proposed boundary landscaping.

The shadow diagrams indicate that the Bilinga Street properties will not experience additional overshadowing during the morning on 21 June. Some additional shadow will extend towards the private open space of Nos. 4 and 6 Bilinga Street during the afternoon. However, the principal private open space areas will remain largely unaffected, and the additional shadow will not unreasonably diminish their usability or amenity. No unreasonable reduction in sunlight to a habitable room, other than a bedroom, is demonstrated.

Having regard to the above, while the proposal will change the visual setting of these properties, it is assessed that its siting and scale will not cause an unreasonable loss of amenity to 4, 6 or 8 Bilinga Street.

157 Cambridge Road

No. 157 Cambridge Road is an existing childcare centre adjoining the north-eastern boundary of the site. Its existing amenity includes a main road location for easy access, access to sunlight, landscaped surroundings and outdoor play areas.

Building A3 is the closest four-storey apartment building to this property. It is setback approximately 10.6m from the common boundary and is oriented generally parallel to it. The setback contains a landscaped area

and retained established eucalypts, providing physical and visual separation between the building and the childcare centre.

Building A3 will be more prominent when viewed from No. 157 Cambridge Road than the buildings currently occupying the subject site. However, the setback is substantially greater than the minimum side and rear boundary setbacks ordinarily associated with residential development.

The elevation of Building A3 is articulated through balconies, recesses, changes in materials and vertical divisions. These features interrupt the length of the building and reduce the perception of a single, continuous building mass. The setback, landscaping and retained trees will further soften its presentation when viewed from the adjoining property.

As No. 157 Cambridge Road does not contain a dwelling, P3(a)(i) and (ii), which relate specifically to habitable rooms and private open space associated with a dwelling, are not applicable. Its amenity nevertheless remains relevant to the visual-impact consideration under P3(a)(iv).

The proposal will change the south-western outlook from No. 157 Cambridge Road. However, the physical separation, retained vegetation, landscaping and articulation of Building A3 will ensure that it does not present as an overbearing or unreasonably dominant building when viewed from the childcare centre. It is therefore concluded that the resulting visual effect will not be immoderate or exorbitant and will not constitute an unreasonable loss of amenity.

4 Paige Court

No. 4 Paige Court contains multiple dwellings and adjoins the north-eastern corner of the subject site. The existing amenity of the property is derived from its residential setting, solar access, private open space and separation from development on the subject site.

The property is well separated from the closest proposed buildings, comprising Building A3 and Townhouse D. The principal four-storey buildings are concentrated towards the lower Cambridge Road frontage and are well setback from No. 4 Paige Court.

The physical separation, breaks between the proposed buildings, lower-scale development towards the eastern part of the site and intervening landscaping will limit the extent to which the development is perceived as a continuous or visually dominant building mass.

No shadowing will result to the habitable rooms or private open space of the dwellings at No. 4 Paige Court. Although the development will be visible and will introduce more intensive residential development into the broader setting, the resulting visual impact will be moderated by its setback, distribution across separate buildings and landscaping.

Having regard to the above it is assessed that the proposal will not cause an unreasonable loss of amenity to No. 4 Paige Court.

P3(b) – Separation between dwellings

P3(b) requires separation between the proposed dwellings and dwellings on adjoining properties that is consistent with the separation existing on established properties in the area. It does not require the proposed separation to replicate one particular adjoining relationship or to exceed every separation found in the surrounding area.

The proposal provides separation through a combination of substantial building setbacks, landscaped areas, changes in ground level and retained vegetation. In particular:

- Building B2 is setback approximately 12.6m from the boundary with No. 8 Quarry Road, with approximately 20.3m between the proposed building and the existing dwelling;
- Building B2 is setback approximately 7.7m from the boundary with No. 4 Bilinga Street;
- lower-scale townhouses provide a transition towards parts of the eastern boundary; and
- the proposed buildings are not constructed directly on the boundaries adjoining residential properties.

The proposal also avoids an uninterrupted wall of development along any boundary shared with an adjoining dwelling.

These setbacks provide dwelling-to-dwelling separation consistent with, and in several instances greater than, the separation found between dwellings on established residential properties in the surrounding area. The proposal therefore satisfies P3(b).

Conclusion

The development will materially change the appearance and intensity of development on the subject site. However, P3 does not require the existing visual setting to be maintained or prevent any loss of amenity. The relevant question is whether the loss caused by the siting and scale of the proposal will be unreasonable.

Having regard to the above it is considered that the proposal satisfies P3 because:

- the taller buildings are concentrated towards the lower Cambridge Road frontage;
- the buildings closest to the adjoining residential neighbours comply with the permitted building envelope;
- substantial separation is maintained from adjoining dwellings;
- there will be no unreasonable reduction in sunlight to a relevant habitable room;
- the limited additional overshadowing of adjoining private open space will not be unreasonable given all adjoining properties will maintain at least 4 hours uninterrupted sunlight between 9am and 1pm on 21 June;
- the apparent scale, bulk and proportions of the buildings are moderated through setbacks, separate building forms, articulation, topography and landscaping; and
- the separation between proposed dwellings and dwellings on adjoining properties is consistent with the established pattern of residential development in the area.

It is assessed that any loss of amenity resulting from the proposal will not be immoderate or exorbitant. Accordingly, the siting and scale of the proposed dwellings is considered to satisfy Performance Criterion P3.

9.4.3 Site coverage and private open space for all dwellings

Objective:

That dwellings are compatible with the amenity and character of the area and provide:

(a) for outdoor recreation and the operational needs of the residents;

(b) opportunities for the planting of gardens and landscaping; and

(c) private open space that is conveniently located and has access to sunlight.

Acceptable Solutions	Performance Criteria
A1 *Dwellings must have:* *(a) a site coverage of not more than 65% (excluding eaves up to 0.6m wide); and* *(b) for multiple dwellings, a total area of private open space of not less than 40m² associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer).*	***P1*** *Dwellings must have:* *(a) site coverage consistent with that existing on established properties in the area;* *(b) private open space that is of a size and with dimensions appropriate for the size of the dwelling and is able to accommodate:* *(i) outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take into account any common open space provided for this purpose within the development; and* *(ii) operational needs, such as clothes drying and storage; and* *(c) reasonable space for the planting of gardens and landscaping.*

Assessment:

The proposal involves a proposed site coverage of 2250m^2 on the 8588m^2 site (26%), which is well below the 65% maximum under A1a).

A1(b) requires 40m² of total private open space for each ground floor multiple dwelling, unless the dwelling is elevated entirely more than 1.8m above ground level. The ground floor dwellings do not have a private open space of 40m^2. The proposal is therefore assessed under P1 as follows:

(a) Site coverage consistent with that existing on established properties in the area

The proposed site coverage of 26% is significantly below the 65% maximum and the site cover is therefore considered acceptable under P1(a).

(b) Private open space appropriate in size and function

Each ground-level unit includes a private open space area that:

- is well-proportioned to the unit size (ranging from 15.6m² to 19.9m² for 1 bedroom and 16m2 to 25.5m2 for the 2 bedroom);
- Provides adequate space for recreation, clothes drying, outdoor dining, and personal storage;
- Benefits from additional common landscaped areas throughout the site that support broader open space needs, including children's play and relaxation.

(c) Space for planting of gardens and landscaping

The site layout includes:

- Landscaped buffers and communal gardens;
- Individual POS areas that can accommodate pot plants;
- Retained and new vegetation across the site supporting a soft landscape character.

The proposal is therefore assessed to comply with P1.

A2	***P2***
A dwelling must have private open space that: *(a) is in one location and is not less than:* *(i) 24m²; or* *(ii) 12m², if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer);* *(b) has a minimum horizontal dimension of:* *(i) 4m; or* *(ii) 2m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer);* *(c) is located between the dwelling and the frontage only if the frontage is orientated between 30 degrees west of true north and 30 degrees east of true north; and* *(d) has a gradient not steeper than 1 in 10.*	*A dwelling must have private open space that includes an area capable of serving as an extension of the dwelling for outdoor relaxation, dining, entertaining and children's play and is:* *(a) conveniently located in relation to a living area of the dwelling; and* *(b) orientated to take advantage of sunlight.*

Assessment:

The proposed development does not comply with Acceptable Solution A2. The ground floor two-bedroom dwellings provide 16m² -25.5m^2 of private open space and the one-bedroom dwellings 15.6m^2-19.9m^2 and therefore do not achieve the minimum area requirement of 24m² prescribed by A2(a). In addition, the private open space areas associated with all ground floor dwellings do not achieve the minimum horizontal dimension of 4m required by A2(b). Accordingly, the proposal is assessed against Performance Criterion P2.

In this case it is assessed that the proposal satisfies P2 in that:

- each dwelling is provided with a dedicated area of private open space that is directly accessible from, and conveniently located adjacent to, the primary living area, enabling the space to function as an extension of the dwelling for outdoor relaxation, dining and entertaining.

- the ground floor private open space areas range from 15.6m^2-19.9m^2 and, notwithstanding the reduced area and horizontal dimensions, are considered of sufficient size and configuration to accommodate outdoor furniture and support the day-to-day recreational needs of residents.
- the private open space areas are orientated to the north to maximise solar access and provide a practical and functional outdoor living environment. The spaces are readily usable and capable of supporting the activities contemplated by the Performance Criterion, including relaxation, outdoor dining and informal recreation. Direct access from the living areas further reinforces their role as a functional extension of the dwellings.

It is therefore considered that the proposal satisfies the requirements of Performance Criterion P2.

9.4.4 Sunlight to private open space of multiple dwellings

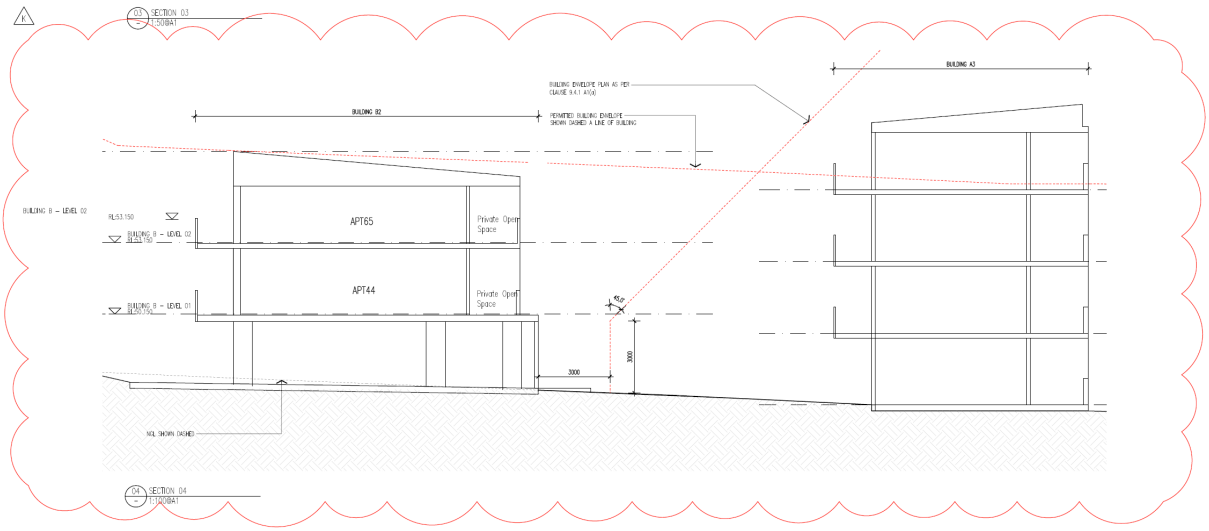
Objective:

That the separation between multiple dwellings provides reasonable opportunity for sunlight to enter private open space for dwellings on the same site.

Acceptable Solutions	**Performance Criteria**
A1 *A multiple dwelling that is to the north of the private open space of another dwelling on the same site, required to satisfy A2 or P2 of clause 9.4.3, must satisfy (a) or (b), unless excluded by (c):* *(a) the multiple dwelling is contained within a line projecting (see Figure 9.4):* *(i) at a distance of 3m from the northern edge of the private open space; and* *(ii) vertically to a height of 3m above existing ground level and then at an angle of 45 degrees from the horizontal.* *(b) the multiple dwelling does not cause 50% of the private open space to receive less than 3 hours of sunlight within the hours of 9.00am to 3.00pm on 21st June.* *(c) this Acceptable Solution excludes that part of a multiple dwelling consisting of:* *(i) an outbuilding with a building height not more than 2.4m; or* *(ii) protrusions that extend not more than 0.9m horizontally from the multiple dwelling.*	***P1*** *A multiple dwelling must be designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space, of another dwelling on the same site, which is required to satisfy A2 or P2 of clause 9.4.3 of this planning scheme.*

Assessment:

The proposed site planning and separation between blocks complies with A1a) as shown in Section 04 that is drawn at the closest point between Buildings A3 and B2.



The development therefore complies with Clause 8.4.4 A1 and meets the intent of the objective to protect residential amenity through appropriate solar access.

9.4.5 Width of openings for garages and carports for all dwellings

Objective:

To reduce the potential for garage or carport openings to dominate the primary frontage.

Acceptable Solutions	Performance Criteria
A1 *A garage or carport for a dwelling within 12m of a primary frontage, whether the garage or carport is free-standing or part of the dwelling, must have a total width of openings facing the primary frontage of not more than 6m or half the width of the frontage (whichever is the lesser).*	***P1*** *A garage or carport for a dwelling must be designed to minimise the width of its openings that are visible from the street, so as to reduce the potential for the openings of a garage or carport to dominate the primary frontage.*
Assessment: Complies.	

9.4.6 Privacy for all dwellings

Objective:

To provide a reasonable opportunity for privacy for dwellings.

Acceptable Solutions	Performance Criteria
A1 *A balcony, deck, roof terrace, parking space, or carport for a dwelling (whether freestanding or part of the dwelling), that has a finished surface or floor level more than 1m above existing ground level must have a permanently fixed screen to a height of not less than 1.7m above the finished surface or floor level, with a uniform transparency of not more than 25%, along the sides facing a:* *(a) side boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 3m from the side boundary;* *(b) rear boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 4m from the rear boundary; and* *(c) dwelling on the same site, unless the balcony, deck, roof terrace, parking space, or carport is not less than 6m:* *(i) from a window or glazed door, to a habitable room of the other dwelling on the same site; or* *(ii) from a balcony, deck, roof terrace or the private open space, of the other dwelling on the same site.*	***P1*** *A balcony, deck, roof terrace, parking space or carport for a dwelling (whether freestanding or part of the dwelling) that has a finished surface or floor level more than 1m above existing ground level, must be screened, or otherwise designed, to minimise overlooking of:* *(a) a dwelling on an adjoining property or its private open space; or* *(b) another dwelling on the same site or its private open space.*
Assessment: Balconies and decks to upper-storey dwellings are either: • Set back at least 6.0m from other dwellings, windows, or POS areas on the same site; or • Screened to a height of 1.7m using balustrades or fixed panels with ≤25% transparency. • There are no elevated carports or parking areas that face side/rear boundaries or habitable windows within 3–6m. The proposal therefore complies with A1 by providing compliant setbacks and/or fixed privacy screens for all elevated external spaces, ensuring no unreasonable overlooking to other dwellings or POS areas on-site or to boundaries.	
A2	***P2***

A window or glazed door, to a habitable room of a dwelling that has a floor level more than 1m above existing ground level, must satisfy (a), unless it satisfies (b): *(a) The window or glazed door:* *(i) is to have a setback of not less than 3m from a side boundary;* *(ii) is to have a setback of not less than 4m from a rear boundary;* *(iii) if the dwelling is a multiple dwelling, is to be not less than 6m from a window or glazed door, to a habitable room, of another dwelling on the same site; and* *(iv) if the dwelling is a multiple dwelling, is to be not less than 6m from the private open space of another dwelling on the same site.* *(b) The window or glazed door:* *(i) is to be offset, in the horizontal plane, not less than 1.5m from the edge of a window or glazed door, to a habitable room of another dwelling;* *(ii) is to have a sill height of not less than 1.7m above the floor level or have fixed obscure glazing extending to a height of at least 1.7m above the floor level; or* *(iii) is to have a permanently fixed external screen for the full length of the window or glazed door, to a height of not less than 1.7m above floor level, with a uniform transparency of not more than 25%.*	*A window or glazed door, to a habitable room of dwelling, that has a floor level more than 1m above existing ground level, must be screened, or otherwise located or designed, to minimise direct views to:* *(a) window or glazed door, to a habitable room of another dwelling; and* *(b) the private open space of another dwelling.*
Assessment: All habitable windows and glazed doors with floor levels more than 1.0m above ground level are: • ≥3.0m from side boundaries; • ≥4.0m from rear boundaries; • ≥6.0m from other habitable room windows or POS areas on the same site; The proposal therefore complies with A2.	
A3	***P3***

A shared driveway or parking space (excluding a parking space allocated to that dwelling) must be separated from a window, or glazed door, to a habitable room of a multiple dwelling by a horizontal distance of not less than: *(a) 2.5m; or* *(b) 1m if:* *(i) it is separated by a screen of not less than 1.7m in height; or* *(ii) the window, or glazed door, to a habitable room has a sill height of not less than 1.7m above the shared driveway or parking space, or has fixed obscure glazing extending to a height of not less than 1.7m above the floor level.*	*A shared driveway or parking space (excluding a parking space allocated to that dwelling), must be screened, or otherwise located or designed, to minimise unreasonable impact of vehicle noise or vehicle light intrusion to a habitable room of a multiple dwelling.*
Assessment: The site layout (Ao2-00) and unit floor plans confirm that all habitable room windows near shared driveways and common parking areas are set back ≥2.5m (a minimum of 4.4m). The proposal therefore complies with A3.	

9.4.7 Frontage fences for all dwellings

Objective:

That the height and transparency of frontage fences:
(a) provides adequate privacy and security for residents;
(b) allows the potential for mutual passive surveillance between the road and the dwelling; and
(c) are reasonably consistent with that on adjoining properties.

Acceptable Solutions	**Performance Criteria**
A1 *No Acceptable Solution.*	*P2* *A fence (including a free-standing wall) within 4.5m of a frontage for a dwelling must:* *(a) provide for security and privacy, while allowing for passive surveillance of the road; and* *(b) be compatible with the height and transparency of fences in the street, having regard to:* *(i) the topography of the site; and* *(ii) traffic volumes on the adjoining road.*
Assessment.	

The proposal includes solid brick walls associated with Townhouse C and the north-western corner of Building A2 which are located within 4.5m of the Cambridge Road frontage.



3D render view 1 - View of front wall of Townhouse C within 4.5m from Cambridge Road (Source: Preston Lane)



3D render view 2 - View of front wall of Building A2 within 4.5m from Cambridge Road (Source: Preston Lane)

These walls are assessed under P2 as follows:

Security, privacy and passive surveillance

The walls provide privacy and security to the private outdoor spaces of the affected dwellings. Their solid construction screens direct views between the elevated private open spaces from the street. The walls form a solid barrier to balustrade height only above the finished floor level of the decks and views from the decks and living areas of the dwellings to the street will be maintained and provide for good passive surveillance.

The proposal therefore balances security and privacy for residents with opportunities for passive surveillance across the frontage.

Compatibility with the street

The frontage treatment needs to be considered in the context of the site's slope, the relationship between the dwellings and Cambridge Road, and the traffic environment on that road.

The localised walls are integrated with the proposed brick building forms and landscaped frontage. Their limited extent, together with the spaces between buildings and the retention of perimeter vegetation where shown, reduces their visual prominence.

The walls are considered compatible with a residential frontage in this setting because they provide targeted screening without enclosing the street boundary or preventing visual connections between the development and the street.

9.4.8 Waste storage for multiple dwellings

Objective:

To provide for the storage of waste and recycling bins for multiple dwellings.

Acceptable Solutions	**Performance Criteria**
A1 *A multiple dwelling must have a storage area, for waste and recycling bins, that is an area of not less than 1.5m² per dwelling and is within one of the following locations:* *(a) in an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or* *(b) in a common storage area with an impervious surface that:* *(i) has a setback of not less than 4.5m from a frontage;* *(ii) is not less than 5.5m from any dwelling; and* *(iii) is screened from the frontage and any dwelling by a wall to a height of not less than 1.2m above the finished surface level of the storage area.*	***P1*** *A multiple dwelling must have storage for waste and recycling bins that is:* *(a) capable of storing the number of bins required for the site;* *(b) screened from the frontage and any dwellings; and* *(c) if the storage area is a common storage area, separated from any dwellings to minimise impacts caused by odours and noise.*
Assessment: It is intended that the proposal will include a communal bin storage areas to comply with A1(b) including a 6m minimum setback from the closest dwelling. *Based on Melbourne City Council Waste Management Plan Guidelines (2026),* the development is expected to generate approximately 5,235L of general waste and 6,980L of recycling per week. A centrally located waste enclosure is provided with capacity for 6 × 1,100L bins, serviced twice weekly by a private contractor. Homes Tasmania will monitor waste generation following occupation and adjust collection frequencies if required to ensure adequate capacity is maintained. The enclosure provides a dedicated area for waste storage and collection and incorporates a minimum 1.2m high screening wall to minimise visual impacts on the streetscape and adjoining properties. Veolia has	

assessed the proposed enclosure, collection arrangements and vehicle access requirements and confirmed that the facility can be safely and efficiently serviced.

4. Planning Scheme Codes

The site is within a mapped Airport Obstacle Limitation Area. However, the proposed buildings are well below the applicable obstacle limitation height of 147m AHD. The proposal is therefore exempt from this code.

The former Defence Facility site is also identified as a potentially contaminated site.

There are no other mapped overlays.

The proposal is considered in relation to other relevant codes below.

Parking and Sustainable Transport Code

This Code applies to all use and development.

2.5 Use Standards

C2.5.1 Car parking numbers

Objective:

That an appropriate level of car parking spaces are provided to meet the needs of the use.

Acceptable Solutions	Performance Criteria
A1 *The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:* *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;* *(b) the site is contained within a parking precinct plan and subject to Clause C2.7;* *(c) the site is subject to Clause C2.5.5; or* *(d) it relates to an intensification of an existing use or development or a change of use where:* *(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking*	***P1.2*** *The number of car parking spaces for dwellings must meet the reasonable needs of the use, having regard to:* *(a) the nature and intensity of the use and car parking required;* *(b) the size of the dwelling and the number of bedrooms; and* *(c) the pattern of parking in the surrounding area.*

spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or *(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:* *N = A + (C- B)* *N = Number of on-site car parking spaces required* *A = Number of existing on site car parking spaces* *B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1* *C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1.*	
Assessment: The proposal is assessed to comply with P1 of this standard in Section 9.1 of the accompanying Traffic Impact Assessment.	

C2.5.2 Bicycle parking numbers

Objective:

That an appropriate level of bicycle parking spaces are provided to meet the needs of the use.

Acceptable Solutions	**Performance Criteria**
A1 *Bicycle parking spaces must:* *(a) be provided on the site or within 50m of the site; and* *(b) be no less than the number specified in Table C2.1.*	***P1*** *Bicycle parking spaces must be provided to meet the reasonable needs of the use, having regard to:* *(a) the likely number of users of the site and their opportunities and likely need to travel by bicycle; and* *(b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area.*
Assessment:	

There is no requirement for bike parking under table C2.1.

C2.5.3 Motorcycle parking numbers

Objective:

That the appropriate level of motorcycle parking is provided to meet the needs of the use.

Acceptable Solutions	Performance Criteria
A1 *The number of on-site motorcycle parking spaces for all uses must:* *(a) be no less than the number specified in Table C2.4; and* *(b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.*	***P1*** *Motorcycle parking spaces for all uses must be provided to meet the reasonable needs of the use, having regard to:* *(a) the nature of the proposed use and development;* *(b) the topography of the site;* *(c) the location of existing buildings on the site;* *(d) any constraints imposed by existing development; and* *(e) the availability and accessibility of motorcycle parking spaces on the street or in the surrounding area.*
Assessment: The proposal provides 2 motorcycle spaces and complies with Table C2.4 of the planning scheme.	

C2.5.4 Loading bays

Objective:

That adequate access for goods delivery and collection is provided, and to avoid unreasonable loss of amenity and adverse impacts on traffic flows.

Acceptable Solutions	Performance Criteria
A1 *A loading bay must be provided for uses with a floor area of more than 1000m² in a single occupancy.*	***P1*** *Adequate space for loading and unloading of vehicles must be provided, having regard to:* *(a) the type of vehicles associated with the use;* *(b) the nature of the use;* *(c) the frequency of loading and unloading;* *(d) the location of the site;*

	(e) the nature of traffic in the surrounding area; *(f) the area and dimensions of the site; and* *(g) the topography of the site;* *(h) the location of existing buildings on the site; and* *(i) any constraints imposed by existing development.*
Assessment: This standard does not apply to the proposed residential use.	

2.6 Development Standards

C2.6.1 Construction of parking areas

Objective:

That parking areas are constructed to an appropriate standard.

Acceptable Solutions	**Performance Criteria**
A1 *All parking, access ways, manoeuvring and circulation spaces must:* *(a) be constructed with a durable all weather pavement;* *(b) be drained to the public stormwater system, or contain stormwater on the site; and* *(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.*	***P1*** *All parking, access ways, manoeuvring and circulation spaces must be readily identifiable and constructed so that they are useable in all weather conditions, having regard to:* *(a) the nature of the use;* *(b) the topography of the land;* *(c) the drainage system available;* *(d) the likelihood of transporting sediment or debris from the site onto a road or public place;* *(e) the likelihood of generating dust; and* *(f) the nature of the proposed surfacing.*
Assessment: The proposed vehicle accessible areas will be sealed and drained to comply with A1.	

C2.6.2 Design and layout of parking areas

Objective:

That parking areas are designed and laid out to provide convenient, safe and efficient parking.

Acceptable Solutions	Performance Criteria
A1.1 *Parking, access ways, manoeuvring and circulation spaces must either:* *(a) comply with the following:* *(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6;* *(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;* *(iii) have an access width not less than the requirements in Table C2.2;* *(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;* *(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;* *(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and* *(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or* *(b) comply with Australian Standard AS 2890-Parking facilities, Parts 1-6.* ***A1.2*** *Parking spaces provided for use by persons with a disability must satisfy the following:* *(a) be located as close as practicable to the main entry point to the building;* *(b) be incorporated into the overall car park design; and* *(c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities. [S35]*	***P1*** *All parking, access ways, manoeuvring and circulation spaces must be designed and readily identifiable to provide convenient, safe and efficient parking, having regard to:* *(a) the characteristics of the site;* *(b) the proposed slope, dimensions and layout;* *(c) useability in all weather conditions;* *(d) vehicle and pedestrian traffic safety;* *(e) the nature and use of the development;* *(f) the expected number and type of vehicles;* *(g) the likely use of the parking areas by persons with a disability;* *(h) the nature of traffic in the surrounding area;* *(i) the proposed means of parking delineation; and* *(j) the provisions of Australian Standard AS 2890.1:2004 - Parking facilities, Part 1: Off-street car parking and AS 2890.2 -2002 Parking facilities, Part 2: Off-street commercial vehicle facilities.*
Footnotes:	

[S35] Requirements for the number of accessible car parking spaces are specified in part D3 of the National Construction Code 2016.
Assessment: The proposal is assessed under this standard in the TIA. An assessment of the proposed grades is included in Section 8.10 of the TIA.

C2.6.3 Number of accesses for vehicles

Objective:

That:

(a) access to land is provided which is safe and efficient for users of the land and all road network users, including but not limited to drivers, passengers, pedestrians and cyclists by minimising the number of vehicle accesses;

(b) accesses do not cause an unreasonable loss of amenity of adjoining uses; and

(c) the number of accesses minimise impacts on the streetscape.

Acceptable Solutions	Performance Criteria
A1 *The number of accesses provided for each frontage must:* *(a) be no more than 1; or* *(b) no more than the existing number of accesses,* *whichever is the greater.*	***P1*** *The number of accesses for each frontage must be minimised, having regard to:* *(a) any loss of on-street parking; and* *(b) pedestrian safety and amenity;* *(c) traffic safety;* *(d) residential amenity on adjoining land; and* *(e) the impact on the streetscape.*
Assessment: Complies.	

C2.6.5 Pedestrian access

Objective:

That pedestrian access within parking areas is provided in a safe and convenient manner.

Acceptable Solutions	Performance Criteria
A1.1	***P1***

Uses that require 10 or more car parking spaces must: *(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:* *(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or* *(ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and* *(b) be signed and line marked at points where pedestrians cross access ways or parking aisles.* ***A1.2*** *In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.*	*Safe and convenient pedestrian access must be provided within parking areas, having regard to:* *(a) the characteristics of the site;* *(b) the nature of the use;* *(c) the number of parking spaces;* *(d) the frequency of vehicle movements;* *(e) the needs of persons with a disability;* *(f) the location and number of footpath crossings;* *(g) vehicle and pedestrian traffic safety;* *(h) the location of any access ways or parking aisles; and* *(i) any protective devices proposed for pedestrian safety.*
Assessment: The proposal is assessed in relation to this clause in Section 9.1 of the TIA.	

C2.6.8 Siting of parking and turning areas

Objective:

That the siting of vehicle parking and access facilities in an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone, General Business Zone or Central Business Zone does not cause an unreasonable visual impact on streetscape character or loss of amenity to adjoining properties.

Acceptable Solutions	**Performance Criteria**
A1 *Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas must be located behind the building line of buildings, excluding if a parking area is already provided in front of the building line.*	***P1*** *Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas, may be located in front of the building line where this is the only practical solution and does not cause an unreasonable loss of amenity to adjoining properties, having regard to:*

	(a) topographical or other site constraints; *(b) availability of space behind the building line;* *(c) availability of space for vehicle access to the side or rear of the property;* *(d) the gradient between the front and the rear of existing or proposed buildings;* *(e) the length of access or shared access required to service the car parking;* *(f) the location of the access driveway at least 2.5m from a window of a habitable room of a dwelling;* *(g) the visual impact of the vehicle parking and access on the site;* *(h) the streetscape character and amenity;* *(i) the nature of the zone in which the site is located and its preferred uses; and* *(j) opportunities for passive surveillance of the road.*
Assessment: The parking and turning areas will be located behind and to the side of the buildings. However, a small extent of the central carpark will project forward of the building line on Quarry Road. This minor encroachment will not cause an unreasonable loss of amenity and is considered to satisfy P1.	

Road and Railway Assets Code

The requirements of this code are assessed in Section 9.2 of the accompanying TIA.

Flood-Prone Areas Hazard Code

The site is not located with a mapped flood prone area, nor is it identified on Council's 1% AEP flood mapping. This code does not apply.

Potentially Contaminated Land Code

Subject to the remediation works Setout in the accompanying Remediation Action Plan prepared by Elgin Associates, November 2025, it is considered that the proposal will satisfy C14.5.1 P1(c) and C14.6.1, P1 (c) of this code.

5. Conclusion

The proposal provides for the redevelopment of 155 Cambridge Road, Warrane, for 75 social and affordable housing dwellings comprising 26 one-bedroom and 49 two-bedroom dwellings. The development is arranged across five apartment buildings and two townhouse buildings, together with 58 car parking spaces, internal

access and pedestrian connections, private and communal open space, landscaping, waste storage and associated infrastructure and site works.

The site is zoned Inner Residential and is well suited to the proposed use. It is located within an established urban area, approximately 300m from the Rosny Park Principal Activity Centre, close to frequent public transport services and connected to existing urban infrastructure. The proposal will make efficient use of this strategically located land and provide additional housing close to employment, shops and community facilities.

The assessment demonstrates that the proposal complies with the applicable Acceptable Solutions or satisfies the relevant Performance Criteria where discretion is required. The principal discretionary matters relate to residential density, the building envelope, private open space, car parking provision, the siting of part of the parking area and the Potentially Contaminated Land Code.

The following points are noted in particular:

- The proposed density of approximately 114.5m² of site area per dwelling provides for an identified accommodation need and will deliver a significant social and community benefit through the provision of 75 social and affordable housing dwellings. The proposal responds directly to the substantial identified demand within Clarence for one- and two-bedroom housing and satisfies Clause 9.4.1 P1.
- Although the four-storey apartment buildings near the Cambridge Road frontage extend beyond the building envelope prescribed by Clause 9.4.2 A3, the taller buildings are concentrated toward the lower part of the site and are substantially separated from adjoining dwellings. The apparent scale and bulk of the development will be moderated by the site's topography, the separation of the development into individual buildings, articulated elevations, landscaped setbacks and retained vegetation. The shadow diagrams demonstrate that the proposal will not cause an unreasonable reduction in sunlight to habitable rooms or unreasonable overshadowing of adjoining private open space. The proposal therefore satisfies Clause 9.4.2 P3.
- The development has a comparatively low site coverage of approximately 26%, allowing substantial areas for communal open space, landscaping, boundary planting and the retention of selected established trees. While the private open space areas do not satisfy the prescribed area and dimensional requirements, each dwelling will have open space directly accessible from a living area, suitably configured for outdoor relaxation and dining, and supported by the landscaped communal open space provided throughout the development. The private open space arrangements are therefore assessed to satisfy Clauses 9.4.3 P1 and P2.
- The provision of 58 on-site car parking spaces is below the rate prescribed by the Acceptable Solution. However, the accompanying Traffic Impact Assessment demonstrates that this provision will meet the reasonable needs of the proposed social and affordable housing use, having regard to the dwelling sizes, demonstrated car-ownership rates for comparable housing, the site's proximity to the Rosny Park Principal Activity Centre and the availability of frequent public transport. The proposed access, parking, manoeuvring and pedestrian arrangements can operate safely and efficiently, and the additional traffic generated by the development can be accommodated by the surrounding road network.
- The minor projection of part of the central parking area forward of the Quarry Road building line will not cause an unreasonable visual impact or loss of amenity. Most parking is located behind or

between the proposed buildings, and its presentation will be moderated by the proposed buildings and landscaping.

- The proposed waste storage and collection arrangements provide sufficient capacity for the development and can be safely and efficiently serviced by a private waste contractor.
- Subject to the remediation and validation measures specified in the Remediation Action Plan, the site can be made suitable for the proposed residential use and the development will satisfy the applicable requirements of the Potentially Contaminated Land Code.

Overall, the proposal represents an appropriate form of residential intensification within the Inner Residential Zone. It balances the efficient use of well-located urban land and the delivery of urgently needed social and affordable housing with the protection of adjoining residential amenity, the provision of functional living environments for future residents and the safe operation of the surrounding transport network.

The application is therefore considered to satisfy the applicable requirements of the planning scheme and is recommended for approval, subject to appropriate conditions, following public notification in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

Frazer Read

Principal

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From: "Frazer Read" <Frazer@allurbanplanning.com.au>
Sent: Fri, 30 Oct 2026 13:39:58 +1100
To: "City Planning" <cityplanning@ccc.tas.gov.au>
Cc: "Kate Shepherd" <kshepherd@fairbrother.com.au>
Subject: RE: PLANNING APPLICATION - PDPLANPMTD-2026/063660 - 155 Cambridge Road
Attachments: Request for Further Information - PDPLANPMTD-2026-063660 - 30 Oct 2026.pdf
Categories: Kellie

Hi Janelle,

I refer to our phone conversation this morning and your request for information 29 October and provide the following response in relation to *Clause 9.4.8 Waste storage for multiple dwellings*.
I understand that Council do not consider that A1(b)(ii) is met in that the communal waste storage enclosure is within 5.5m of the private open space of the nearest dwelling and that an assessment under P1 is required.

In this case it is submitted that P1 is satisfied in that:

- The ground floor plan, Drawing A02-00, identifies a separation of 6.025m between the waste enclosure and the wall of the nearest dwelling. The enclosure is separated approximately 5.4m from the closest area of private open space of a dwelling and only very marginally below the permitted setback of 5.5m.
- Drawing A02-00 specifies a waste enclosure wall at least 1.2m high, with a maximum transparency of 25%. This provides screening between the bins, surrounding dwellings and public viewpoints.
- The proposed enclosure will be large enough to accommodate the 3 x 1100L General Waste bins and 3 x 1100L recycled bins specified in the submitted advice from Veolia, 13 August 2026
- The common storage area is separated from all dwellings to minimise impacts caused by odours and noise.

I trust that Council can now progress the application to public advertising next Wednesday, 4 November.
Thank you

Regards

Frazer Read
Principal

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Document Set ID: 6100385
Version: 1, Version Date: 30/10/2026

DEVELOPMENT APPLICATION CONCEPT SERVICES REPORT

155 CAMBRIDGE ROAD, WARRANE

HOMES TASMANIA
AUGUST 2026

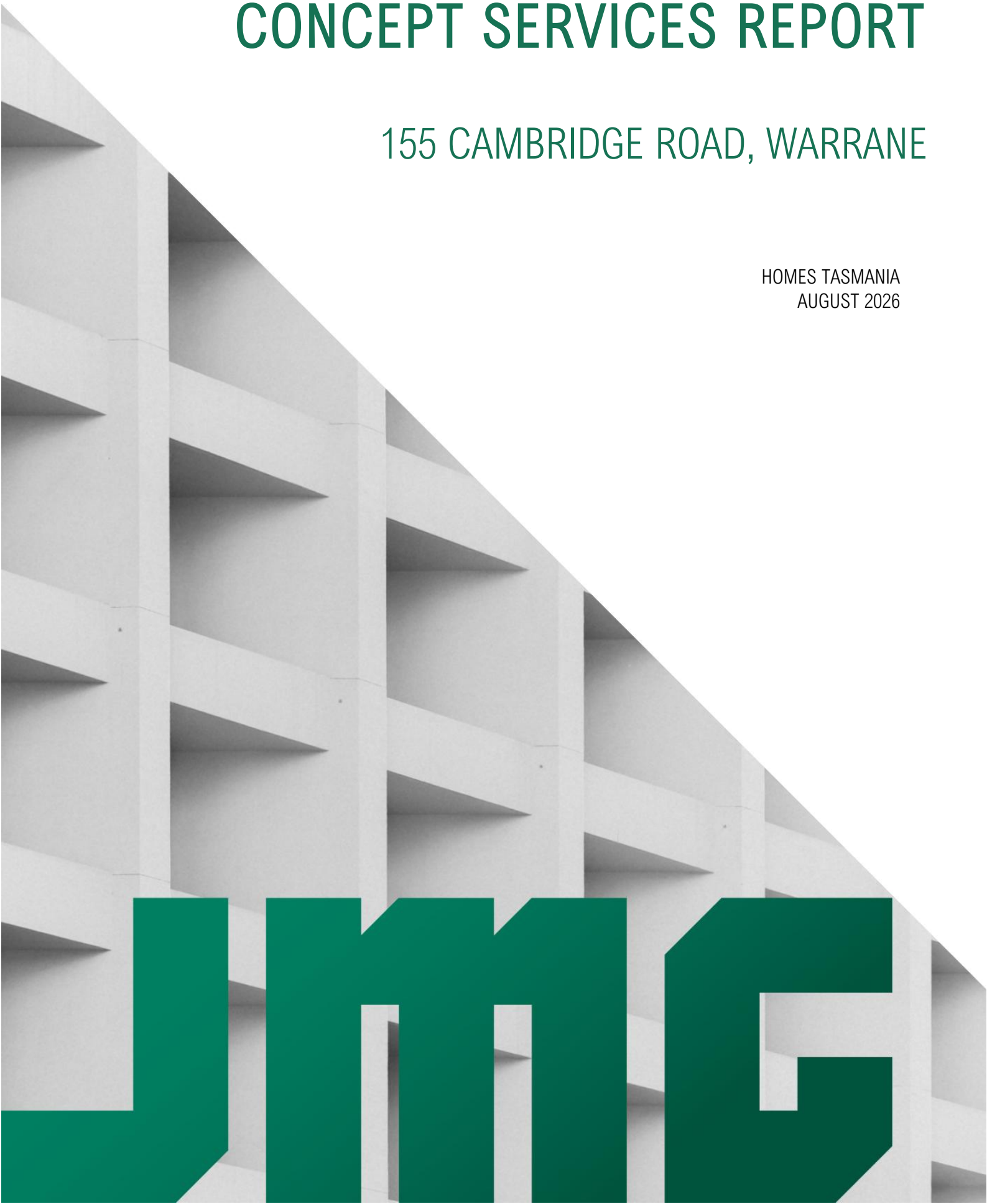


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Appendix C – JMG Water and Sewer Demand Calculations

Appendix D - JMG Stormwater Calculations

Issuing Office: 117 Harrington Street, Hobart 7000 **JMG Project No. J260222CS**								
Document Issue Status								
Ver.	**Issue Date**	**Description**	**Originator**		**Checked**		**Approved**	
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2	17/08/2026	Development Application Issue	JFB		BHL		ADS	

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1. Introduction

JMG has been engaged as the Consulting Engineer for Homes Tasmania in relation to a proposed residential development at 155 Cambridge Road, Warrane. The Development consists of a mix of 75 residential units and aims to provide modern housing solutions within the area.

This Concept Services Report has been prepared to support the Development Application (DA) submission and outlines the proposed servicing strategy for sanitary drainage, water supply, stormwater management and vehicle access and parking in accordance with relevant regulatory requirements and design standards.

The site of 8,588 m^2 is located within the residential suburb of Warrane. Formerly associated with the Warrane Army Barracks for reserve training the site is currently occupied by existing buildings and a large, paved car park / driveway. The site is accessed from the south via Quarry Road and topographically falls towards Cambridge Road.



Figure 1: Site Locality Plan

2. Sanitary Drainage System

2.1 Existing System

The site is currently serviced by a DN150 sewer connection located near the western corner of the site, adjacent to the intersection of Cambridge Road and Quarry Road. This connection discharges to TasWater sewer maintenance hole A592586 within Quarry Road.

Based on the site's most recent use as office accommodation, the existing sewer loading has been assessed as 10.2 equivalent tenements (ET).

2.2 *Applicable Design Standards*

The sanitary drainage system for the site will be designed in accordance with the following, as applicable:

- AS3500.2 – National Plumbing and Drainage Code – Sanitary Plumbing and Sanitary Drainage.
- NCC 2022 Volume Three – Plumbing Code of Australia.
- TasWater's Supplement to the Sewerage Code of Australia (WSA02).
- Relevant TasWater Development and Technical Requirements.

2.3 *Proposed System*

The proposed development has a total sanitary drainage loading of 1,453 fixture units, calculated in accordance with AS 3500.2. Prescriptive sizing under AS 3500.2 indicates that a DN225 sanitary drain is required.

AS 3500.2 does not convert fixture-unit loading into a probable simultaneous wastewater flow rate. Instead, fixture units are used as a prescriptive basis for selecting the required pipe size. Accordingly, the DN225 sizing outcome cannot be directly compared with the hydraulic capacity of a pipe in litres per second.

Adopting a DN225 private sanitary drain would also require the existing DN150 TasWater property connection and downstream public sewerage infrastructure to be upgraded to DN225. Preliminary assessment indicates that approximately 620m of the downstream TasWater DN150 sewer main would require upgrading, as shown in Figure 2. Given the substantial extent of the required off-site infrastructure works, this option is not considered practicable for the proposed development.

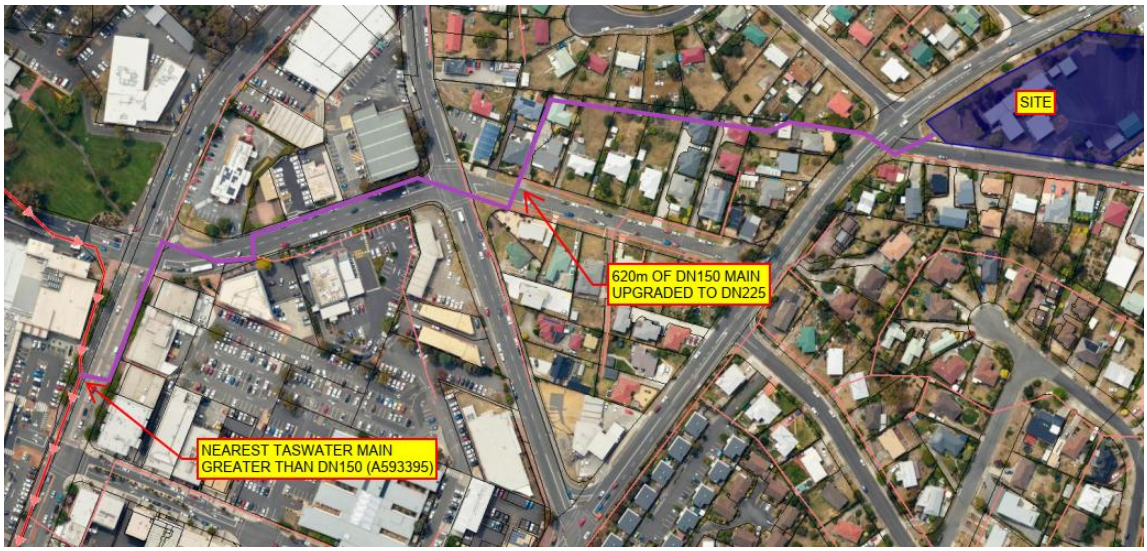


Figure 2: Required Sewer main upgrade for DN225 site connection

Accordingly, a performance-based design is proposed to demonstrate that the existing DN150 property connection and proposed DN150 private sanitary drainage system have sufficient hydraulic capacity.

The proposed development has been assessed as generating a total sewer loading of 50.5 ET, calculated in accordance with TasWater's *Supplement to the Sewerage Code of Australia (WSA 02)*. The corresponding design flow calculated using the MRWA methodology is 3.05 L/s Total Design Flow. Table 5.6 of the MRWA edition of the Sewerage Code indicates that a DN150 sewer can service the assessed loading at any required grade. These criteria have therefore been used as supporting guidance in assessing the acceptability of the proposed DN150 system.

The suitability of the DN150 sanitary drainage system has also been assessed using the applicable NCC 2022 Volume Three Verification Method. This method uses a probabilistic assessment of fixture usage and coincident discharge to estimate the probable simultaneous wastewater flow. The assessment resulted in a total probable simultaneous flow rate for the site at the property connection of 8.8 L/s Total Design Flow.

Unlike the fixture-unit method prescribed by AS 3500.2, the MRWA design flow of 3.05 L/s and the NCC probable simultaneous flow rate of 8.8 L/s are expressed as hydraulic flow rates. Both values can therefore be directly compared with the hydraulic capacity of the DN150 sanitary drain calculated using Manning's equation.

The hydraulic assessment demonstrates that both calculated design flows can be conveyed by a DN150 sanitary drain laid at the minimum grade of 1%. This supports the proposed retention of the existing DN150 property connection and use of a DN150 private sanitary drainage system.

Sewerage flows from the development have been summarised in Table 1, with detailed calculation included in Appendix C.

Table 1: Sewer Flow Calculations as per TasWater's Supplement

	Value	Units
Equivalent Number of Tenements	50.5	(-)
Average Dry Weather Flow	0.278	(L/s)
Peak Dry Weather Flow	3.00	(L/s)
Total Design Flow	3.05	(L/s)

3. Water Supply

3.1 Existing System

The site is currently serviced by two water connections:

- A DN50 connection supplying the existing domestic water system from TasWater's DN100 asbestos cement water main (asset A250725) in Quarry Road fed from the Clarence Low Level pressure zone (CLW01).
- A DN100 connection supplying the existing on-site fire hydrant system from TasWater's DN400 mild-steel cement-lined bulk water main (asset A261353).

Based on the site's most recent use as office accommodation, the existing water demand has been assessed as 6.8 equivalent tenements (ET).

3.2 Applicable Design Standards

- AS 3500.1 – National Plumbing and Drainage Code: Water supply.
- TasWater's Water Metering & Guidelines – for metering requirements.
- TasWater's Water Boundary Backflow Containment Selection Guidelines – for backflow prevention.
- TasWater's Supplement to the Water Supply Code of Australia (WSA03).
- AS 2419.1 Fire Hydrant Installations – for fire coverage compliance.
- AS 2118.1 Automatic Fire Sprinkler Systems.
- FPAA101D – Automatic Fire Sprinkler System Design and Installation: Drinking Water Supply.

3.3 Proposed System

A new above ground fire and domestic water meter assembly, in accordance with TasWater's metering and containment requirements, will be constructed within the property boundary.

Based on TasWater's boundary containment hazard assessment criteria, the development has been assessed as a low-hazard site. Boundary backflow containment will be provided in accordance with TasWater's requirements. The backflow protection requirements for the domestic and fire services will be confirmed during detailed design.

The internal domestic water supply system will include new reticulation pipework extending from the master boundary meter to each dwelling and will be designed in accordance with AS 3500.1. Provision will be incorporated into the reticulation layout during detailed design to enable individual private dwelling water meters to be installed in the future, if required. Any future individual meters will be owned, operated and read by Homes Tasmania. TasWater will own and read only the master boundary meter.

Water demand has been calculated in accordance with TasWater's *Supplement to the Water Supply Code of Australia (WSA 03)*. The calculated demands are summarised in Table 2.

Table 2: Water Demand Calculations as per TasWater's Supplement

	Value	Units
Equivalent Number of Tenements	34.8	(-)
Probable Simultaneous Demand	3.7	(L/s)
Average Water Demand per day	23,831	(L/day)

The probable simultaneous demand has also been calculated in accordance with AS/NZS 3500.1 for the design and sizing of the private domestic water service. The total connected loading of 1,071 loading units corresponds to a probable simultaneous flow rate of 4.9 L/s.

The fire hydrant system will be designed in accordance with AS 2419.1. Preliminary assessment indicates a requirement for one attack hydrant to deliver 10 L/s at 350 kPa residual pressure at the most hydraulically disadvantaged point.

Initial hydraulic modelling suggests this performance may not be achievable under existing network conditions. Following consultation with Tasmania Fire Service, a performance solution is being investigated based on a reduced requirement of 10 L/s at 200 kPa at a proposed booster assembly. This approach requires hydrants to be boosted prior to operation. This proposal remains subject to confirmation by the fire engineer and TasFire. It is anticipated that achieving the required site coverage using three hose lengths from the hydrants will require a Performance Solution, subject to review and acceptance by TasFire.

Fire sprinkler protection will be designed in accordance with AS 2118.1 and FPAA101D, with the sprinkler system supplied from the development's domestic water service. Preliminary assessment is based on two most disadvantaged sprinkler heads operating simultaneously at 66 L/min each, giving a total demand of 2.2 L/s, with a residual pressure of 70 kPa at each head.

A combined hydraulic assessment has been undertaken incorporating:

- Fire hydrant/booster demand: 10 L/s at 200 kPa.
- Sprinkler demand: 2.2 L/s at 70 kPa.
- Probable simultaneous domestic demand (AS 3500.1): 4.9 L/s.

This results in a preliminary total demand of 17.1 L/s, with a minimum required residual pressure of 310 kPa at the proposed property water connection, located at an elevation of approximately RL 50.5 m. The demand and residual pressure will require confirmation in detail design through detailed hydraulic modelling consultation with the fire engineer.

TasWater has provided a preliminary servicing option, supported by preliminary hydraulic modelling, which indicates that the required site flow and pressure requirements may be achieved through a proposed cross-connection between the existing water mains. The TasWater option

comprises connecting bulk transfer main Asset A261353 to the DN100 reticulation main Asset A250725 via a new DN100 cross-connection incorporating an isolation valve off the bulk water main offtake. The isolation valve would remain closed under normal reticulation demand and would only be opened during firefighting activities. This operating procedure would be documented in the future site firefighting plans.

Under this arrangement, a new DN100 property connection would be provided from the proposed DN100 cross-connection, enabling the site to receive a combined supply from the two existing mains during firefighting activities (refer Figure 3).

TasWater's modelling of their proposed scenario assumes peak background demand conditions with both Bellerive reservoirs at one-third capacity. Under these conditions, the system is predicted to supply approximately 10 L/s at a residual pressure of 290–300 kPa at an elevation of 50.5m AHD.



Figure 3: TasWater Proposed Water Connection Scenario

TasWater's preliminary modelling does not, in isolation, confirm that the total preliminary site demand of 17.1 L/s at a minimum residual pressure of 310 kPa can be reliably supplied. Further investigation is therefore required to confirm the available flow and pressure and to finalise the proposed site servicing arrangement.

Flow and pressure testing of TasWater's nearby water mains will be undertaken to verify actual network conditions. The results will be used to determine whether the required site demand can be reliably supplied from the existing Clarence Low Level Pressure Zone, or whether augmentation of the existing network is required.

Should augmentation be required, extension of the Mornington High Level Pressure Zone (CLW10) to service the site is considered the likely solution, subject to further assessment and approval by TasWater.

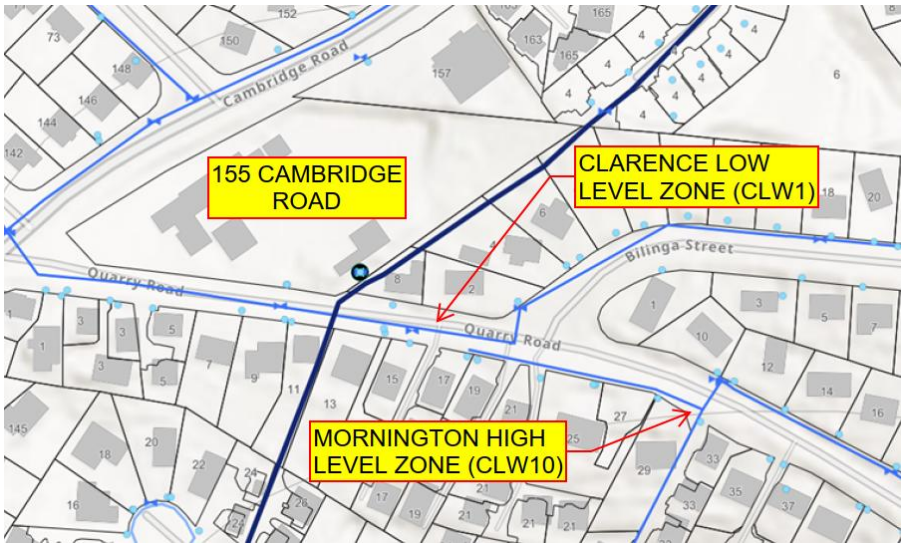


Figure 4: TasWater's High- and Low-level Pressure Zones

4. Stormwater Management

4.1 Applicable Planning Scheme Requirements

The Tasmanian Planning Scheme does not contain specific provisions prescribing stormwater quality and quantity controls for new development. However, Clarence City Council's Stormwater Management Procedure for New Development establishes Council's requirements for managing stormwater quantity, quality, flood risk and connections to the public stormwater system.

The Procedure has been developed with reference to the Tasmanian Stormwater Standards for New Developments to support a consistent approach to stormwater management across the state. The proposed development has been assessed in accordance with Council's Stormwater Management Procedure for New Development and project-specific advice provided by Council's Development Engineer.

4.2 Applicable Design Standards

The proposed stormwater management system has been designed with reference to the following:

- AS 3500.3, Plumbing and drainage – Stormwater drainage.
- Australian Rainfall and Runoff.
- Clarence City Council assets in accordance with IPWEA Standards.
- Clarence City Council's Stormwater Management Procedure for New Development.

The private stormwater drainage system shall be designed in accordance with AS 3500.3. The on-site detention system has been preliminarily sized in accordance with AS 3500.3 and in consultation with Council's Development Engineers.

In accordance with project-specific advice provided by Council, a 40% increase in design rainfall intensity has been applied to the post-development catchment to account for the projected effects of climate change. The adopted allowance is based on the SSP2-4.5 scenario as outlined in the Australian Rainfall and Runoff (ARR) Guidelines.

4.3 Proposed Systems

4.3.1 Pre-Development Flows

The site is divided into four distinct stormwater catchments, as illustrated in Appendix D.

Catchment 1 contains the existing buildings and paved car park. Runoff from this catchment is collected by the existing private drainage system and discharged through the DN300 site connection to Council's stormwater main in Cambridge Road.

Catchments 2, 3 and 4 are located to the west, east and north of Catchment 1, respectively, and predominantly comprise landscaped areas. Due to the existing site topography, these catchments are not directly connected to the private stormwater drainage system. Runoff from these areas currently follows overland flow paths through adjoining properties before ultimately entering the public stormwater network.

The pre-development 5% AEP runoff from each catchment has been calculated using the Rational Method and runoff coefficients adopted in accordance with AS 3500.3. The results are summarised in Table 3.

Table 3: Pre Development Catchment Properties

Name	Area (m^2)	Runoff Coefficient	5% AEP Flow (L/s)
Catchment 1	5222	0.74	96.9
Catchment 2	1368	0.21	7.4
Catchment 3	1636	0.22	8.9
Catchment 4	362	0.18	1.7

As Catchment 1 is the only existing catchment directly connected to the private drainage system, its calculated 5% AEP discharge of 96.9 L/s has been adopted as the permissible discharge rate from the proposed detention system to Council's stormwater main.

The calculated runoff from Catchments 2, 3 and 4 represents existing overland runoff and has not been included in the permissible piped discharge rate.

4.3.2 Post-Development Flows

The proposed connected Catchment 1 has a revised area of 6,336 m^2. This comprises the existing connected Catchment 1 area of 5,222 m^2 and a net additional area of 1,114 m^2 transferred from the existing overland-flow catchments.

Overall, the proposed development will reduce the total impervious area across all four catchments across the site by approximately 395 m^2. The proposed changes to the overland-flow catchments comprise:

- An increase to 1,114 m^2 in Catchment 1.
- A reduction of 575 m^2 in Catchment 2.
- A reduction of 762 m^2 in Catchment 3.
- An increase of 223 m^2 in Catchment 4.

The remaining 2,252 m^2 within Catchments 2, 3 and 4 will continue to discharge via the existing overland flow paths.

The increase in Catchment 4 results from locating the proposed buildings and underground services outside the tree protection zones associated with the native trees along the north-eastern boundary. This arrangement avoids excavation within the tree protection zones and allows the existing trees to be retained.

The remaining portions of Catchments 2, 3 and 4 will comprise landscaped pervious areas and will not contribute to the private piped drainage system. These areas have therefore been excluded from the post-development runoff calculation for the detention system.

The reduction in the total area discharging via overland flow is expected to reduce runoff conveyed through adjoining properties during the 5% AEP event. Existing and proposed overland flow paths will be maintained without concentrating additional runoff toward adjoining properties.

The connected post-development catchment is calculated to generate a peak runoff of 141.6 L/s during the minor 5% AEP plus 40% climate change factor design event. This is 44.7 L/s greater than the adopted permissible discharge rate of 96.9 L/s.

The pre- and post-development calculations are summarised in Table 4.

Table 4: Summary of Pre and Post Development Calculations

C_r (Roofed run-off co-efficient)	C_i (Driveway run-off co-efficient)	C_p (Pervious run-off co-efficient)	Pre Development Flow	Post Development Flow
1.0	0.9	0.104	96.9 L/s	141.6 L/s

Detailed catchment areas, runoff coefficients, design rainfall intensities and Rational Method calculations are provided in Appendix D.

4.3.3 On-Site Detention

On-site detention will be provided to restrict the post-development discharge to a maximum of 96.9 L/s during the 5% AEP design event.

Preliminary detention calculations indicate that a minimum storage volume of 13.4 m^3 is required. The proposed detention system will provide 15 m^3 of storage, exceeding the calculated minimum requirement. The detention volume will be provided using a minimum of 55m of oversized DN600 stormwater pipes installed along the northern boundary. The storage pipes will discharge through a flow-control pit incorporating a baffle plate and outlet orifice, as shown on the Civil Drawings in Appendix B.

A preliminary outlet-orifice diameter of 200 mm has been adopted. The final orifice size will be confirmed during detailed design using the final detention-system levels and available driving head.

Detailed detention calculations are provided in Appendix D.

4.3.4 Stormwater Quality Requirements

Following consultation with Council, it is proposed that the development's stormwater quality treatment requirements be satisfied through a financial cost contribution toward off-site stormwater quality improvement works.

To determine this value a MUSIC model will be prepared for a hypothetical on-site treatment system that satisfies Council's applicable water-quality treatment targets. The model will establish the treatment infrastructure that would otherwise be required on site. A corresponding cost estimate will be prepared and submitted to Council to determine the value of the proposed contribution.

The MUSIC model, treatment concept and cost estimate will be finalised during detailed design and submitted to Council for assessment.

4.3.5 Stormwater Layout and Overland Flow

The existing DN300 stormwater site connection will be removed and realigned. The realigned connection will extend from the existing Clarence City Council stormwater maintenance hole in Cambridge Road into the site and connect to the proposed private stormwater drainage system. The proposed arrangement is shown on the JMG Civil Drawings in Appendix B.

The proposed overland flow paths, indicative low points within the car park and general stormwater design inputs intended for the development are shown in Appendix D.

The arrangement establishes the design principles that will be implemented and further developed during detailed design.

The proposed site grading will establish high points within the car park that divide major overland flow toward the eastern and western portions of the site. Runoff exceeding the minor event design capacity of the piped drainage system will be directed toward the nominated car park low points and conveyed between the proposed buildings along pedestrian pathways toward Cambridge Road.

The location of the site on a natural high point means that no significant upstream catchments have been identified as contributing external overland flow through the site. The proposed overland flow paths are therefore intended to convey runoff generated within the development catchment.

The final major-system design will demonstrate that the proposed overland flow paths can safely convey runoff generated during a major 1% AEP event, incorporating the SSP3-7.0 climate change scenario specified by Council.

5. Vehicle Access and Parking

5.1 Traffic Impact Assessment

The traffic and parking impacts of the proposed development have been assessed separately by Hubble Traffic in the Traffic Impact Assessment submitted under a separate cover. The assessment addresses the relevant requirements of the Tasmanian Planning Scheme, including:

- The number and allocation of parking spaces.
- Existing traffic and access conditions within and surrounding the site.
- Anticipated internal and external traffic conditions following development.
- The location, layout and grades of the proposed vehicular accesses.
- The dimensions and layout of parking spaces and circulation aisles.
- Vehicle manoeuvring and swept-path requirements.
- Waste collection arrangements.
- Access ramp grades and transitions.

The Traffic Impact Assessment should be read in conjunction with this report and the Civil Drawings provided in Appendix B.

5.2 Applicable Design Requirements

The civil design of the internal vehicle access and parking areas has been developed with reference to:

- AS2890.1 – Off-street car parking.
- The relevant requirements of the Tasmanian Planning Scheme.
- The parking and access recommendations contained in the Hubble Traffic Impact Assessment.
- Project requirement to satisfy the Livable Housing Design Guidelines Silver Level.

5.3 Internal Parking Levels and Grades

The civil assessment addresses the proposed finished surface levels and grades of the internal parking spaces and circulation aisles. The levels and grades shown on the Civil Drawings in Appendix B demonstrate that the proposed parking and circulation areas can be constructed with grades and grade transitions that comply with AS 2890.1.

The parking area levels have also been coordinated with the proposed dwelling entrances and pedestrian pathways to satisfy the project's Livable Housing Design Guidelines Silver Level requirements. This includes providing suitable interfaces between designated parking spaces, pedestrian routes and step-free entrances to the applicable dwellings.

APPENDIX A

Architectural Plans (Under Separate Cover)

APPENDIX B

JMG Design Drawings 260222CS - C01 – C03

APPENDIX C

JMG Water and Sewer Demand Calculations

EXISTING WATER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

SITE PARAMETERS		
Site Area	5200	m^2
Number of Development Types	1	-

Equivalent Tenement Rates					
Development Number	Development Type	Rate	Units	Value	ETs
Development 1	Office	0.004	GBFA (m^2)	1700	6.8
			Total ETs		6.8

Demand Flow Rates				
Variable	TasWater Formula	Calculated Value	Units	Comments
Average Day Demand (AD)	685 L/ET/day x ETs	4658	L/day	Section 2.3.1 TasWater Supp
Peak Day Demand (PD)	2.25 x AD	10480.5	L/day	Section 2.3.4.2 TasWater Supp
Peak Hour Demand (PH)	PH/PD = 2.0	873.4	L/hr	Section 2.3.4.3 TasWater Supp
Peak Day Flow Rate	PD/(day/hr/min)	0.121	L/s	
Probable Simultaneous Demand (PSD)	0.03n + 0.4554*sqrt(n)	1.39	L/s	Table3.2 AS3500.1

PROPOSED WATER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

SITE PARAMETERS		
Site Area	5200	m^2
Number of Development Types	3	-

Equivalent Tenement Rates

Development Number	Development Type	Rate	Units	Value	ETs
Development 1	Apartment - 1 Bedroom	0.33	Dwelling	23	7.59
Development 2	Apartment - 2 Bedroom	0.5	Dwelling	48	24
Development 3	Unit - 2 Bedroom	0.6	Dwelling	4	2.4
			Total ETs		33.99

Demand Flow Rates

Variable	TasWater Formula	Calculated Value	Units	Comments
Average Day Demand (AD)	685 L/ET/day x ETs	23283.15	L/day	Section 2.3.1 TasWater Supp
Peak Day Demand (PD)	2.25 x AD	52387.1	L/day	Section 2.3.4.2 TasWater Supp
Peak Hour Demand (PH)	PH/PD = 2.0	4365.6	L/hr	Section 2.3.4.3 TasWater Supp
Peak Day Flow Rate	PD/(day/hr/min)	0.606	L/s	
Probable Simultaneous Demand (PSD)	0.03n + 0.4554*sqrt(n)	3.67	L/s	Table3.2 AS3500.1

EXISTING SEWER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

Site Parameters		
Area of Development	0.52	ha
I(1,2) 1 hr duration rainfall intensity, ARI 2 years	12	mm/hr
Number of Development Types	1	-

Equivalent Tenement Rates					
Development Number	Development Type	Rate	Units	Value	ETs
Development 1	Office	0.006	GBFA (m^2)	1700	10.2
			Total ETs		10.2

EXISTING SEWER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

Design Flow Rates				
Variable	TasWater Formula	Calculated Value	Units	Comments
ADWF	450 L/ET/day x ETs	0.05508	L/s	Appendix C TasWater Supp
d	0.01*(LOG(A))^4-0.19*(LOG(A))^3 + 1.4*(LOG(A))^2-4.66*LOG(A) + 7.57	9.01	-	Appendix C WSA02
PDWF	d x ADWF	0	L/s	Section 2.3.4.2 TasWater Supp
GWI	0.025 X A X Portion(wet)	0.0091	L/s	Section 5.5.5.2 TasWater Supp
A_{eff}	A for Density > 150 EP/Ha	0.520	-	Appendix C WSA02
C	Saspect + Naspect	1.4	-	Section 5.5.5.2 TasWater Supp
Factor (size)	(40/A)^0.12	1.68	-	Appendix C WSA02
X	log(ARI)	0.699	-	Section 5.5.5.2 TasWater Supp
Factor (containment)	0.77 x (10^(0.43X)) / (10^(0.14X^2))	1.3	-	Appendix C WSA02
I	$I_{1,2}$ x $Factor_{size}$ x $Factor_{containment}$	26.3	-	Appendix C WSA02
RDI	0.028 x Aeff x C x I	0.535	L/s	Appendix C WSA02
Design Flow	PDWF + GWI + RDI	1.04	L/s	Appendix C WSA02

PROPOSED SEWER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

Site Parameters		
Area of Development	0.52	ha
I(1,2) 1 hr duration rainfall intensity, ARI 2 years	12	mm/hr
Number of Development Types	3	-

Equivalent Tenement Rates

Development Number	Development Type	Rate	Units	Value	ETs
Development 1	Apartment - 1 Bedroom	0.5	Dwelling	23	11.5
Development 2	Apartment - 2 Bedroom	0.75	Dwelling	48	36
Development 3	Apartment - 2 Bedroom	0.75	Dwelling	4	3
			Total ETs		50.5

PROPOSED SEWER FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

Design Flow Rates				
Variable	TasWater Formula	Calculated Value	Units	Comments
ADWF	450 L/ET/day x ETs	0.2727	L/s	Appendix C TasWater Supp
d	0.01*(LOG(A))^4-0.19*(LOG(A))^3 + 1.4*(LOG(A))^2-4.66*LOG(A) + 7.57	9.01	-	Appendix C WSA02
PDWF	d x ADWF	2	L/s	Section 2.3.4.2 TasWater Supp
GWI	0.025 X A X Portion(wet)	0.0091	L/s	Section 5.5.5.2 TasWater Supp
A_{eff}	A for Density > 150 EP/Ha	0.520	-	Appendix C WSA02
C	Saspect + Naspect	1.4	-	Section 5.5.5.2 TasWater Supp
Factor (size)	(40/A)^0.12	1.68	-	Appendix C WSA02
X	log(ARI)	0.699	-	Section 5.5.5.2 TasWater Supp
Factor (containment)	0.77 x (10^(0.43X)) / (10^(0.14X^2))	1.3	-	Appendix C WSA02
I	$I_{1,2}$ x $Factor_{size}$ x $Factor_{containment}$	26.3	-	Appendix C WSA02
RDI	0.028 x Aeff x C x I	0.535	L/s	Appendix C WSA02
Design Flow	PDWF + GWI + RDI	3.00	L/s	Appendix C WSA02

FIRE DESIGN FLOWS CALCULATIONS

PROJECT DESCRIPTION:	Social Housing
PROJECT ADDRESS:	155 Cambridge Road, Warrane
PROJECT NUMBER:	240698CS
REVISION:	1

DATE:	17/08/2026
DESIGNED:	*JFB*
REVIEWED:	*BHL*

Design Paramters		
Required Flowrate, Q	10	L/s
Pipe Length, L	85	m
Pipe Diameter, D	100	mm
Elevation Difference, Z	6	m

Pipe Fittings			
Fitting Type	Number	K_L	K_L Total
ButterFly Vlave	2	0.77	1.54
90° Bend	8	0.51	4.08
Angle Valve	1	2.55	2.55
		Total	8.17

Design Flow Rates			
Variable	Comments	Calculated Value	Units
Fitting Head Loss, H_F	$H_F = [\text{sum}K_L] \times \frac{V^2}{2g}$	0.675	m
Friction Head Loss, H_L	H_L = 0.75m / 100m Of Pipe	0.638	m
Meter Head Loss	Assumed for DN100 Single Check	5.10	m
Total Head Loss		12.4	m
Total Pressure Loss		121.8	KPa
Required Pressure	350KPa + Pressure Loss	471.8	KPa

APPENDIX D

JMG Stormwater Calculations

N

0 5 10 15 20 25m
SCALE 1:500



DA1 17/08/2026 DEVELOPMENT APPLICATION
REV DATE REMARK

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

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Ground Floor, 73 Paterson Street, Launceston (03) 6334 5548
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
HOMES TASMANIA
155 CAMBRIDGE ROAD
WARRANE, 7018

TITLE
STORMWATER CATCHMENTS
PRE-DEVELOPMENT

Accepted CJM (Discipline Head)	Date
Accepted BHL (Team Leader)	Date
Approved CJM (Principal)	Date

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1:500	JFB	JFB
	PLOT DATE	17/08/2026

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PLOT DETAILS J240698CS SW CATCHMENT PLAN.DWG

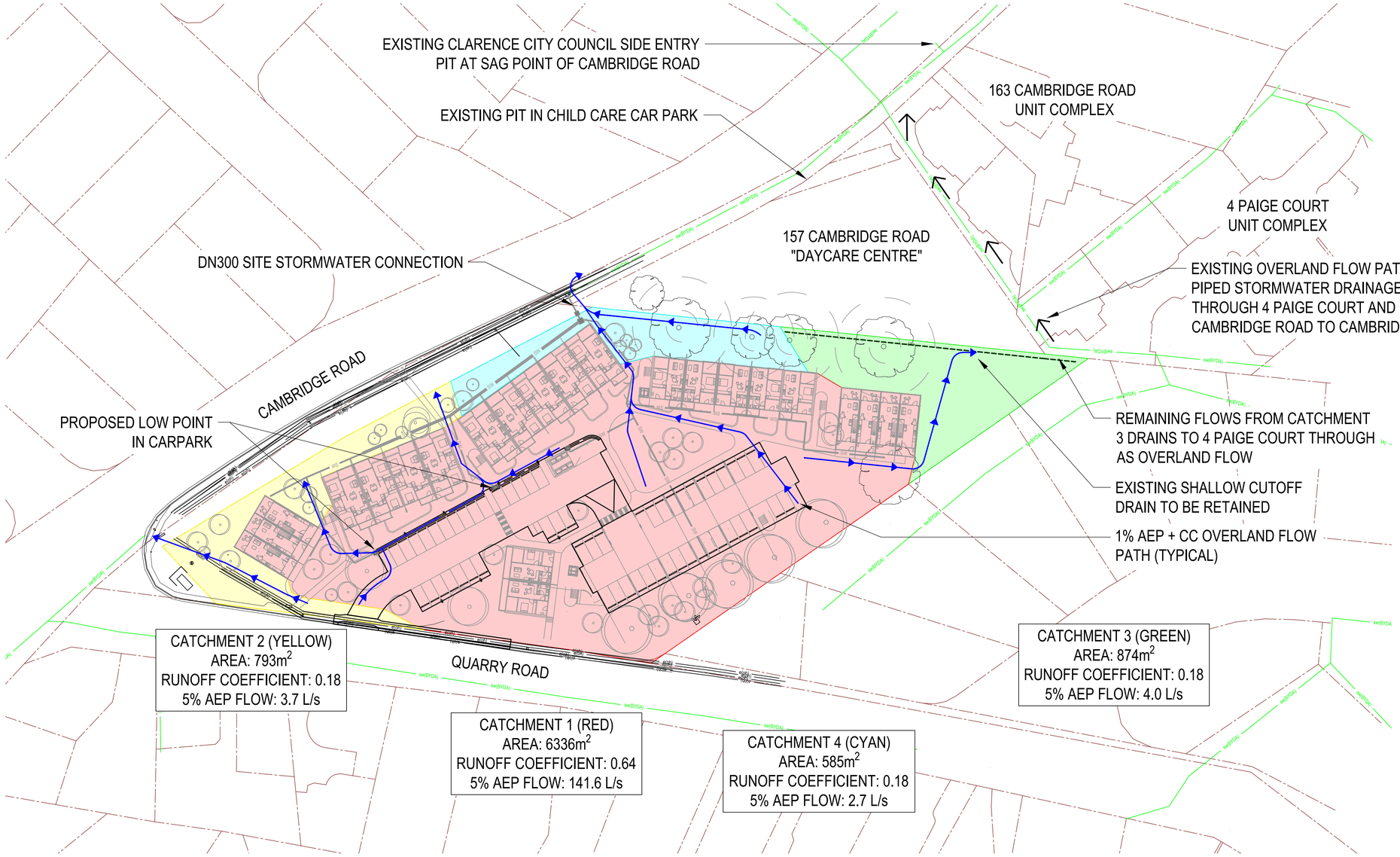
PROJECT NO. 260222CS

DWG NO.	REVISION
SK01	DA1

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REV	DATE	REMARK
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SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
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PROJECT
HOMES TASMANIA
155 CAMBRIDGE ROAD
WARRANE, 7018

TITLE
STORMWATER CATCHMENTS POST-DEVELOPMENT

Accepted (Discipline Head) CJM		Date
Accepted (Team Leader) BHL		Date
Approved (Principal) CJM		Date

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1:500	JFB	JFB
	PLOT DATE	17/08/2026

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PLOT DETAILS J2406998CS SW CATCHMENT PLAN.DWG

PROJECT NO. 260222CS

DWG NO. SK02 | REVISION DA1

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155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: IFD Table

Metadata:

Copyright Commonwealth of Australia 2016	
Bureau of Meteorology	
(ABN 92 637 533 532)	
IFD Design Rainfall Intensity (mm/h)	
Issued:	10-Jun-26
Requested coordinate:	
Latitude	-42.8643
Longitude	147.3767
Nearest grid cell:	
Latitude	42.8625 (S)
Longitude	147.3875 (E)

Rainfall mm/hr							
		Annual Exceedance Probability (% AEP)						
		1	2	3	4	5	6	7
		63.20%	50%	20%	10%	5%	2%	1%
Duration (min)	1	62	70.4	98.4	119	141	172	197
	2	53.3	60	81.4	96.4	111	130	144
	3	47.1	53.2	72.7	86.5	100	118	132
	4	42.5	48.1	66.3	79.3	92.7	110	125
	5	38.9	44	61.1	73.5	86.3	104	118
	10	28.2	32	45	54.8	65.1	80.1	92.6
	15	22.8	25.9	36.5	44.5	52.9	65.3	75.6
	20	19.5	22.2	31.2	37.9	45	55.4	64
	25	17.3	19.6	27.4	33.3	39.5	48.3	55.7
	30	15.6	17.7	24.7	29.9	35.3	43.1	49.5
	45	12.5	14.1	19.6	23.5	27.6	33.2	37.8
	60	10.7	12	16.6	19.8	23.1	27.6	31.2
	90	8.57	9.68	13.2	15.7	18.2	21.4	24
	120	7.36	8.32	11.3	13.4	15.4	18.1	20.1
	180	5.95	6.74	9.19	10.8	12.4	14.4	16
	270	4.82	5.47	7.49	8.81	10.1	11.7	13
	360	4.14	4.71	6.48	7.64	8.75	10.2	11.3
	540	3.31	3.79	5.27	6.24	7.17	8.44	9.4
	720	2.81	3.23	4.52	5.38	6.21	7.36	8.23
	1080	2.19	2.53	3.58	4.3	5.01	5.99	6.75
	1440	1.81	2.09	2.99	3.62	4.23	5.09	5.76
	1800	1.55	1.79	2.58	3.13	3.68	4.44	5.04
	2160	1.36	1.57	2.27	2.76	3.25	3.93	4.47
	2880	1.09	1.26	1.82	2.22	2.63	3.18	3.63
	4320	0.783	0.905	1.3	1.59	1.89	2.28	2.59
	5760	0.614	0.707	1.01	1.23	1.46	1.75	1.98
	7200	0.507	0.583	0.829	1	1.18	1.41	1.6
	8640	0.434	0.498	0.703	0.845	0.986	1.18	1.33
	10080	0.381	0.437	0.613	0.731	0.847	1.01	1.14

Time of Concentration - Sheet, Channel and Pipe								
Section	**Description**	**Method**					**Unit**	**Comment**
1	Roof	Assumed			ToC	**5.00**	min	Assumed roof and downpipe

Time of Concentration - Selection for future use			
Total ToC	**5**	**min**	**Small catchment assumption**

155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: %Imp (PreD)

Total Site Area	5222	m^2
	0.5222	Ha

	Buildings/Roof	Roads	Gravel	Grass/Landscape
1	945	3477		800
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

					Total
Sum	945	3477	0	800	5222
Factor	1	0.9	0.8	0.104	N/A
Impervious Area	945	3129.3	0	83.2	4157.5
				% Impervious	**80%**
Buildings/Roads Total	4074.3				

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155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: Flows (PreD)

Time of Concentration			
C_1,10	25	mm	10% AEP, 60min Rainfall
A=	5222	m2	Insert Catchment Area
A=	0.00522	Km^2	Calculated in Km2
tc=	5	mins	Whole Number Tc

Impervious Area		
Existing Hardstand Area=	4157.5	m2
Total Area =	5222	m2
Fraction Impervious =	80%	

Runoff Coefficient		
Fraction impervious =	80%	
C1,10 =	0.100	*Formula - Refer ARR Book VIII*
C10 =	**0.74**	**Runoff Coefficient**

Frequency Conversion Factors -Refer AR&R 1987										
ARI (years)	1	2	5	10	20	40	50	60	80	100
Factor, F_y	0.8	0.85	0.95	1	1.05	1.12	1.15	1.17	1.19	1.2

Peak Catchment Flows For Varied 5% AEP Storm Durations		
AEP	**Duration (min)**	**Flow (m^3/s)**
5%	1	0.158
5%	2	0.125
5%	3	0.112
5%	4	0.104
5%	5	0.097
5%	10	0.073
5%	15	0.059
5%	20	0.051
5%	25	0.044
5%	30	0.040
5%	45	0.031
5%	60	0.026
5%	90	0.020
5%	120	0.017

	Peak Catchment Flows For Given AEP at T.O.C.				
	AEP	**$I_{tc,Y}$ (mm/h)**	**Flow (m^3/s)**	**Flow + CC (m^3/s)**	**Flow + CC (l/s)**
1	63.20%	38.9	0.0437	0.0612	61.17
2	50.00%	44.0	0.0494	0.0692	69.19
3	20.00%	61.1	0.0686	0.0961	96.09
4	10.00%	73.5	0.0826	0.1156	115.59
5	5.00%	86.3	0.0969	0.1357	135.72
6	2.00%	104.0	0.1168	0.1636	163.55
7	1.00%	118.0	0.1325	0.1856	185.57

Time of Concentration - Sheet, Channel and Pipe								
Section	**Description**	**Method**					**Unit**	**Comment**
1	Roof	Assumed			ToC	**15.00**	min	Assumed roof/road and downpipe/pipe

Time of Concentration - Selection for future use			
Total ToC	**15**	**min**	**Sheet, Channel & Pipe**

155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: %Imp (PostD)

Total Site Area	6336	m^2
	0.6336	Ha

	Buildings/Roof	Roads	Gravel	Grass/Landscape
1	2480	1690	0	2166
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

					Total
Sum	2480	1690	0	2166	6336
Factor	1	0.9	0.8	0.104	N/A
Impervious Area	2480	1521	0	225.264	4226.264
				% Impervious	**67%**
Buildings/Roads Total	4001				

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17/08/202611:23 AM

155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: Flows (PostD)

Time of Concentration			
C_1,10	25	mm	10% AEP, 60min Rainfall
A=	6336	m2	Insert Catchment Area
A=	0.00634	Km^2	Calculated in Km2
tc=	15	mins	Whole Number Tc

Impervious Area		
Existing Hardstand Area=	4226.264	m2
Total Area =	6336	m2
Fraction Impervious =	67%	

Runoff Coefficient		
Fraction impervious =	67%	
C1,10 =	0.100	*Formula - Refer ARR Book VIII*
C10 =	**0.63**	**Runoff Coefficient**

Frequency Conversion Factors -Refer AR&R 1987										
ARI (years)	1	2	5	10	20	40	50	60	80	100
Factor, F_y	0.8	0.85	0.95	1	1.05	1.12	1.15	1.17	1.19	1.2

Peak Catchment Flows For Varied 5% AEP Storm Durations		
AEP	**Duration (min)**	**Flow (m^3/s)**
5%	1	0.165
5%	2	0.130
5%	3	0.117
5%	4	0.109
5%	5	0.101
5%	10	0.076
5%	15	0.062
5%	20	0.053
5%	25	0.046
5%	30	0.041
5%	45	0.032
5%	60	0.027
5%	90	0.021
5%	120	0.018

Peak Catchment Flows For Given AEP at T.O.C.					
	AEP	**$I_{tc,Y}$ (mm/h)**	**Flow (m^3/s)**	**Flow + CC (m^3/s)**	**Flow + CC (l/s)**
1	63.20%	22.8	0.0267	0.0374	37.41
2	50.00%	25.9	0.0304	0.0425	42.49
3	20.00%	36.5	0.0428	0.0599	59.88
4	10.00%	44.5	0.0521	0.0730	73.01
5	5.00%	52.9	0.0620	0.0868	86.79
6	2.00%	65.3	0.0765	0.1071	107.13
7	1.00%	75.6	0.0886	0.1240	124.03

155 Cambridge Road, Warrane
JMG Ref: J260222CS

Stormwater Calculations
Sheet Name: Boyd's Formula (5%)

Catchment & Flow Details			Comments
Catchment Area =	0.6336	Ha	
10 Year Runoff Coefficient =	0.63	-	
20 Year Effective Catchment Area =	0.42	Ha	
Restricted Outflow Requirement =	0.0969	m^3/s	

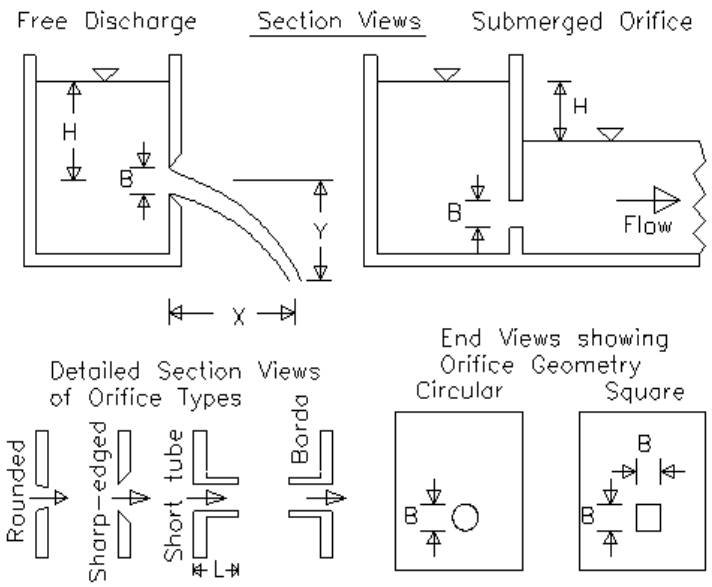
Detention Calculation						
Storm Duration	**5% AEP**	**5% AEP + CC**	**Q_i**	**Q_o**	**V_1**	**S_{max}**
(min)	**Intensity (mm/hr)**	**Intensity (mm/hr)**	**(m3/s)**	**(m3/s)**	**(m3)**	**(m3)**
~~1~~	~~141.00~~	~~197.4~~	~~0.231~~	~~0.097~~	~~13.87~~	~~8.05~~
~~2~~	~~111.00~~	~~155.4~~	~~0.182~~	~~0.097~~	~~21.84~~	~~10.20~~
~~3~~	~~100.00~~	~~140.0~~	~~0.164~~	~~0.097~~	~~29.51~~	~~12.06~~
~~4~~	~~92.70~~	~~129.8~~	~~0.152~~	~~0.097~~	~~36.47~~	~~13.21~~
5	86.300	120.8	0.141	0.097	42.44	13.36
10	65.10	91.1	0.107	0.097	64.03	5.87
15	52.90	74.1	0.087	0.097	78.05	-9.20
20	45.00	63.0	0.074	0.097	88.52	-27.81
25	39.50	55.3	0.065	0.097	97.13	-48.28
30	35.30	49.4	0.058	0.097	104.16	-70.33
45	27.60	38.6	0.045	0.097	122.16	-139.58
60	23.10	32.3	0.038	0.097	136.32	-212.66
90	18.20	25.5	0.030	0.097	161.11	-362.37

155 Cambridge Road, Warrane
JMG Ref: J260222CS

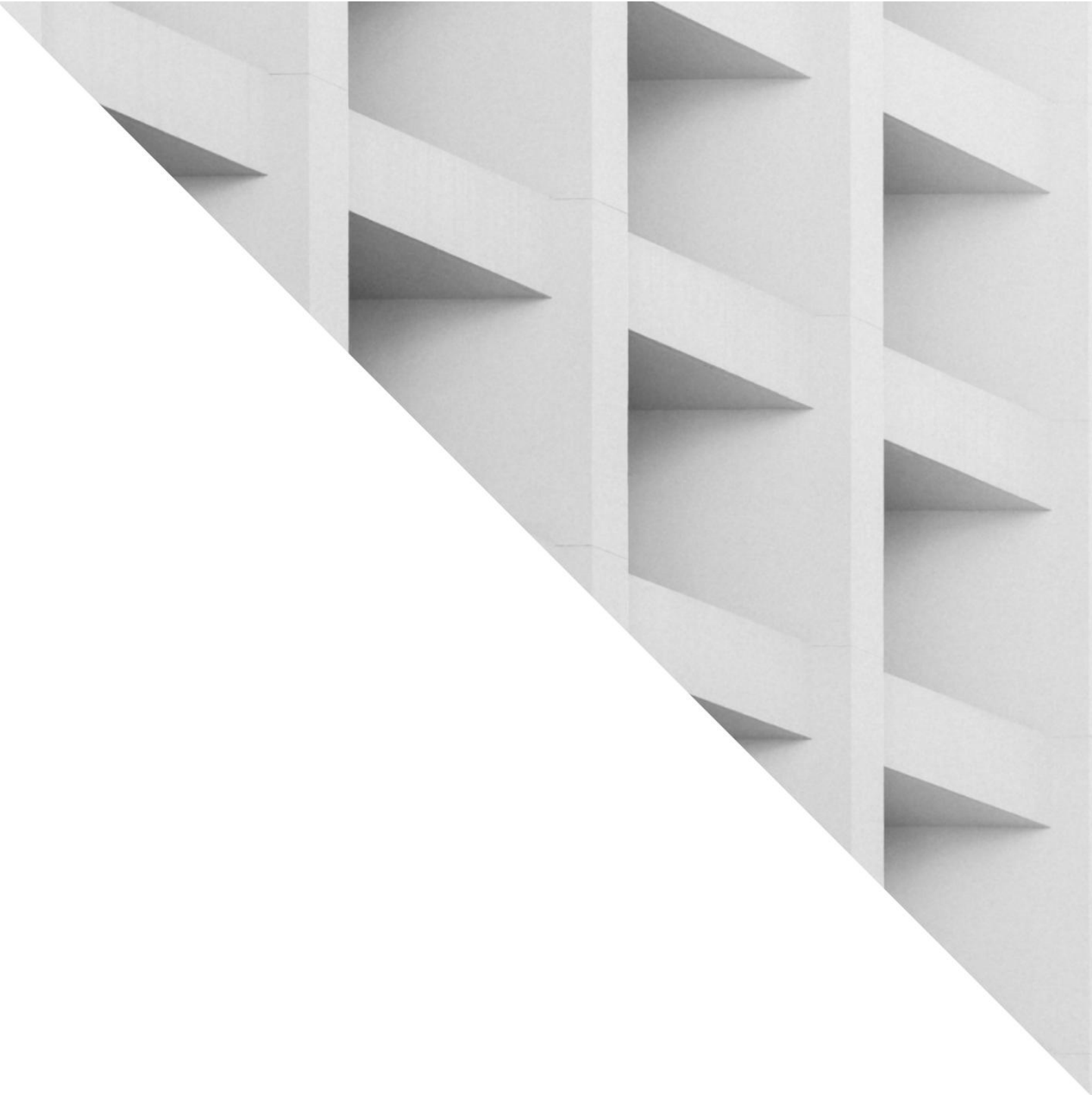
Stormwater Calculations
Sheet Name: Orifice Analysis

Catchment & Flow Details		
Maximum Allowable Outflow	0.0969	m^3/s
	96.94	*l/s*

Free Discharge Orifice		
No. orifices	1	*No.*
Orifice Diameter	0.150	*m*
	150	mm
Head Above Orifice	1.4	*m*
Head (H)	1.325	*m*
Co	0.6	-
Orifice Area	0.018	m^2
Flow per Orifice	0.054	m^3/s
	54.061	*l/s*
Total Flow (Q)	0.054	*m3/s*
	54.06	*l/s*



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GROUND FLOOR, 73 PATERSON STREET, LAUNCESTON (03) 6334 5548
www.jmg.net.au

Homes Tasmania

Building homes, creating communities.

Kate Shepherd
Design Coordinator
Fairbrother
59 Sandy Bay Road
Hobart TAS 7000

Attention: Kate Shepherd.

Subject – 155 Cambridge Road, Warrane, Waste Management

Dear Kate,

This letter is to confirm that the proposed waste collection arrangement at 155 Cambridge Road, Warrane, will be allocated to a private provider.

In addition, there is no requirement for green waste collection as part of the development. Maintenance of the landscaped common areas will be undertaken by a landscape contractor, who will be responsible for the removal and disposal of any green waste generated, thereby removing the need for dedicated green waste collection services within the development.

Yours sincerely,



Lucy Watts

Project Manager – Capital Development

06 August 2026

GPO Box 65
Hobart, TAS, 7001
homestasmania.com.au

Contact Officer: Lucy Watts
Phone: 0405 944 412
Email: Lucy.Watts@homes.tas.gov.au



TRAFFIC IMPACT ASSESSMENT

MULTIPLE DWELLING DEVELOPMENT FOR SOCIAL HOUSING, 155 CAMBRIDGE ROAD, WARRANE

Hubble Traffic

AUGUST 2026

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Version	Date	Reason for Issue
Draft	March 2025	Draft issued for client feedback
Updated	August 2026	Modifications to internal layout and access
Final	August 2026	Final Issued

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1. Introduction

Fairbrother on behalf of the client (Homes Tasmania) has engaged Hubble Traffic, to prepare an independent Traffic Impact Assessment, for developing 75 social housing apartments at 155 Cambridge Road, Warrane.

This report has considered the amount of traffic the development is likely to generate and how these additional traffic movements will integrate into the surrounding road network.

The development has been assessed against the Tasmanian Planning Scheme C2 Parking and Sustainable Transport Code, C3 Road and Railway Assets Code, and the Australian Standard 2890.1:2004 (the Standard).

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019, and referred to the following information and resources:

- Tasmanian Planning Scheme (Clarence)
- Transport for NSW Guide to Transport Impact Assessment, Version 1.1
- Australian Standards AS2890 parts 1, 2 and 6
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised and Signalised Intersections
  - Part 12: Traffic Impacts of Development
- Department of State Growth crash database
- Autoturn Online vehicle turning software
- LIST – Land Information Database

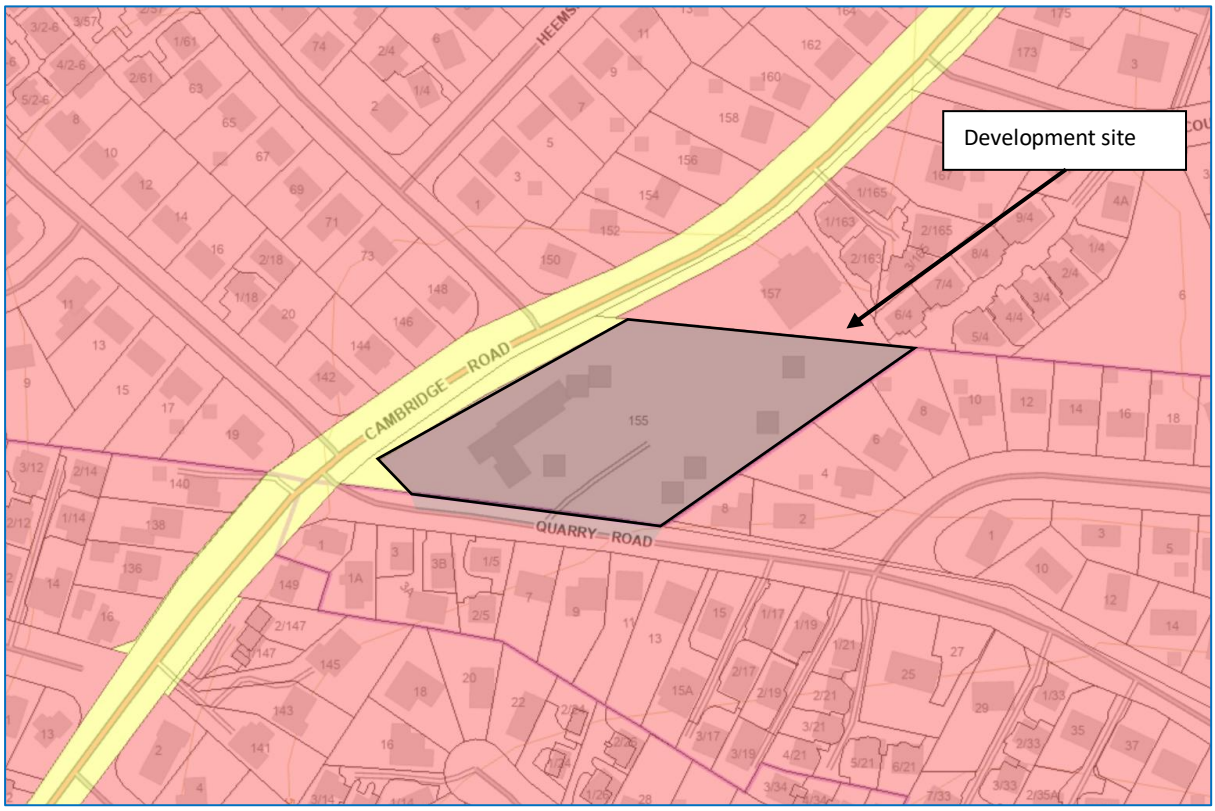
2. Site Description

Located at 155 Cambridge Road, the development site is occupied by several buildings that were previously used by the Department of Defence but are now vacant. The site has road frontage to both Cambridge and Quarry Roads, with an existing two-way vehicular access onto Quarry Road.

Within 450 metres of the site is Bayfield Street, which provides access to an activity centre that includes a wide range of businesses, as well as Eastlands Shopping Centre and the Metro Tasmania transport hub. The site is also within reasonable proximity to schools, bus stops, educational facilities, government services, and parklands.

The development site is currently zoned Inner Residential under the Tasmanian Planning Scheme (Clarence), surrounded by general residential housing.

Diagram 2.0 – Extract from LIST Land Information Database

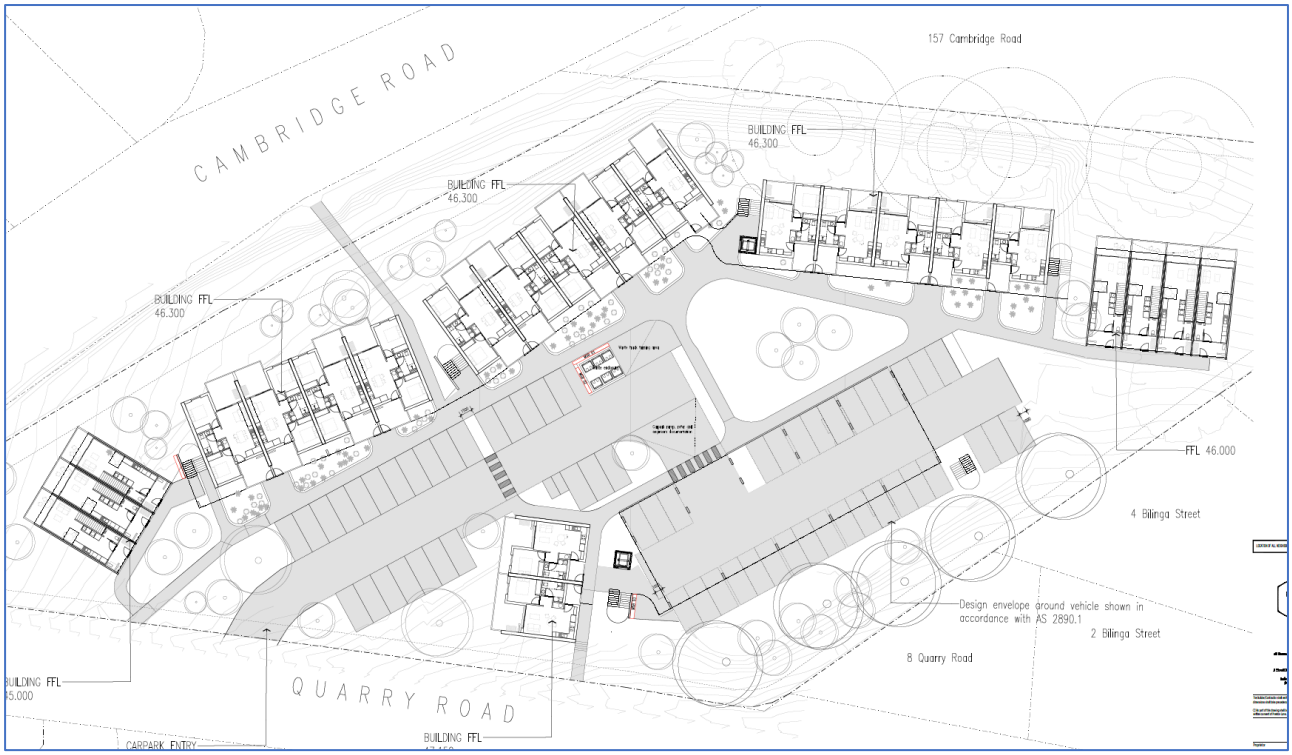


3. Development proposal

The development proposal includes:

- Provision of 75 residential apartments, comprising of 26 one-bedroom and 49 two-bedroom apartments.
- Reconfiguration of the internal parking layout to incorporate a total of 58 on-site car parking spaces, dedicated waste collection area and turning bay, suitable for light vehicles and a waste collection vehicle,
- Removal of the existing vehicular access onto Quarry Road, allowing for the construction of a new access, located further towards Cambridge Road.

Diagram 3.0 – Plan of proposed development



4. Number of car parking spaces required

4.1 Parking demand generated by social housing apartments

The supply of on-site car parking is an important consideration with new developments, to ensure overflow parking does not cause adverse impact to surrounding properties, particularly in residential areas.

Social and affordable housing caters to low-income households who generally have reduced car ownership, particularly when apartments are located within reasonable walking distance to services, activity centres, and frequent public transport services.

There is substantial evidence indicating that low-income households generate lower parking demand compared to private housing. Appendix A of this assessment provides data on car ownership from both mainland Australia and Tasmania, incorporating statistics from the Australian Bureau of Statistics (ABS). The most compelling data for this development comes from Tasmanian experiences, with information supplied by Centacare Evolve Housing, Homes Tasmania, and data from the Queens Walk complex. The table below illustrates the car parking demand of Tasmanian social and affordable housing sites, varying between 0.47 to 0.72 cars per dwelling/apartment.

Table 4.1A – Parking demand for Tasmanian social and affordable housing sites

Supplier	No of dwellings/units survey data is based on	Car parking demand per dwelling/unit
Centacare	Over 2,100 properties	0.47
Homes Tasmania	78	0.55
Queens Walk	85	0.72 includes visitor parking
	Average	**0.58**

The Tasmanian car ownership aligns closely with both mainland trends and ABS data. The Victorian GTA report, which focused on 67 public housing sites in Victoria comprising 802 social housing dwellings/units, is illustrated in the table below.

Table 4.1B – GTA survey data for Victorian social housing sites

Table 4.1: ABS Car Ownership Census Data for Social Housing – 2016

Location	Bedroom Numbers	ABS Average Parking Rate (Car Spaces Per Dwelling)	Survey Data Car Parking Rate (Car Spaces Per Dwelling)	
			Average	85th Percentile
Inner Metro	1 – 2 Bedrooms	0.41	0.36 (0 – 1.43)	0.58
	3 + Bedrooms	0.86		
Middle Metro	1 – 2 Bedrooms	0.74	0.39 (0 – 0.70)	0.65
	3 + Bedrooms	1.23		
Outer Metro	1 – 2 Bedrooms	0.96	0.63 (0 – 1)	0.88
	3 + Bedrooms	1.35		

The GTA data is categorised into three distinct site classifications: inner metro, middle metro, and outer metro, based on the site's proximity to commercial and activity centres.

For this development site, the car parking rate for middle metro would be applicable, which is 0.65 spaces per one and two bedroom apartments. Similarly, the ABS census data for middle metro site is 0.74 spaces per one and two bedroom apartments.

Given the site's close proximity to the Eastland Shopping Centre precinct, which provides walkable access to a wide range of commercial, retail and community services, as well as a high-frequency bus interchange, a parking provision rate of 0.72 spaces per apartment is considered appropriate. This rate closely aligns with observed parking demand at Queens Walk complex and reflects the site's high level of accessibility, reducing residents' reliance on private vehicle ownership.

At this rate, the proposed 75 apartments would generate a parking demand of approximately 54 spaces. The development is capable of providing up to 58 parking spaces, thereby exceeding the anticipated demand. Accordingly, the proposed parking provision is considered sufficient to meet resident needs while maximising the delivery of social and affordable housing.

4.2 Planning Scheme car parking requirements

Planning scheme table C2.1 specifies the number of on-site parking spaces required for private residential developments, with a multiple dwelling development requiring:

- One-bedroom or studio dwelling (including all rooms capable of being used as a bedroom), 1 space per dwelling.
- Two-bedroom or more dwelling (including all rooms capable of being used as a bedroom), 2 spaces per dwelling.
- Visitor parking for multiple dwellings - 1 dedicated space per 4 dwellings (rounded up to the nearest whole number); or if on an internal lot or located at the head of a cul-de-sac, 1 dedicated space per 3 dwellings (rounded up to the nearest whole number)

Table 4.2 - Number of parking spaces as per planning scheme requirements

Bedrooms	Number of apartment	Parking spaces required	Visitor spaces required
1 Bedroom	26	26	7
2 Bedroom	49	98	13
Total	**75**	**124**	**20**

Planning scheme parking requirements do not account for the low car ownership rates among social housing tenants, nor their diminished need for private vehicles due to the proximity of nearby activity centres and frequent public transport. The provision of 124 parking spaces for tenants and 20 visitor spaces is deemed excessive, likely to result in an unnecessary oversupply of parking, and reducing the number of apartments that can be achieved.

4.3 Number of parking spaces the development will provide

In optimising the delivery of social and affordable housing, the development will provide 58 on-site car parking spaces. This provision exceeds the estimated demand of 54 spaces generated by the proposed 75 apartments based on the adopted parking rate of 0.72 spaces per apartment, which is considered appropriate given the site's excellent access to the Eastland Shopping Centre precinct, local services and public transport.

5. Trip generation by this development

A trip in this report is defined as a one-way vehicular movement from one point to another, excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

5.1 Predicted trips for new residential use based on the Guide

Trip generation rates for private residential developments are sourced from the Transport for NSW Guide to Transport Impact Assessment (the Guide) version 1.1 2024, which is considered the industry standard, and provides the following trip generation rates:

- Medium density residential dwellings in regional areas (multiple dwellings), 3.67 daily trips with 0.41 trips per dwelling within the morning peak hour and 0.60 per dwelling within the evening peak hour.

Based on the recommendations of the Guide, the development of 75 apartments is estimated to generate 276 daily trips. Of these, 31 trips are expected to occur during the morning peak and 46 trips during the evening peak.

Table 5.1 – Predicted number of trips to be generated from the 75 apartments

Dwelling Type	Guide generation rate	Number of apartments	Daily trips	Morning peak trips	Evening peak trips
One-bedroom apartment	3.67 per day 0.41 per am peak 0.60 per pm peak	26	96	11	16
Two-bedroom apartment		49	180	20	30
Total		**75**	**276**	**31**	**46**

6. Existing traffic conditions

6.1 Quarry Road

Quarry Road is a local residential street with a default 50 km/h urban speed limit. It runs for approximately 650 metres in a west-to-east direction, connecting to Carawa Street and carrying traffic from the surrounding residential properties to Cambridge Road. All residential properties along the road have direct road access and off-street parking facilities.

The road has been constructed to an urban standard, with a sealed bitumen surface, concrete kerb and channel, concrete footpaths on both sides, grass verges, and street lighting.

Adjacent to the development site access, the road width measures 8 metres wide between kerb faces, has a straight road alignment and a vertical gradient of 7.2 percent.

Photograph 6.1 – Typical road standard of Quarry Road



6.2 Cambridge Road

Cambridge Road extends westerly from South Arm Highway and continues towards Bellerive, connecting with Rosny Hill Road. The road has been built to a typical urban road standard, operating as a collector road within the surrounding road network. The road has a sealed carriageway with kerb and channel, bitumen footpaths on either side, and street lighting. Generally, the road alignment is reasonably straight, with no significant vertical grades.

Due to its traffic carrying function, Cambridge Road is posted with 60 km/h speed limit signs.

Photograph 6.2 – Typical road standard of Cambridge Road



6.3 Cambridge and Quarry Road's Intersection

Quarry Road intersects Cambridge Road, with Bruny Street located on the opposite side, creating a slightly off-set four way intersection. Both side roads are provided with a Give Way sign and holding line, providing traffic priority to Cambridge Road users.

The intersecting angle of Quarry Road is slightly more than 90 degrees, creating a wider junction throat, which allows for two vehicles to be positioned at the holding line simultaneously. This means a right-turning vehicle can be passed on the left, increasing traffic efficiency for vehicles leaving Quarry Road, as most vehicles turn left.

Cambridge Road includes a channelised right turn lane into both Quarry Road and Bruny Street, forming part of a central median turning lane that extends the length of the road. The right turn lanes allow a right-turning vehicle to be sheltered out of the through traffic lane and to select a gap in the oncoming traffic without the risk of a vehicle colliding from behind. The right turn lane into Quarry Road is approximately 60 metres in length and is suitable to accommodate a minimum of six to eight queuing vehicles.

The vertical grade through the intersection is reasonably flat, and the road surface and pavement markings are in reasonable condition, providing a highly managed intersection.

Photograph 6.3 – Intersection of Quarry and Cambridge Road's



6.4 Sight distance at Quarry Road intersection

The available sight distance was measured on-site, based on a driver being 1.1 metres above the road surface and an approaching vehicle being 1.2 metres high.

For a driver leaving Quarry Road and looking to the left, the sight distance is marginally impacted by roadside vegetation, with an available sight distance of 120 metres. While for a driver looking to the right, the roadside embankment along the front of the development site limits the sight distance to approximately 72 metres.

Austroads Guide to Road Design (Austroads) provides guidance on sight distance, and there are number of sight distance parameters that can be used. The highest parameter is SISD (Safe Intersection Sight Distance) which should be used for designing new intersections. For a 60 km/h speed environment, Austroads recommends SISD of 114 metres based on driver reaction time of 1.5 seconds and observation time of 3 seconds. SISD allows for sufficient sight distance to turn out of a side street, with vehicles on the main road not required to adjust their operating speed.

It is not always possible to achieve SISD at all intersections due to road geometry, and Austroads provides a secondary sight distance parameter, ASD (Approach Sight Distance), which means the driver has sufficient sight distance to turn out of Quarry Road safely. However, vehicles travelling on Cambridge Road may need to adjust their speed to allow for the turning vehicle to accelerate to the 60 km/h speed limit. ASD for a 60 km/h speed environment is approximately 64 metres.

The minimum sight distance parameter that must be provided at intersections is SDD (Stopping Sight Distance) which is 56 metres for a 60km/h speed limit, which means as the vehicle turning out of Quarry Road, the approaching vehicle has sufficient distance to stop and avoid a collision.

Council is aware of the limited sight distance at this intersection, are planning to undertake works to increase the available sight distance.

Although the available sight distance to the right of 72 metres is limited, it exceeds Austroads ASD requirements, which means vehicles are able to leave in a safe and efficient manner.

Photograph 6.4A – Available sight distance to the right (72 metres)



Photograph 6.4B – Available sight distance to the left (120 metres)



6.5 Quarry Road pedestrian connectivity to the Rosny activity centre

The surrounding road network offers pedestrian connectivity with refuge crossings available to the right and left of Quarry Road, ensuring safe pedestrian passage across Cambridge Road.

A well-established footpath network on the surrounding roads provides pedestrians from the development with a safe, accessible, and convenient route to the Rosny activity centre and Bus Interchange. These pedestrian facilities offer users an alternative mode of transport, thereby reducing reliance on private vehicles.

A two metre wide pedestrian refuge crossing is located adjacent to the development site on Cambridge Road. This crossing is equipped with handrails, pram ramps and tactile paving on both sides to assist visually impaired pedestrians. Street lighting is located either side of the crossing, ensuring pedestrians using the facility at night are highly visible to motorists.

It is important that pedestrians have suitable sight distance to safely cross the road, with Austroads providing guidance on pedestrian Crossing Sight Distance (CSD). For a 60 km/h speed environment, the required CSD is 106 metres based on a crossing distance of four metres, (width of traffic lane), includes three second pedestrian start up and end clearance time.

On-site measurements found that the available crossing sight distance exceeds 150 metres in both directions for pedestrians.

With the available sight distance in each direction exceeding the required CSD, pedestrians will have sufficient sight distance to cross Cambridge Road in a safe and efficient manner, as shown in the photographs below.

Photograph 6.5A – Pedestrian refuge crossing



Photograph 6.5B – Available pedestrian sight distance (150 metres)



Photograph 6.5C – Available pedestrian sight distance (150 metres)



6.6 Traffic activity at intersection of Quarry Road, Cambridge Road, and Bruny Street

To understand the current traffic flow on the surrounding roads, traffic surveys were undertaken during the morning and evening commuter peak periods at the intersection of Quarry Road, Cambridge Road, and Bruny Street. As the majority of the traffic generated from the development is expected to travel through this intersection.

The surveys revealed that Cambridge Road has a consistent traffic flow, with a slightly higher two-way flow observed in the morning peak, compared to the evening peak. While Quarry Road and Bruny Street were both found to be lightly trafficked, with less than 200 two-way vehicles captured during both peak periods.

Table 6.6 captures the two-way flow on the surrounding roads, with the turning movements for the intersection available in Appendix B.

Table 6.6 – Summary of traffic flows on the surrounding road network

Intersection	Road	Peak hour two-way flows	
		Morning	Evening
Cambridge Road, Quarry Road and Bruny Street	Cambridge Road (West)	1,642	1,287
	Quarry Road (South)	88	134
	Cambridge Road (East)	1,597	1,316
	Bruny Street (North)	169	117

The survey data clearly indicates that the majority of traffic originating from Quarry Road travels in a westerly direction, with only a small percentage of vehicles turning right when leaving.

Vehicles leaving Quarry Road in both peak periods:

- 90 percent turned left-out,
- 6 percent turned right-out, and
- 4 percent travel straight ahead to Bruny Street

Vehicles arriving to Quarry Road in both peak periods:

- 83 percent turn right-in,
- 14 percent turned left-in, and
- 3 percent straight ahead from Bruny Street.

6.7 Drive gap acceptance when leaving Quarry Road

Gap acceptance in traffic modelling refers to the process by which drivers decide whether to perform a manoeuvre, such as turning at a junction, intersection, or roundabout, based on the gaps or spaces between vehicles in the traffic streams.

During manual traffic surveys, the gap acceptance of vehicles turning right onto Cambridge Road and undertaking a straight-ahead manoeuvre onto Bruny Street was measured:

- In the morning peak period, the average gap acceptance was measured at 29 seconds, based on nine vehicles turning either right or making a straight-ahead movement, with the gaps ranging between 3 and 63 seconds.
- During the evening peak period, the average gap acceptance was measured at 19 seconds, based on eight vehicles turning either right or making a straight-ahead movement, with gaps ranging between 3 and 63 seconds.

The gap acceptance data is available in Appendix B.

6.8 Intersection performance at Quarry Rd, Cambridge Rd, and Bruny St

The simplest method to determine the traffic performance at a junction is to use SIDRA Intersection traffic modelling software, which uses gap acceptance theory to determine the average delay, queue lengths, and degree of saturation, which are all measures of traffic congestion and level of service. The Guide provides five levels of service for junctions and roundabouts as shown in diagram 6.8.

Diagram 6.8 – Guide for level of service at junctions, intersections, and roundabouts

Table 4.2
Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

The table above demonstrates that Levels of Service (LOS) A through D are acceptable for urban intersections, given the higher traffic volumes during short commuter peak periods. LOS E signifies that the intersection is approaching its capacity, and when the average delay exceeds 70 seconds, the intersection is deemed oversaturated, leading to significant delays and queues.

A traffic model was developed within the SIDRA software to replicate the intersection, with the recent peak hour traffic flows entered.

Validating SIDRA software based on the specific intersection geometry and driver gap acceptance is crucial for ensuring accurate and reliable traffic analysis. The behaviour of drivers when deciding whether to enter or cross a traffic stream varies, with drivers familiar with the intersection usually accepting smaller gaps, which was evident from the recent manual survey

The SIDRA traffic model shows that during the morning peak hour, left-out vehicles have a Level of Service (LOS) B with a 14.6 second delay, and right-out vehicles have a LOS C with a 29.1 second delay. Vehicles turning into Quarry Road achieve LOS A. Despite consistent traffic on Cambridge Road, there are enough gaps for Quarry Road drivers to enter, as 90% of them only need to find a gap in the westbound flow.

During the evening peak hour, most of the traffic returns to Quarry Road, with a smaller number of vehicles leaving, resulting in the intersection performing at a slightly higher level of efficiency. Vehicles turning right-out of Quarry Road continue to incur the longest delay, with an average delay of 21.7 seconds. The majority of the vehicles arrive by turning right, with an average delay for these motorists of 6.9 seconds and a maximum queue length of less than one vehicle.

A queue length of less than one vehicle means that the current length of the right turn lane of 60 metres is more than sufficient, with no right-turning vehicle impeding the flow of through vehicles.

Traffic modelling indicates that the intersection provides an appropriate level of service for motorists. With a Degree of Saturation of 0.5, the intersection is operating at around 50 percent of its capacity, indicating that it has spare traffic capacity.

Traffic modelling results are available in Appendix C.

Table 6.8 – Summary of traffic modelling for existing traffic flows

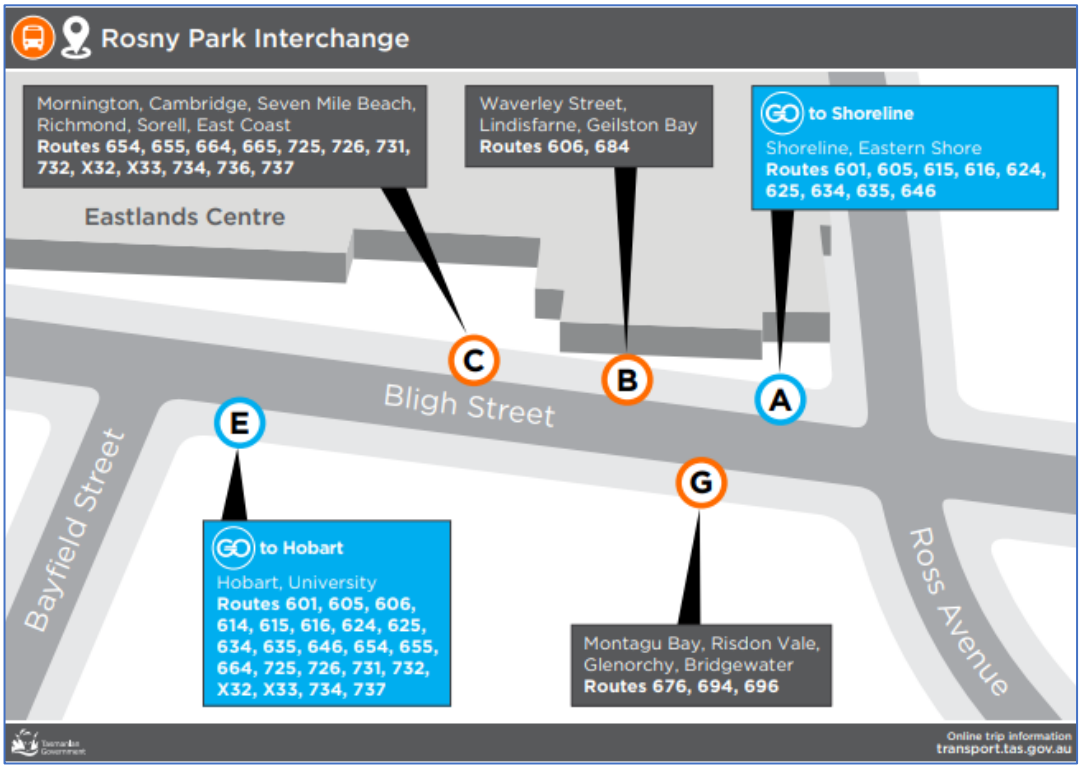
Peak	Total vehicles	Degree of Saturation	Turn Movement	Average Delay	Queue Length	LOS
Morning	1,840	0.516	Right-out	29.1 secs	3.3m	C
			Left-out	10.2 secs	3.3m	A
			Straight	14.6 secs	3.3m	B
			Right-in	8.7 sec	0.7m	A
			Left-in	5.6 secs	0m	A
Evening	1,502	0.410	Right -out	21.7 secs	1.6m	B
			Left-out	7.4 secs	1.6m	A
			Straight	11.6 secs	1.6m	A
			Right-in	6.7 secs	1.9m	A
			Left-in	5.6 secs	0m	A

6.9 Public transport

The Rosny Park bus interchange (bus interchange) is within 750 metres of the development site, located on Bligh Street in front of Eastlands Shopping Centre. This bus interchange provides users with an alternate mode of transport and a high level of connectivity, providing access to a range of bus routes that operate regular services, including routes to central Hobart.

According to Metro Tasmania's website, the Rosny Park interchange is part of the high frequency services, providing a service approximately every 10 minutes between 7:00am and 7:00pm Monday to Friday. While during a weekend and public holidays, there is a service operating every 30 minutes.

Diagram 6.9 – Rosny Park Interchange



6.10 Traffic safety at this location

The Department of State Growth maintains a database of reported road crashes. A check of this database for the previous five years, found four reported crashes at the intersection of Cambridge Road, Quarry Road and Bruny Street.

One crash involved a vehicle ramming into a stationary vehicle waiting to turn out of Quarry Road, resulting in property damage. A second crash occurred when a driver wanting to turn into Quarry Road begun to move slightly from the right turn lane and collided with an oncoming vehicle, resulting in first aid required.

The other two crashes involved vehicles turning out of Bruny Street, failing to give way to oncoming traffic along Cambridge Road, with one crash resulting in property damage and one resulting in minor injuries.

No crashes involving vehicles leaving Quarry Road and colliding with a westbound vehicle travelling on Cambridge Road, indicating the limited sight distance is adequate.

Similarly, no crashes involving pedestrians crossing Cambridge Road, indicating the current pedestrian refuge facility is providing a suitable level of service for pedestrians.

This number of crashes doesn't signify that motorists are having any difficultly in turning into and out of Quarry Road, and the low intensification of traffic from this development is not expected to change this crash rate.

7. Impact from traffic generated by this development

Section 5 highlights the challenge of predicting trip generation for this development. Local traffic data suggests it could generate 170 daily trips, with 17 occurring during peak periods, based on each apartment generating 0.7 trips. In contrast, the Guide suggests private housing could generate 276 daily trips, with 31 during the morning peak hour and 46 during the evening peak hour.

Although the lower local traffic generation rate is considered appropriate for this development. Traffic analysis based on both trip generation rates has been undertaken, demonstrating that the surrounding road network and Quarry Road intersection can absorb the additional traffic without causing adverse impact.

7.1 Assignment of new trips generated by the development

It is common with residential developments that the majority (90 percent) of the trips leave within the morning peak, with the opposite occurring in the evening. The additional trips have been assigned to the surrounding road network, based on the current trip distribution captured by the manual surveys at the Quarry Road and Cambridge Road intersection. As discussed earlier, the majority of the morning trips leaving Quarry Road turned left out, with only a small portion turning right out.

The new trips generated by the development have been assigned to the surrounding road network based on the manual survey data, as shown in tables 7.1A and 7.1B.

Table 7.1A – Estimated trip distribution based on local data for social housing

Period	Intersection of Quarry Rd/ Cambridge Rd / Bruny St							
	Vehicles arriving				Vehicles leaving			
	Left	Right	Straight	Total	Left	Right	Straight	Total
Morning peak	0	2	0	**2**	13	1	1	**15**
Evening peak	2	13	0	**15**	2	0	0	**2**

Table 7.1B – Estimated trip distribution based on the Guide

Period	Intersection of Quarry Rd/ Cambridge Rd / Bruny St							
	Vehicles arriving				Vehicles leaving			
	Left	Right	Straight	Total	Left	Right	Straight	Total
Morning peak	1	2	0	**3**	25	2	1	**28**
Evening peak	6	34	1	**41**	4	0	1	**5**

7.2 Traffic impact efficiency at the intersection

The additional trips generated by the development, based on the local data and the Guide, have been assigned to the intersection, allowing the change in traffic performance to be quantified, as illustrated in Table 7.2A.

Traffic modelling indicates that even though the intersection is busy, it will continue to operate at an acceptable level of performance with additional traffic flow, with expected flows operating at LOS C during the morning peak and LOS B during the evening peak.

The table below illustrates that traffic performance changes for the critical turns into and out of Quarry Road will be minimal, with average change in delays under 2 seconds. This includes analysis of additional trips from local social housing and private housing trip generation rates.

Table 7.2A – Change in traffic performance for the critical turn movements

Peak period	Lane direction	Current flows			Increase by Local rate			Increase by the Guide rates		
		Flow	LOS	Delay	Flow	LOS	Delay	Flow	LOS	Delay
Morning	Left Out	58	A	10.2s	72	A	10.2s	92	A	10.5s
	Right Out	5	C	29s	6	C	29.6s	8	C	30.4s
	Right In	22	A	8.7s	24	A	8.7s	25	A	8.7s
Evening	Left out	46	A	7.4s	48	A	7.4s	49	A	7.4s
	Right Out	1	B	21.7s	2	B	22.1s	4	B	22.5s
	Right In	75	A	6.9s	88	A	6.9s	106	A	7s

As the local area continues to grow, traffic on the surrounding road network is projected to increase over the next 10 years. This incremental traffic growth has been assigned to the intersection, assuming a one percent annual growth for traffic on Cambridge Road.

The modelling results within Table 7.2B illustrate the likely change in traffic performance for the intersection as a whole, rather than individual turn movements. The results demonstrate no significant deterioration in performance, with the intersection expected to provide all users with an appropriate level of service. Modelling printouts are available in Appendix C.

Table 7.2B – Intersection traffic modelling comparison

Period	Scenario	Total vehicles	DoS	Worst delay	LOS	Max Queue
Morning peak	Existing	1,840	0.516	29.1 secs	C	3.3m
	Local data	1,858	0.516	29.6 secs	C	4.1m
	1% growth	2,023	0.570	34.1 secs	C	4.5m
	Guide	1,882	0.516	30.4 secs	C	5.5m
	1% growth	2,046	0.570	35.2 secs	C	6.2m
Evening peak	Existing	1,502	0.410	21.7 secs	B	2.5m
	Local data	1,522	0.411	22.1 secs	B	2.5m
	1% growth	1,652	0.452	24.8 secs	B	2.7m
	Guide	1,546	0.411	22.5 secs	B	2.7m
	1% growth	1,840	0.516	29.1 secs	C	3.3m

7.3 Link capacity on Quarry Road

Another way to demonstrate that Quarry Road can accommodate both development-generated traffic and broader background traffic growth is through an assessment of link capacity. Austroads provides indicative performance thresholds for urban road environments, noting that local access roads represent the lowest-order roads within the urban hierarchy. These roads typically accommodate daily traffic volumes of approximately 2,000 to 3,000 vehicles per day, with practical peak-hour capacities in the order of 200 to 300 vehicles per hour before noticeable delays and operational constraints begin to occur.

The table below demonstrates that traffic volumes on Quarry Road remain well below the Austroads indicative thresholds for a local access road. This confirms that the road has sufficient capacity to accommodate both the traffic generated by the proposed development and anticipated background traffic growth. Accordingly, the additional traffic demand is expected to be readily absorbed within the existing road network, with no material adverse impacts on traffic safety, operational performance, or network efficiency.

Table 7.3 – Link capacity and thresholds

Road	Peak-hour threshold	Scenario	Current two-way flow	Based on local rate	Based on the Guide	Flows with 1% growth
Quarry Road	<300 vehicles per hour	AM	88	105	119	134
		PM	134	151	180	205

8. Development layout

8.1 Proposed vehicular access

The development site proposes to remove the existing 16.4 metre wide vehicular access and construct a new access onto Quarry Road, located closer towards the intersection with Cambridge Road. This new access will be a minimum of 5.5 metres wide, suitable to accommodate two-way traffic flow.

The proposed access has been developed having regard to LGAT Standard Drawing TSD-R09-v3 and the existing vertical alignment of Quarry Road. The grade of Quarry Road creates a constrained interface with the proposed driveway, making the achievement of standard transition grades more complex than would typically be expected on flatter road frontages.

Notwithstanding these constraints, extensive design work has been undertaken to optimise the driveway arrangement and provide a suitable transition between the public road and the internal access. The design seeks to balance the requirements of TSD-R09-v3 with the practical limitations created by the existing road grade, site levels and internal driveway geometry.

The resulting access arrangement is considered to provide a safe and efficient driveway layout for the proposed residential development. It enables vehicles to enter and exit the site in a controlled manner, while appropriately responding to the topographical constraints of Quarry Road and the development site.

This new access will intersect Quarry Road at an angle of approximately 110 degrees, this is within the acceptable range for an intersecting angle and is not expected to adversely impact vehicles from entering and exiting the site.

Photograph 8.1 – Existing vehicular access with Quarry Road



8.2 Operating speed of vehicles along Quarry Road

Quarry Road operates under the urban default 50 km/h speed limit and this is applicable to motorists travelling westbound past the development site. In contrast, eastbound motorists are required to undertake a turning manoeuvre at the Cambridge Road intersection before entering Quarry Road, resulting in a reduced operating speed as they accelerate away from the intersection.

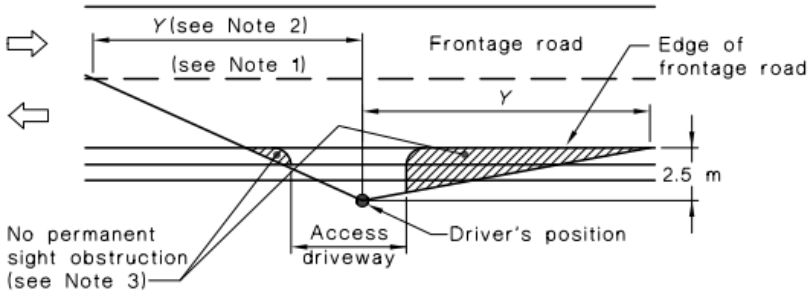
To determine actual operating speeds of vehicles approaching the new access location from Cambridge Road, a manual spot-speed survey was undertaken between 2:30 and 4:15 pm on Tuesday 28 July 2026, capturing the speeds of 100 vehicles travelling eastbound. Only vehicles with a minimum headway of five seconds to the preceding vehicle were recorded to ensure free-flow conditions.

Survey results captured operating speeds ranging between 20 and 47 km/h, with an average speed of 33 km/h. The 85th percentile speed was measured at 39 km/h. These findings confirm that most motorists travel at a reduced operating speed upon entering Quarry Road, with the 85th percentile speed of 40 km/h adopted as the representative operating speed for vehicle approaching the new access from Cambridge Road. This survey data will be used in the next section in evaluating the suitability of sight distance at the new access. Results of the manual spot survey can be found in Appendix B.

8.3 Site distance at the new driveway access

The proposed access will serve a residential development and has therefore been assessed in accordance with the sight distance requirements contained in Section 3.2.4 of the Standard. Figure 3.2 identifies desirable sight distance requirements of 55 metres for an operating speed of 40 km/h and 69 metres for an operating speed of 50 km/h, as shown in Extract 8.3.

Extract 8.3 Sight distance requirements at access driveways (AS 2890.1:2004)



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

The available sight distance at the proposed new driveway access was measured on-site, based on the driver being 1.1 metres above the driveway surface, with an approaching vehicle being 1.2 metres high.

Table 8.3 – Available sight distance at the proposed new access location

Approach direction	Operating speed	Required sight distance	Available sight distance	Comment
East	50 km/h	69 metres	70 metres	Compliant
West	40 km/h	55 metres	55 metres	Compliant

With available sight distance meeting or exceeding the required desirable sight distance for the prevailing operating speeds of approaching vehicles, drivers will have sufficient sight distance to enter Quarry Road in a safe and efficient manner, without impacting other users, as shown in the photographs below.

Photograph 8.3A – Available sight distance to the left



Photograph 8.3B – Available sight distance to the right

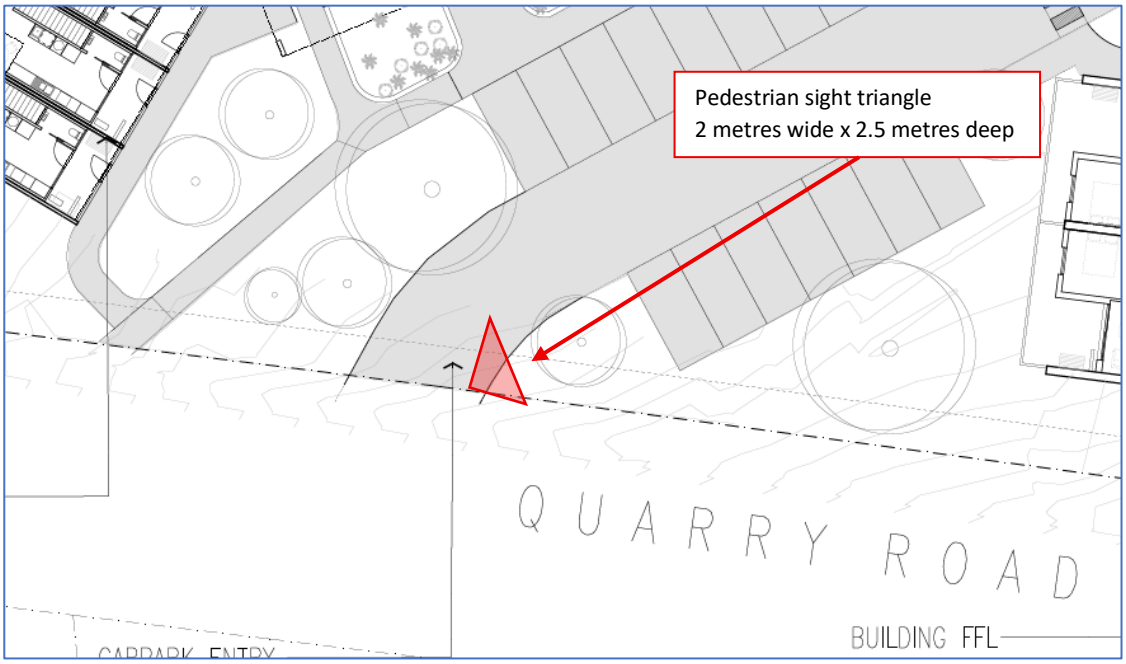


8.4 Pedestrian sight distance

It is important for drivers leaving the development site to have adequate sight lines to pedestrians using the footpath along Quarry Road. Adequate sight lines between a driver leaving the site and pedestrians using the footpath will be achieved by not having any physical obstacles on either side of the driveway.

The diagram below demonstrates the pedestrian sight triangle for a driver leaving the site, as defined in the Standard figure 3.3.

Diagram 8.4 – Pedestrian sight triangle



8.5 Layout of parking spaces

The development will achieve 58 on-site car parking spaces, to meet the reasonable demand generated by social and affordable housing tenants. The client has advised that a site manager will be assigned to manage the parking demand, minimising parking overflow.

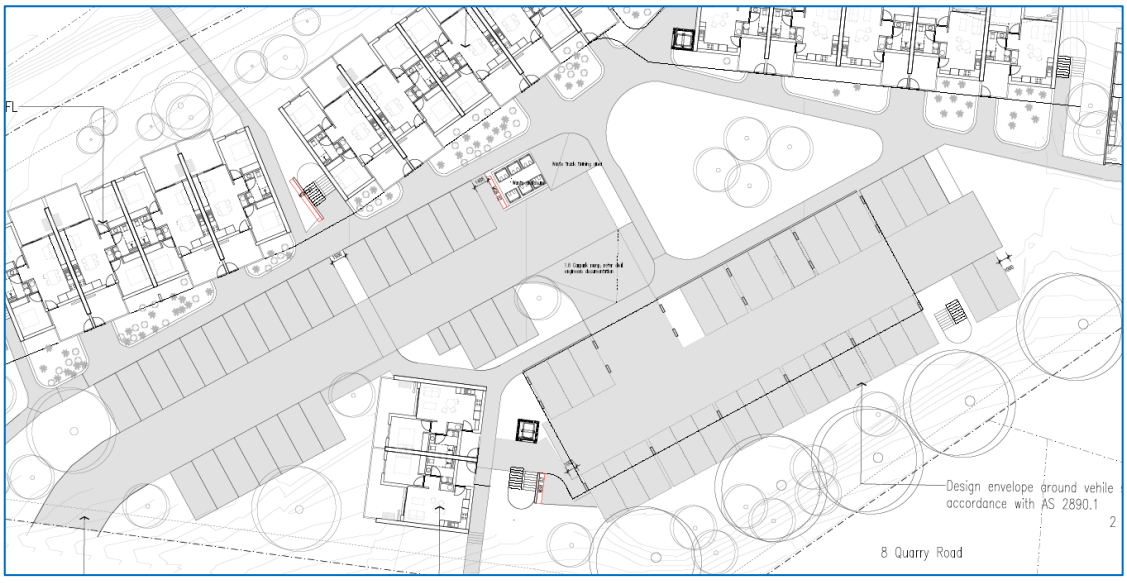
The on-site car parking spaces will be designed as User Class 1A under the Standard, suitable for residential or domestic use. Each space will be a minimum of 2.4 metres wide, 5.4 metres long, and supported with a minimum manoeuvring area or parking aisle width of 5.8 metres.

All on-site parking spaces will be situated on a grade of less than five percent and delineated with pavement markings. Where a parking space is located adjacent to a vertical obstruction higher than 150 millimetres, an additional 0.3 metres of width will be provided between the space and the obstruction. If there is a vertical obstruction on both sides, 0.3 metres will be provided on both sides of the space.

While majority of the spaces will be open spaces, there will be 26 spaces underneath the building, the columns of the building has been designed allowing for the parking spaces, with the location of the columns designed to comply with section 5.2 of the Standard.

To ensure all vehicles can enter and leave the site in a forward-driving direction, a turning bay will be provided adjacent to the waste enclosure, and opposite the internal ramp. This will be suitable to accommodate both light vehicles and a waste collection vehicle.

Diagram 8.5 – Layout of parking spaces



8.6 Vehicle manoeuvrability into and out of the parking spaces

The parking module features blind parking aisles, where the aisles are extended by one metre, as specified in the Standard, to assist with vehicles entering and leaving the last parking spaces. Vehicle swept path software has been used to demonstrate B85 vehicles can enter and leave all the parking spaces efficiently. A selection of vehicle swept path diagrams are available in Appendix D.

8.7 Other parking requirements

Motorcycle parking

With the facility providing 58 on-site car parking spaces, two dedicated motorcycle parking spaces will be provided, complying with table C2.4 of the planning scheme.

Bicycle parking

Planning scheme table C2.1 specifies that residential use, does not require dedicated bicycle parking spaces.

Accessible parking

According to the National Construction Code (NCC) the residential apartments would be classified as a class 2 building, which are typically apartment buildings where people live above and below each other.

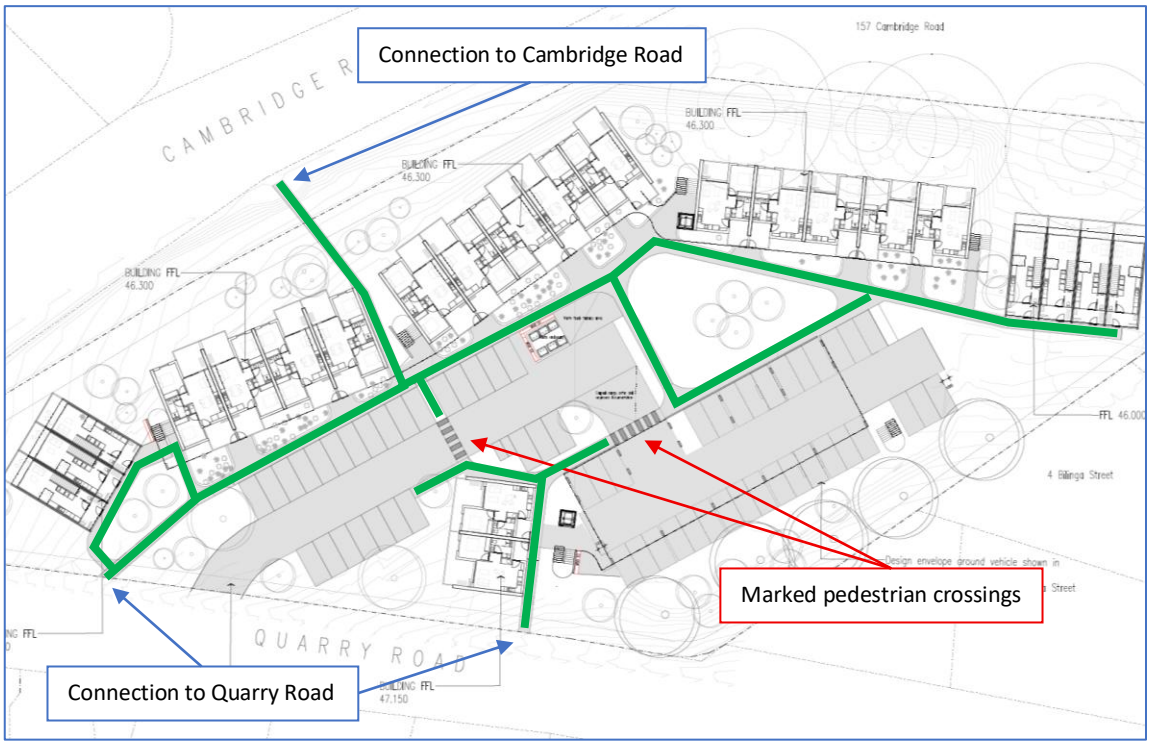
The NCC specifies class 2 buildings do not require accessible parking.

8.8 Pedestrian access – footpath

Internal pathways (shown in green) will provide connectivity between the site and the existing footpath network along Quarry Road and Cambridge Road.

At locations where the pathway crosses the internal driveway, pavement markings will clearly delineate the pedestrian pathway and crossing areas. This design will provide a high level of pedestrian amenity and safety, facilitating efficient movement throughout the site and ensuring compliance with the intent of the planning scheme.

Diagram 8.8 – Internal pedestrian pathways and connections



8.9 Driveway standard

The design incorporates a single internal driveway, extending from Quarry Road and terminating at Townhouse D. This driveway will be a minimum of 5.5 metres wide to accommodate two-way traffic flow, while adjacent to angle parking spaces the driveway width widens to a minimum 5.8 metres, to enable sufficient manoeuvring of vehicles into and out of the parking spaces. The parking spaces underneath the building will be supported with a slightly wider parking aisle.

The driveway and parking aisle will have either a concrete or asphalt surface and be supported with barrier kerbing to capture surface water, which will feed into an approved stormwater system. Appropriate lighting will be provided to ensure suitable illumination of the driveway, parking spaces, and pedestrian pathways.

8.10 Internal gradients

Civil engineering plans prepared by JMG have been assessed against the requirements of Section 2.5.3 of the Standard. The longitudinal driveway profile demonstrates a maximum grade of 12.43%, which is comfortably within the acceptable limits for residential driveways.

Owing to the site's natural topography, the driveway design incorporates a number of grade transitions that create both crest and sag curves. The design has been developed to maintain adequate vehicle ground clearance through these transitions by generally limiting changes in grade to no more than 12.5% for summit curves and 15% for sag curves, consistent with the intent of the Standard.

While one summit transition involves a grade change of 14.81%, exceeding the preferred 12.5% criterion, this section incorporates a two-metre vertical curve that provides adequate vehicle clearance and mitigates the potential for vehicle grounding. Similar two-metre vertical curves will be incorporated at other locations throughout the site where significant grade transitions occur to ensure acceptable vehicle operability.

Review of the driveway cross-sections indicates that some sections of the access driveway are located on relatively steep side slopes, particularly within the initial approach to the site. To improve safety and vehicle guidance through these areas, barrier kerbing is proposed along the lower side of the driveway where significant crossfalls occur.

The longitudinal driveway profile and vehicle clearance assessments are provided in Appendix E. These assessments demonstrate that both B85 and B99 design vehicles can safely negotiate the proposed driveway alignment without grounding, confirming that the access arrangement is suitable for its intended residential use.

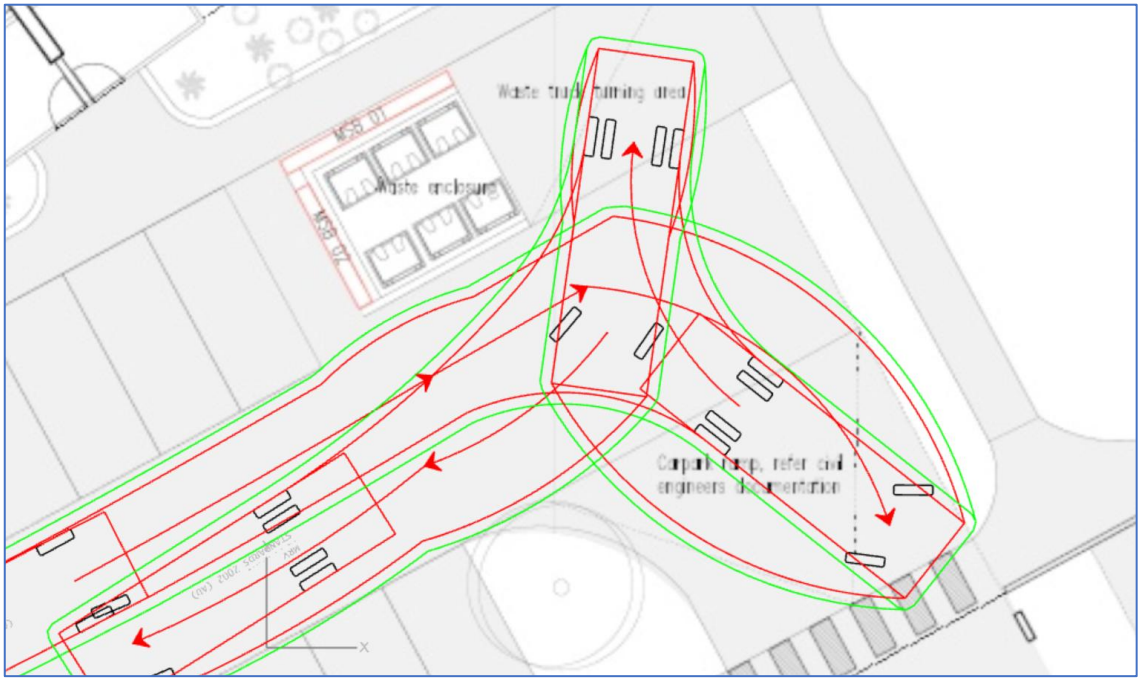
8.11 Waste collection

The development includes a dedicated waste collection area for residents, with waste services to be provided by a private contractor engaged by the developer. The site layout has been designed to accommodate a waste collection vehicle comparable in size to a Medium Rigid Vehicle (MRV), measuring approximately 8.8 metres in length. The design enables the vehicle to enter the site, access the designated waste collection area, undertake a turning manoeuvre within the site, and subsequently exit in a forward direction without the need for reversing onto the public road network.

Veolia, a private waste collection contractor, has reviewed the proposed access and internal driveway arrangement and confirmed that the layout provides safe and efficient access for waste collection operations. Veolia has advised that its collection vehicles can enter the site, manoeuvre within the designated turning area adjacent to the waste collection point, and exit the site in a forward-driving direction, notwithstanding the site's topographical constraints and driveway grades. A copy of Veolia's correspondence is provided in Appendix F.

To further verify the functionality of the design, vehicle swept path analysis has been undertaken using industry-standard modelling software. The assessment demonstrates that a Medium Rigid Vehicle, measuring 8.8 metres in length, can safely access the site, undertake the required turning manoeuvres, service the waste collection area, and leave the site in a forward-driving direction. Accordingly, the proposed arrangement provides a practical and safe waste collection solution, that is appropriate for the scale and operation of the development.

Diagram 8.11 – Swept path of a medium rigid vehicle



8.12 Access for emergency vehicles

It is important that all apartments are accessible to fire emergency vehicles, and according to Tasmania Fire Service, their newest heavy pump vehicle has similar vehicle dimensions to a medium rigid vehicle, 8.8 metres in length. The driveway will have sufficient width to accommodate a fire service vehicle to enter, turn around and leave in a forward-driving direction, as demonstrated in diagram 8.11 above.

8.13 Vertical height clearance

The design includes 26 spaces located underneath a residential apartment building, with a minimum height clearance of 2.2 metres provided, complying with section 5.3.1 of the Standard.

9. Planning scheme

9.1 C2.0 Parking and Sustainable Transport Code

C2.5.1 Car parking numbers

Under table C2.1 of the planning scheme, this residential development is required to provide a total of 144 on-site car parking spaces to comply with the acceptable solution. As the planning scheme does not mention social housing, it is assumed this parking requirement is based on private housing.

Section 4 of this assessment provided strong evidence that tenants of social housing apartments have a lower car ownership than private housing, determined that the 58 on-site car parking spaces that can be provided, is expected to meet the reasonable demand, minimising parking overflow. As this number of parking spaces is less than the acceptable solution, the development must be assessed against the performance criteria P1.2.

Performance criteria	**Assessment**
The number of car parking spaces for dwellings must meet the reasonable needs of the use, having regard to:	
a) the nature and intensity of the use and car parking required;	The development site is situated within convenient walking distance to a significant activity centre that includes medical, retail, food, and various commercial facilities, as well as the Rosny transport hub. Research indicates that tenants of social housing apartments located within reasonable proximity to public transport and activity centres exhibit lower car ownership rates. Based on local evidence, providing 0.72 car parking spaces per apartment is deemed appropriate and is expected to adequately meet the parking demand.
b) the size of the dwelling and the number of bedrooms; and	The development consists of 26 one-bedroom apartments and 49 two-bedroom apartments, which will be allocated to social and affordable housing tenants. The majority of the apartments will be less than 80 square metres in size.
c) the pattern of parking in the surrounding area.	The surrounding residential properties have off-street parking facilities, generating a low demand for on-street parking. Quarry Road has sufficient width to accommodate on-street parking along one side of the road, while maintaining two-way traffic flow.

C2.5.2 Bicycle parking numbers

The planning scheme table C2.1 specifies that residential use does not require bicycle parking.

C2.5.3 Motorcycle parking numbers

Two dedicated motorcycle parking spaces will be provided by the development site, complying with table C2.4 of the planning scheme, complying with the acceptable solution.

C2.5.4 Loading bays

This clause does not apply to residential use.

C2.6. Development standards

C2.6.1 Construction of parking areas.	The driveway and parking areas will be constructed with a concrete or asphalt surface and supported with appropriate kerbing to collect and direct surface water to an approved stormwater drainage system, complying with the acceptable solution A1.
C2.6.2 Design and layout of parking areas.	The internal layout and parking areas have been designed to comply with both the planning scheme and the Standard, to ensure vehicles can easily enter, manoeuvre, and leave in a forward-driving direction. There will be sufficient manoeuvring width adjacent to the parking spaces, to enable vehicles to enter and leave efficiently. All parking spaces will be located on a gradient of less than five percent and delineated with pavement markings. The internal widths of the driveways and parking aisles will be a minimum of 5.5 metres wide, accommodating two-way traffic flow and complying with table C2.2 of the planning scheme. Any structure extending over the parking spaces will have a minimum headroom clearance height exceeding 2.2 metres. Any parking deck or driveway that is elevated more than 600mm above the natural ground surface will be supported with an approved safety barrier. Overall, the parking spaces and internal layout complies with the acceptable solution A1.1 (a) and (b).
C2.6.3 Number of accesses for vehicles.	The site will remove the existing vehicular access and construct a new access onto Quarry Road, suitable to accommodate two-way traffic flow. This access arrangement complies with the planning scheme acceptable solution.
C2.6.4 lighting of parking areas within the general business zone and central business zone	Internal driveways, parking spaces, and pedestrian pathways, will be lit to the appropriate standards, complying with the acceptable solution.
C2.6.5 Pedestrian access.	Dedicated pedestrian pathways will be provided throughout the site, connecting all apartments to on-site parking spaces and existing footpaths located along Cambridge Road and Quarry Road. Pathways will be a minimum of one-metre wide, constructed with concrete and separated from the driveway by barrier kerbing. Overall, pedestrians will be provided with a high level of service, complying with the acceptable solution of the planning scheme.
C2.6.6 Loading bays.	Not applicable for a residential development.
C2.6.7 Bicycle parking and storage facilities	Not applicable for a residential development.
C2.6.8 Siting of parking and turning areas.	The parking and turning areas will be located behind and to the side of the buildings, and will not be visible from Cambridge Road.

9.2 C3.5.1 Traffic generation at a vehicle crossing, level crossing or new intersection

The development will increase the number of vehicles using the existing vehicular access onto Quarry Road by more than 20 percent and is required to be assessed against the performance criteria P1.

Performance criteria	Assessment
Vehicular traffic to and from the site must minimise any adverse effects on the safety of an intersection, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:	
a) Any increase in the traffic caused by the use;	The proposed development is estimated to generate approximately 170 vehicle trips per day, with around 17 trips occurring during the peak hour periods. These estimates are based on the generic trip generation rates provided in the NSW Guide for high-density residential apartments located in walkable proximity to public transport hubs or major activity centres.
b) The nature and frequency of the traffic generated by the use;	Residential vehicles less than 5.5 metres in length. These types of vehicles are associated with urban residential living, and compatible with the existing vehicles using the surrounding road network.
c) The nature of the road;	Quarry Road is a local residential road, built to an urban standard, with sufficient width to accommodate on-street parking along one side of the road, while maintaining two-way traffic flow. The development access is located within 100 metres of Cambridge Road, with all vehicles expected to arrive and leave using the Cambridge Road intersection, the additional vehicle movements will have limited impact to the residential properties along Quarry Road. The new proposed access will have sufficient sight distance for the prevailing operating speeds of approaching vehicles, allowing vehicles to enter and leave in a safe and efficient manner, without impacting other users. Although the current sight distance for vehicles leaving Quarry Road is limited to the right, there is sufficient sight distance to meet the required ASD. Council is aware of this sight distance limitation and has plans to undertake remedial works. Cambridge Road functions as a collector road within the surrounding network, linking with the South Arm Highway and Rosny Hill Road, providing efficient connectivity to the arterial road network.

d) The speed limit and traffic flow of the road;	The site has vehicular access to Quarry Road, which operates under the 50 km/h urban speed limit. Recent manual surveys found that Quarry Road is lightly trafficked, with less than 150 two-way vehicles observed within both the morning and evening peak hours. Detailed traffic analysis of the surrounding roads and modelling at the Cambridge Road intersection, indicates that motorists are receiving an acceptable level of traffic performance and efficiency. The additional traffic generated by the development is not expected to cause any deterioration in traffic performance or have an adverse impact on traffic flow on the surrounding road network. Primarily, as most of the generated traffic is expected to turn left when leaving and right when returning to Quarry Road. Traffic modelling indicates that there is spare capacity for incremental growth along Cambridge Road for the next decade, without adversely impacting motorists using the intersection.
e) Any alternative access;	None.
f) The need for the access or intersection;	Infill development in established residential areas is an excellent way to meet the housing shortage, while optimising the existing infrastructure and community services.
g) Any traffic impact assessment; and	An independent traffic assessment found no reason for this development not to proceed.
h) Any written advice received from the road authority.	Aware of none.

10. Conclusion

The development site is conveniently located within walking distance of a major activity centre, which offers essential services such as medical facilities, retail outlets, food establishments, and commercial amenities. Additionally, its proximity to the Rosny transport hub enhances its accessibility. This location is particularly suitable for social and affordable housing, as it reduces the need for tenants to operate a private vehicle. Furthermore, the current footpaths on the surrounding roads ensure safe, direct, and convenient connectivity.

From a traffic engineering and road safety perspective, additional vehicle movements generated by this development are not expected to create any adverse safety or traffic impact, as:

- the amount of traffic expected to be generated during the peak hour periods is low, and there is sufficient capacity within the surrounding street network to absorb the extra vehicle movements, without adversely impacting other users, or the level of traffic performance,
- drivers will have sufficient sight distance for the prevailing operating speeds of approaching vehicles, to enter and leave the site in a safe and efficient manner,
- Council is planning to undertake improvements to increase the sight distance at the Quarry Road and Cambridge Road intersection,
- Based on the lower car ownership of social and affordable housing tenants, there will be a sufficient supply of on-site parking spaces to meet the reasonable demand,
- internal pedestrian pathways will allow pedestrians to move around the development site in a safe and convenient manner and to connect with the existing footpaths along Cambridge Road and Quarry Road, and
- the driveway layout will be able to accommodate a medium rigid vehicle to enter, circulate, and leave efficiently in a forward-driving direction, and is suitable for waste and emergency service vehicles.

This Traffic Impact Assessment found no reason for this development not to proceed.

11. Appendix A – Parking demand generated by social housing apartments

The supply of on-site car parking is an important consideration with new developments, to ensure overflow parking does not cause adverse impact to surrounding properties, particularly in residential areas.

Reference has been taken from two mainland documents, to provide information on car parking rates for social housing developments. Queensland Government design standard 2015 for construction of social housing dwellings and apartments, and the GTA Review of Social Housing Car Parking Demands Car Parking study 2017, commissioned by the Victorian Department of Health & Human Services. Both documents provide research data on car parking rates associated with social housing developments, with ABS car ownership rates provided in the GTA information.

These documents demonstrate that tenants of social housing within close proximity to public transport, and accessibility to activity centres that provide a range of retail and commercial facilities, have a lower car ownership compared with private housing.

It is appreciated that these reference documents are based on mainland conditions. Centacare Evolve Housing and Homes Tasmania have also provided correspondence with car parking survey data from their existing social housing sites, which is used to demonstrate that lived experience of car ownership in Tasmania strongly correlates with the mainland outcomes.

These documents provide a good resource for predicting the car parking demands for social housing apartments and are considered appropriate for use in this development, as the data shows a strong correlation, giving a high level of confidence.

11.1 Queensland design standards for social housing developments

In 2015 the Queensland Government published design standards for construction of social housing (houses and apartments), which recognises that social housing in accessible areas requires a lower number of on-site parking spaces. This design standard allows for the reduction of car parking spaces for social housing, based on the site location. The design standards include different parking requirements based on three site categories.

Extract 11.1 - Queensland Government Design Standards for Social Housing

TABLE 1: Reduced car parking rates Initial Allocation	
Applies To	**Rate (number of covered spaces required)**
First 3 Units	1 space per unit

TABLE 2: Reduced car parking rates Rates Applicable to Remaining Units After Initial Allocation (to be rounded up if required)			
Number of bedrooms	**Site Location Category (refer table 3) Rate (number of covered spaces required)**		
	A	**B**	**C**
Studio	1 per 4 units	1 per 2 units	NA
1 Bedroom	1 per 2 units	2 per 3 units	1 per each unit
2 Bedrooms	2 per 3 units	1 per each unit	1 per each unit

TABLE 3: Site location categories	
Category	**Site location**
A	Major centre Brisbane within 800m walking distance of the pedestrian entry to a train station; or within 600m walking distance of an express bus stop; or within 400m walking distance of an appropriate local bus stop* Excludes neighbourhoods zoned low density in the planning scheme (refer category C)
B	Major centre not meeting requirements of category A for proximity to public transport; or Large regional centres such as Gold Coast, Sunshine Coast, Cairns, Caboolture, Gladstone, Ipswich, Logan, Mackay, Pine Rivers, Redcliffe, Redlands, Rockhampton, Toowoomba, Townsville, Yeppoon etc. and Large towns such as Bundaberg, Maryborough, Hervey Bay within 400 metres of a local bus stop* Excludes neighbourhoods zoned low density in the planning scheme (refer category C)
C	Not located in a major centre, large regional centre or large town meeting category 'A' or 'B' criteria e.g. Beaudesert, Charleville, Dalby, Longreach, Mount Isa, Roma, St George etc. Includes sites zoned low density residential in the planning scheme (including Brisbane Suburbs Improvement Strategy sites or similar zoned low density in the planning scheme)

* Note: an appropriate local bus service constitutes a minimum of 6 days, 7am to 7pm, at least hourly

11.2 GTA research report for the Melbourne Metropolitan area

The GTA report was commissioned by the Victorian Department of Health & Human Services, to undertake research for car parking rates associated with social housing developments. The research included the survey of 67 public housing operational sites, containing 802 social housing dwellings/apartments, the report also contains information from the Australian Bureau of Statistics (ABS) on car ownership.

The research report classified the locations of the development properties as either inner, middle, or outer metropolitan. With the methodology of data capture for the GTA report included questionnaires sent to the relevant housing organisation, which were completed by the housing officer responsible for the site, with the individual residents not surveyed. The research also analysed ABS data for car ownership for social housing.

Table 11.2 from the GTA report captures both ABS and survey data.

Table 4.1: ABS Car Ownership Census Data for Social Housing – 2016

Location	Bedroom Numbers	ABS Average Parking Rate (Car Spaces Per Dwelling)	Survey Data Car Parking Rate (Car Spaces Per Dwelling)	
			Average	85th Percentile
Inner Metro	1 – 2 Bedrooms	0.41	0.36 (0 – 1.43)	0.58
	3 + Bedrooms	0.86		
Middle Metro	1 – 2 Bedrooms	0.74	0.39 (0 – 0.70)	0.65
	3 + Bedrooms	1.23		
Outer Metro	1 – 2 Bedrooms	0.96	0.63 (0 – 1)	0.88
	3 + Bedrooms	1.35		

Key findings of the research report that have a direct correlation to the assessment of this development site:

- There is a significant difference in car ownership characteristics of private and social housing.
- There are clear bands of car ownership between inner, middle, and outer metropolitan areas.
- It is difficult to define exact car parking rates that can be applied to individual developments, given that each development site will inevitably have a different mix of public transport accessibility, access to walking and cycling infrastructure, surrounding activity centres including retail, commercial and education land-use.

11.3 Social housing parking data – Tasmanian Experience

Centacare Evolve Housing (Centacare) are a Tier 1 Community Housing Provider, who own and manage over 2,100 social and affordable housing properties throughout Tasmania. Centacare arranged for a survey of car ownership on a sample of sites they managed in Southern Tasmania, which involved six properties containing 103 social housing dwellings.

The car ownership for the six sites is contained in the table below, with a maximum of 0.47 cars per dwelling, clearly demonstrating social housing generates a low car parking demand. This data is considered as lived experience for Tasmania, and strongly correlates with the mainland reference documents discussed.

Table 11.3 – Centacare car ownership rates for social housing dwellings

Property	Number of dwellings	Time period Centacare has managed the properties	Car ownership on-site over management period	Rate of car ownership to number of dwellings
A	9	1.5 years	3 to 4 cars	0.33 - 0.44
B	55	2 years	20 to 24 cars	0.36 – 0.43
C	15	2 years	6 to 7 cars	0.4 – 0.47
D	8	3 years	2 to 3 cars	0.25 – 0.38
E	9	3 years	2 to 3 cars	0.22 -0.33
F	7	25 years	1 to 2 cars	0.14 – 0.3
Total	**103**			**Max 0.47**

11.4 Homes Tasmania - Tasmanian lived experience

A new social housing development at 73A New Town Road in southern Tasmania. Mr Richard Gilmour of Homes Tasmania provided a letter in support of the development application for 22 social housing dwellings, on the basis that survey data of actual car parking demand of similar social housing developments, generate a maximum car parking rate of 0.55 vehicles per dwellings.

The traffic surveys were conducted by a qualified traffic engineer for Homes Tasmania and examined the actual parking demand from social housing developments, which had been approved with a reduction in parking spaces under the performance criteria of the planning scheme. Table 11.4 summarises this survey data.

This survey data revealed that the actual parking demand is significantly lower than the predicted model used at the planning stage, generating an oversupply of car parking spaces.

Table 11.4 – Summary of information from Community Tasmania

Site	Number of dwellings	Number of car parking spaces approved	Survey – number of cars parked	Maximum car parking usage	Car parking demand per dwelling
23-25 Goulburn St	25	15	8	50%	0.32 spaces per dwelling
216 Harrington St	53	53	24 to 29	65%	0.45 – 0.55
Total	**78**				**Maximum 0.55**

11.5 Parking demand data for Queens Walk social housing complex

Hubble Traffic was engaged to undertake an independent Traffic Impact Assessment for expanding the social housing complex at Queens Walk, located adjacent to the Brooker Highway, Cornelian Bay.

The current multi-storey complex contains three tower buildings containing 85 social housing apartments and the proposal is to increase this number to 150 apartments. In establishing the future car parking demand, a traffic survey was conducted on the car ownership of the current 85 apartments, which found the maximum car parking rate of 0.72 cars per apartment, which occurred at 6:00am, and includes visitor parking. This maximum car parking rate was used to predict the number of car parking spaces that would be provided for the development expansion and was accepted by the relevant planning authority.

11.6 Summary of the car parking demand

The above evidence demonstrates tenants of social housing dwellings have a lower car parking rate than private housing.

There is strong correlation between the mainland reference materials and the Tasmania lived experience of car parking ownership for tenants of social housing dwellings. Social and affordable housing development should be examined under these methodologies, with consideration taken on the sites location and proximity to a town centre, tenants accessibility to public transport services, and activity centres that contain a range of retail and commercial facilities.

12. Appendix B – Traffic surveys

12.1 Manual traffic surveys

Table 12.1A – Morning survey completed on Wednesday 12th of February

Time	Cambridge Road (North)			Quarry Road (East)			Cambridge Road (South)			Bruny Street (West)		
	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left
7:30 7:45	14	150	1	0	0	19	0	74	1	0	0	6
7:45 8:00	34	146	0	2	0	10	1	114	5	1	0	3
8:00 8:15	26	273	0	0	0	15	4	103	6	0	0	6
8:15 8:30	36	251	2	2	1	15	7	152	4	0	1	8
8:30 8:45	27	226	0	1	0	11	5	144	8	0	0	7
8:45 9:00	21	193	2	2	1	14	5	152	5	4	0	8
Total	**158**	**1,239**	**5**	**7**	**2**	**84**	**22**	**739**	**29**	**5**	**1**	**38**
Peak total	**110**	**943**	**4**	**5**	**2**	**55**	**21**	**551**	**23**	**4**	**1**	**29**

Table 12.1B – Evening survey completed on Wednesday 12th of February

Time	Cambridge Road (North)			Quarry Road (East)			Cambridge Road (South)			Bruny Street (West)		
	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left
4:00 4:15	11	94	2	1	0	8	9	140	5	0	0	6
4:15 4:30	11	139	1	1	0	7	13	179	5	1	1	11
4:30 4:45	11	98	3	0	1	16	13	176	6	0	1	9
4:45 5:00	9	118	2	1	0	17	14	187	2	2	2	10
5:00 5:15	9	105	4	0	2	4	22	174	2	1	0	16
5:15 5:30	9	122	2	0	1	7	22	203	5	0	0	19
Total	**60**	**676**	**14**	**3**	**4**	**59**	**93**	**1,059**	**25**	**4**	**4**	**71**
Peak total	**38**	**443**	**11**	**1**	**4**	**44**	**71**	**740**	**15**	**3**	**3**	**54**

12.2 Cambridge Road, Quarry Road and Bruny Street intersection

Diagram 12.2A – Morning peak hour traffic movements

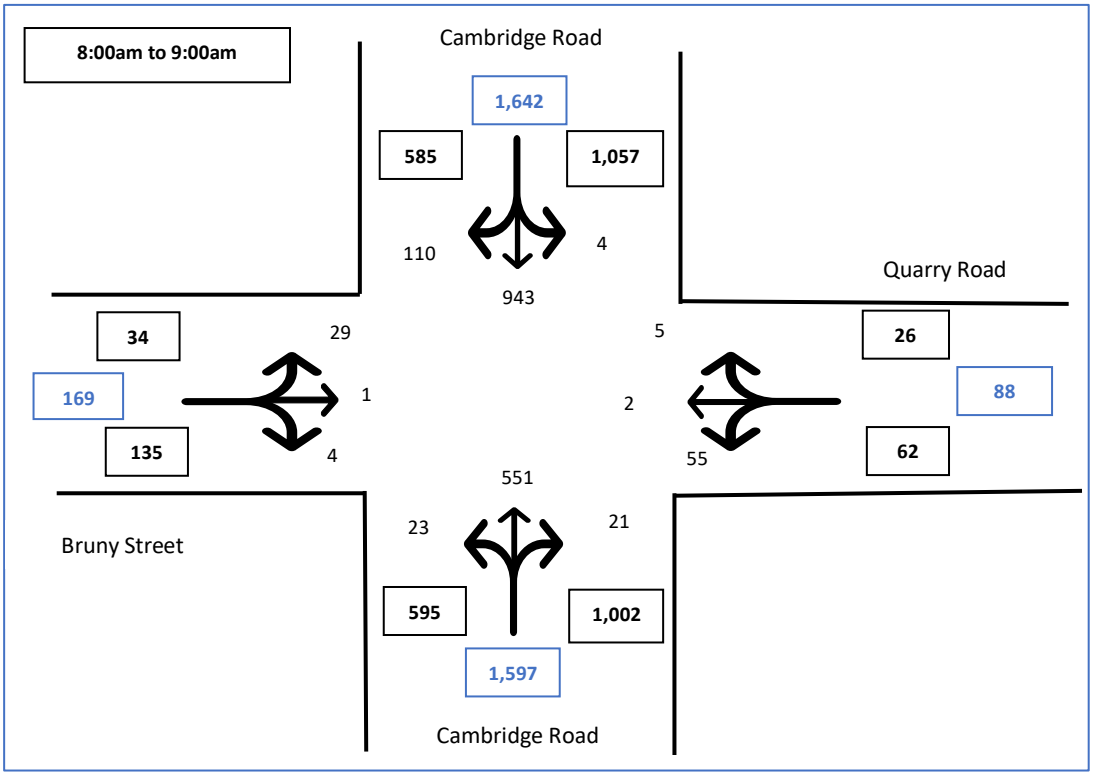
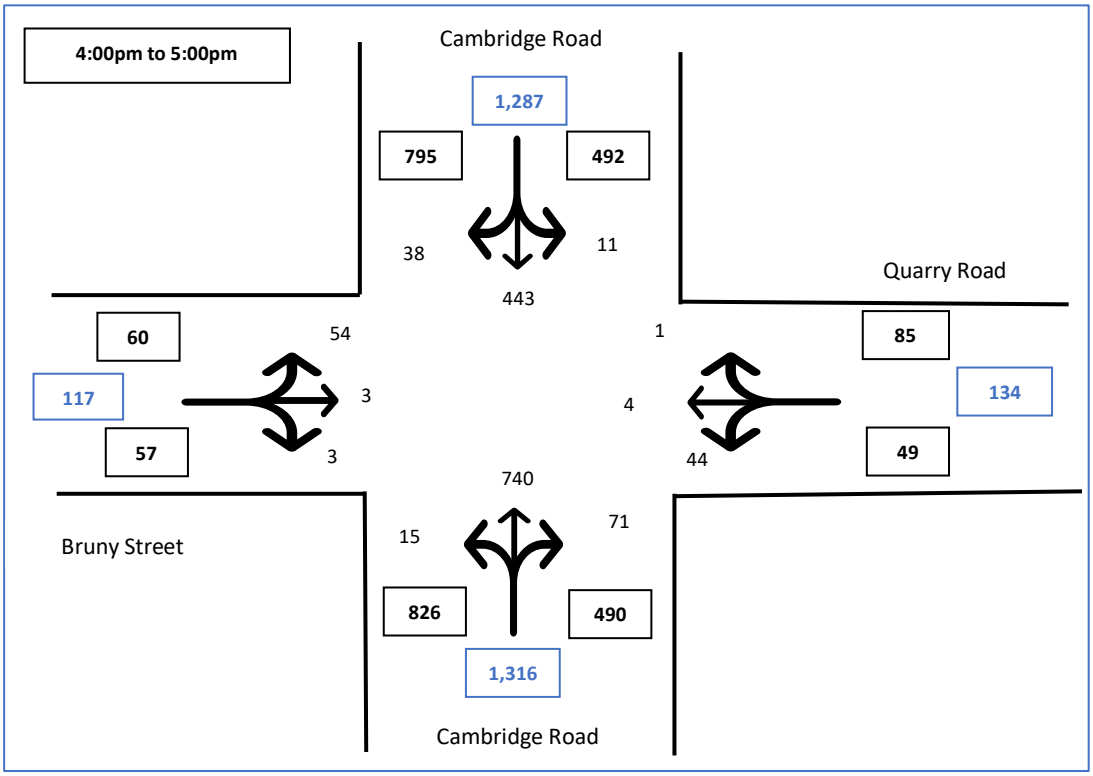


Diagram 12.2B – Evening peak hour traffic movements



12.3 Gap acceptance survey

Table 12.3A – Measured gap acceptance, queue length for vehicles turning right, morning period

Time AM	Measured gap acceptance	Average gap for the period	Queue length in vehicle waiting	Comments
7:25	23 secs	23 secs	0	
7:48	3 secs	13 secs	0	
7:48	22 secs	16 secs	0	
8:14	29 secs	19 secs	0	
8:23	63 secs	28 secs	0	Straight to Bruny St
8:32	44 secs	31 secs	0	
8:35	47 secs	33 secs	0	
8:48	3 secs	29 secs	0	
8:57	30 secs	29 secs	0	

Table 12.3B – Measured gap acceptance, queue length for vehicles turning right, evening period

Time PM	Measured gap acceptance	Average gap for the period	Queue length in vehicle waiting	Comments
4:03	3 secs	3 secs	0	
4:07	3 secs	3 secs	0	Straight to Bruny St
4:13	7 secs	4 secs	0	
4:38	9 secs	6 secs	0	Medium rigid truck
4:46	3 secs	5 secs	0	Straight to Bruny St
5:07	16 secs	7 secs	0	
5:09	63 secs	15 secs	0	
5:16	47 secs	19 secs	0	

12.4 Manual spot speed survey

Table 12.4 – Captured operating speeds, listed from lowest to highest

Quarry Road, Warrane					
Number of vehicles	**Eastbound**	**Number of vehicles**	**Eastbound**	**Number of vehicles**	**Eastbound**
1	20	34	31	67	36
2	21	35	31	68	36
3	24	36	31	69	36
4	25	37	31	70	36
5	25	38	31	71	36
6	25	39	31	72	36
7	26	40	31	73	37
8	27	41	31	74	37
9	27	42	32	75	37
10	27	43	32	76	37
11	27	44	32	77	37
12	27	45	32	78	38
13	27	46	32	79	38
14	28	47	32	80	38
15	28	48	32	81	38
16	28	49	33	82	38
17	28	50	33	83	38
18	28	51	33	84	39
19	28	52	33	85	39
20	29	53	33	86	39
21	29	54	34	87	39
22	29	55	34	88	40
23	29	56	34	89	40
24	29	57	34	90	40
25	29	58	34	91	41
26	29	59	34	92	41
27	29	60	34	93	41
28	30	61	34	94	42
29	30	62	34	95	42
30	30	63	35	96	42
31	30	64	35	97	43
32	30	65	35	98	45
33	30	66	35	99	47
Average		**33**		100	47

13. Appendix C – Traffic modelling

Morning peak – Existing flows

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge -Existing morning flows]

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: Quarry Road								
1	L2	58	0.0	0.136	10.2	LOS A	0.5	3.3
2	T1	2	0.0	0.136	14.6	LOS B	0.5	3.3
3	R2	5	0.0	0.136	29.1	LOS C	0.5	3.3
Approach		65	0.0	0.136	11.8	LOS A	0.5	3.3
East: Cambridge Rd (from Morninton)								
4	L2	4	0.0	0.516	5.6	LOS A	0.0	0.0
5	T1	993	0.0	0.516	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.102	7.4	LOS A	0.5	3.2
Approach		1113	0.0	0.516	0.9	NA	0.5	3.2
North: Bruny Street								
7	L2	31	0.0	0.065	7.8	LOS A	0.2	1.5
8	T1	1	0.0	0.065	14.2	LOS A	0.2	1.5
9	R2	4	0.0	0.065	27.3	LOS B	0.2	1.5
Approach		36	0.0	0.065	10.3	LOS A	0.2	1.5
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.312	5.6	LOS A	0.0	0.0
11	T1	580	0.0	0.312	0.0	LOS A	0.0	0.0
12	R2	22	0.0	0.026	8.7	LOS A	0.1	0.7
Approach		626	0.0	0.312	0.6	NA	0.1	0.7
All Vehicles		1840	0.0	0.516	1.3	NA	0.5	3.3

Evening peak – Existing flows

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Existing evening peak]

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: Quarry Road								
1	L2	46	0.0	0.067	7.4	LOS A	0.2	1.6
2	T1	4	0.0	0.067	11.6	LOS A	0.2	1.6
3	R2	1	0.0	0.067	21.7	LOS B	0.2	1.6
Approach		52	0.0	0.067	8.0	LOS A	0.2	1.6
East: Cambridge Rd (from Morninton)								
4	L2	12	0.0	0.247	5.6	LOS A	0.0	0.0
5	T1	466	0.0	0.247	0.0	LOS A	0.0	0.0
6	R2	40	0.0	0.041	8.0	LOS A	0.2	1.2
Approach		518	0.0	0.247	0.8	NA	0.2	1.2
North: Bruny Street								
7	L2	57	0.0	0.103	8.9	LOS A	0.4	2.5
8	T1	3	0.0	0.103	11.7	LOS A	0.4	2.5
9	R2	3	0.0	0.103	20.6	LOS B	0.4	2.5
Approach		63	0.0	0.103	9.6	LOS A	0.4	2.5
West: Cambridge Rd (Rosny)								
10	L2	16	0.0	0.410	5.6	LOS A	0.0	0.0
11	T1	779	0.0	0.410	0.1	LOS A	0.0	0.0
12	R2	75	0.0	0.060	6.9	LOS A	0.3	1.9
Approach		869	0.0	0.410	0.7	NA	0.3	1.9
All Vehicles		1502	0.0	0.410	1.4	NA	0.4	2.5

Morning peak – Existing flows with development operating based on local data

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Morning with development (social generation rates)]

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: Quarry Road								
1	L2	72	0.0	0.169	10.2	LOS A	0.6	4.1
2	T1	3	0.0	0.169	14.8	LOS B	0.6	4.1
3	R2	6	0.0	0.169	29.6	LOS C	0.6	4.1
Approach		81	0.0	0.169	11.9	LOS A	0.6	4.1
East: Cambridge Rd (from Morninton)								
4	L2	4	0.0	0.516	5.6	LOS A	0.0	0.0
5	T1	993	0.0	0.516	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.102	7.4	LOS A	0.5	3.2
Approach		1113	0.0	0.516	0.9	NA	0.5	3.2
North: Bruny Street								
7	L2	31	0.0	0.066	7.8	LOS A	0.2	1.5
8	T1	1	0.0	0.066	14.2	LOS A	0.2	1.5
9	R2	4	0.0	0.066	27.7	LOS B	0.2	1.5
Approach		36	0.0	0.066	10.4	LOS A	0.2	1.5
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.312	5.6	LOS A	0.0	0.0
11	T1	580	0.0	0.312	0.0	LOS A	0.0	0.0
12	R2	24	0.0	0.028	8.7	LOS A	0.1	0.8
Approach		628	0.0	0.312	0.6	NA	0.1	0.8
All Vehicles		1858	0.0	0.516	1.4	NA	0.6	4.1

Evening peak – Existing flows with development operating based on local data

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Evening with development (social generation rates)]

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: Quarry Road								
1	L2	48	0.0	0.077	7.4	LOS A	0.3	1.8
2	T1	5	0.0	0.077	11.7	LOS A	0.3	1.8
3	R2	2	0.0	0.077	22.1	LOS B	0.3	1.8
Approach		56	0.0	0.077	8.3	LOS A	0.3	1.8
East: Cambridge Rd (from Morninton)								
4	L2	14	0.0	0.249	5.6	LOS A	0.0	0.0
5	T1	466	0.0	0.249	0.0	LOS A	0.0	0.0
6	R2	40	0.0	0.041	8.0	LOS A	0.2	1.2
Approach		520	0.0	0.249	0.8	NA	0.2	1.2
North: Bruny Street								
7	L2	57	0.0	0.103	8.9	LOS A	0.4	2.5
8	T1	3	0.0	0.103	11.8	LOS A	0.4	2.5
9	R2	3	0.0	0.103	20.9	LOS B	0.4	2.5
Approach		63	0.0	0.103	9.7	LOS A	0.4	2.5
West: Cambridge Rd (Rosny)								
10	L2	16	0.0	0.411	5.6	LOS A	0.0	0.0
11	T1	779	0.0	0.411	0.1	LOS A	0.0	0.0
12	R2	88	0.0	0.071	6.9	LOS A	0.3	2.2
Approach		883	0.0	0.411	0.8	NA	0.3	2.2
All Vehicles		1522	0.0	0.411	1.5	NA	0.4	2.5

Morning peak – Existing flows with development operating based on the Guide

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Morning with development (RTA generation rates)]

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: Quarry Road								
1	L2	92	0.0	0.215	10.5	LOS A	0.8	5.5
2	T1	3	0.0	0.215	15.3	LOS B	0.8	5.5
3	R2	8	0.0	0.215	30.4	LOS C	0.8	5.5
Approach		103	0.0	0.215	12.3	LOS A	0.8	5.5
East: Cambridge Rd (from Morninton)								
4	L2	5	0.0	0.516	5.6	LOS A	0.0	0.0
5	T1	993	0.0	0.516	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.102	7.4	LOS A	0.5	3.2
Approach		1114	0.0	0.516	0.9	NA	0.5	3.2
North: Bruny Street								
7	L2	31	0.0	0.066	7.8	LOS A	0.2	1.6
8	T1	1	0.0	0.066	14.2	LOS A	0.2	1.6
9	R2	4	0.0	0.066	28.2	LOS B	0.2	1.6
Approach		36	0.0	0.066	10.4	LOS A	0.2	1.6
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.312	5.6	LOS A	0.0	0.0
11	T1	580	0.0	0.312	0.0	LOS A	0.0	0.0
12	R2	25	0.0	0.030	8.7	LOS A	0.1	0.8
Approach		629	0.0	0.312	0.6	NA	0.1	0.8
All Vehicles		1882	0.0	0.516	1.6	NA	0.8	5.5

Evening peak – Existing flows with development operating based on the Guide

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Existing with development (RTA generation rates)]

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: Quarry Road								
1	L2	49	0.0	0.089	7.4	LOS A	0.3	2.1
2	T1	5	0.0	0.089	11.9	LOS A	0.3	2.1
3	R2	4	0.0	0.089	22.5	LOS B	0.3	2.1
Approach		59	0.0	0.089	8.9	LOS A	0.3	2.1
East: Cambridge Rd (from Morninton)								
4	L2	17	0.0	0.250	5.6	LOS A	0.0	0.0
5	T1	466	0.0	0.250	0.0	LOS A	0.0	0.0
6	R2	40	0.0	0.041	8.0	LOS A	0.2	1.2
Approach		523	0.0	0.250	0.8	NA	0.2	1.2
North: Bruny Street								
7	L2	57	0.0	0.103	8.9	LOS A	0.4	2.5
8	T1	3	0.0	0.103	11.9	LOS A	0.4	2.5
9	R2	3	0.0	0.103	21.2	LOS B	0.4	2.5
Approach		63	0.0	0.103	9.7	LOS A	0.4	2.5
West: Cambridge Rd (Rosny)								
10	L2	16	0.0	0.411	5.6	LOS A	0.0	0.0
11	T1	779	0.0	0.411	0.1	LOS A	0.0	0.0
12	R2	106	0.0	0.085	7.0	LOS A	0.4	2.7
Approach		901	0.0	0.411	1.0	NA	0.4	2.7
All Vehicles		1546	0.0	0.411	1.6	NA	0.4	2.7

Morning peak – Existing flows with development operating (local data) and incremental growth along Cambridge Road at 1% per annum, for next 10 years

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Morning (social generation rates) traffic growth]

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: Quarry Road								
1	L2	72	0.0	0.188	10.9	LOS A	0.6	4.5
2	T1	3	0.0	0.188	16.4	LOS B	0.6	4.5
3	R2	6	0.0	0.188	34.1	LOS C	0.6	4.5
Approach		81	0.0	0.188	12.9	LOS A	0.6	4.5
East: Cambridge Rd (from Morninton)								
4	L2	4	0.0	0.570	5.6	LOS A	0.0	0.0
5	T1	1097	0.0	0.570	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.107	7.6	LOS A	0.5	3.3
Approach		1217	0.0	0.570	0.8	NA	0.5	3.3
North: Bruny Street								
7	L2	31	0.0	0.072	8.1	LOS A	0.2	1.7
8	T1	1	0.0	0.072	15.7	LOS B	0.2	1.7
9	R2	4	0.0	0.072	31.7	LOS C	0.2	1.7
Approach		36	0.0	0.072	11.1	LOS A	0.2	1.7
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.344	5.6	LOS A	0.0	0.0
11	T1	641	0.0	0.344	0.0	LOS A	0.0	0.0
12	R2	24	0.0	0.031	9.1	LOS A	0.1	0.9
Approach		689	0.0	0.344	0.6	NA	0.1	0.9
All Vehicles		2023	0.0	0.570	1.4	NA	0.6	4.5

Evening peak – Existing flows with development operating (local data) and incremental growth along Cambridge Road at 1% per annum, for next 10 years

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Evening (social generation rates) traffic growth]

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: Quarry Road								
1	L2	48	0.0	0.082	7.6	LOS A	0.3	1.9
2	T1	5	0.0	0.082	12.7	LOS A	0.3	1.9
3	R2	2	0.0	0.082	24.8	LOS B	0.3	1.9
Approach		56	0.0	0.082	8.7	LOS A	0.3	1.9
East: Cambridge Rd (from Morninton)								
4	L2	14	0.0	0.274	5.6	LOS A	0.0	0.0
5	T1	515	0.0	0.274	0.0	LOS A	0.0	0.0
6	R2	40	0.0	0.043	8.3	LOS A	0.2	1.3
Approach		568	0.0	0.274	0.7	NA	0.2	1.3
North: Bruny Street								
7	L2	57	0.0	0.111	9.4	LOS A	0.4	2.7
8	T1	3	0.0	0.111	12.8	LOS A	0.4	2.7
9	R2	3	0.0	0.111	23.3	LOS B	0.4	2.7
Approach		63	0.0	0.111	10.2	LOS A	0.4	2.7
West: Cambridge Rd (Rosny)								
10	L2	16	0.0	0.452	5.6	LOS A	0.0	0.0
11	T1	860	0.0	0.452	0.1	LOS A	0.0	0.0
12	R2	88	0.0	0.074	7.1	LOS A	0.3	2.3
Approach		964	0.0	0.452	0.8	NA	0.3	2.3
All Vehicles		1652	0.0	0.452	1.4	NA	0.4	2.7

Morning peak – Existing flows with development operating (the Guide) and incremental growth along Cambridge Road at 1% per annum, for next 10 years

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge - Morning (RTA generation rates) traffic growth]

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: Quarry Road								
1	L2	92	0.0	0.239	11.5	LOS A	0.9	6.2
2	T1	3	0.0	0.239	17.1	LOS B	0.9	6.2
3	R2	8	0.0	0.239	35.2	LOS C	0.9	6.2
Approach		103	0.0	0.239	13.6	LOS A	0.9	6.2
East: Cambridge Rd (from Morninton)								
4	L2	5	0.0	0.570	5.6	LOS A	0.0	0.0
5	T1	1096	0.0	0.570	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.107	7.6	LOS A	0.5	3.3
Approach		1217	0.0	0.570	0.8	NA	0.5	3.3
North: Bruny Street								
7	L2	31	0.0	0.073	8.1	LOS A	0.2	1.7
8	T1	1	0.0	0.073	15.7	LOS B	0.2	1.7
9	R2	4	0.0	0.073	32.2	LOS C	0.2	1.7
Approach		36	0.0	0.073	11.2	LOS A	0.2	1.7
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.344	5.6	LOS A	0.0	0.0
11	T1	641	0.0	0.344	0.0	LOS A	0.0	0.0
12	R2	25	0.0	0.032	9.1	LOS A	0.1	0.9
Approach		691	0.0	0.344	0.6	NA	0.1	0.9
All Vehicles		2046	0.0	0.570	1.6	NA	0.9	6.2

Evening peak – Existing flows with development operating (the Guide) and incremental growth along Cambridge Road at 1% per annum, for next 10 years

MOVEMENT SUMMARY

Site: 101 [Quarry and Cambridge -Existing morning flows]

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: Quarry Road								
1	L2	58	0.0	0.136	10.2	LOS A	0.5	3.3
2	T1	2	0.0	0.136	14.6	LOS B	0.5	3.3
3	R2	5	0.0	0.136	29.1	LOS C	0.5	3.3
Approach		65	0.0	0.136	11.8	LOS A	0.5	3.3
East: Cambridge Rd (from Morninton)								
4	L2	4	0.0	0.516	5.6	LOS A	0.0	0.0
5	T1	993	0.0	0.516	0.1	LOS A	0.0	0.0
6	R2	116	0.0	0.102	7.4	LOS A	0.5	3.2
Approach		1113	0.0	0.516	0.9	NA	0.5	3.2
North: Bruny Street								
7	L2	31	0.0	0.065	7.8	LOS A	0.2	1.5
8	T1	1	0.0	0.065	14.2	LOS A	0.2	1.5
9	R2	4	0.0	0.065	27.3	LOS B	0.2	1.5
Approach		36	0.0	0.065	10.3	LOS A	0.2	1.5
West: Cambridge Rd (Rosny)								
10	L2	24	0.0	0.312	5.6	LOS A	0.0	0.0
11	T1	580	0.0	0.312	0.0	LOS A	0.0	0.0
12	R2	22	0.0	0.026	8.7	LOS A	0.1	0.7
Approach		626	0.0	0.312	0.6	NA	0.1	0.7
All Vehicles		1840	0.0	0.516	1.3	NA	0.5	3.3

14. Appendix D – Vehicle swept paths

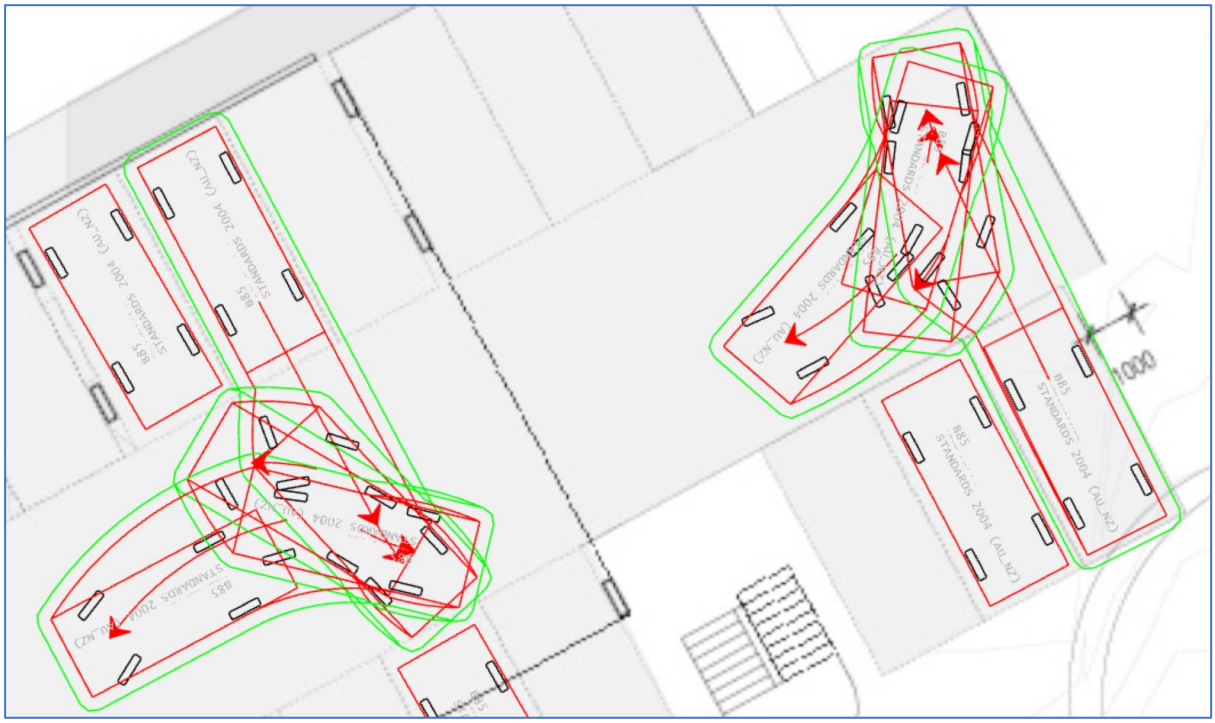
Swept path of B85 vehicle leaving parking spaces



Swept path of B85 vehicle leaving parking space



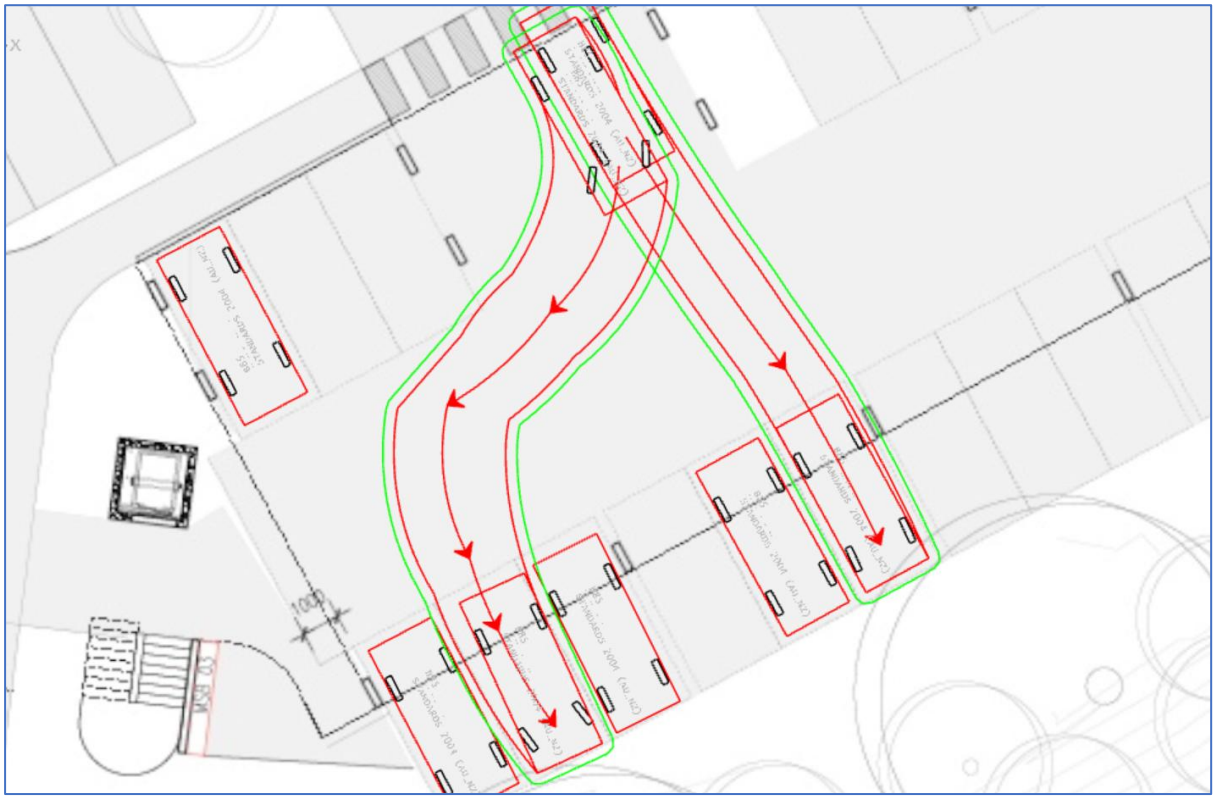
Swept path of B85 vehicle leaving parking spaces



Swept path of B85 vehicle entering parking spaces



Swept path of B85 vehicle entering parking spaces



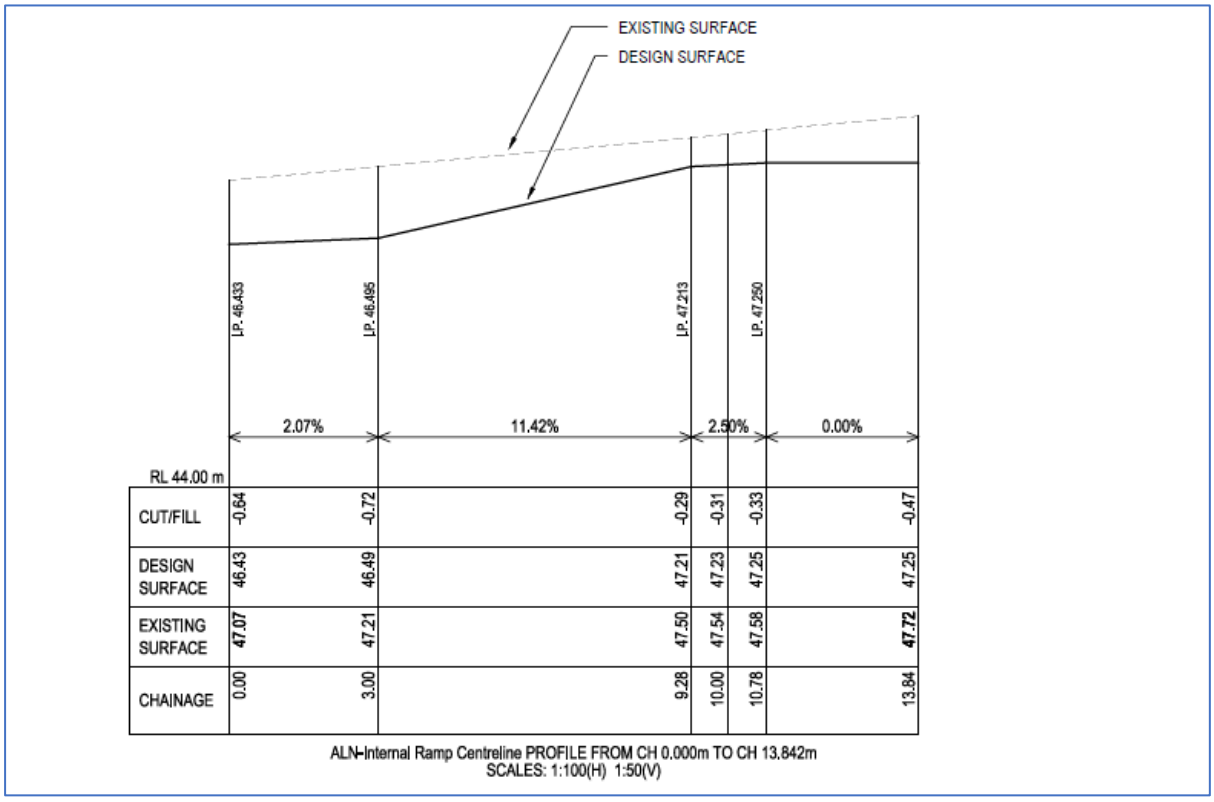
Swept path of B85 vehicle entering parking spaces



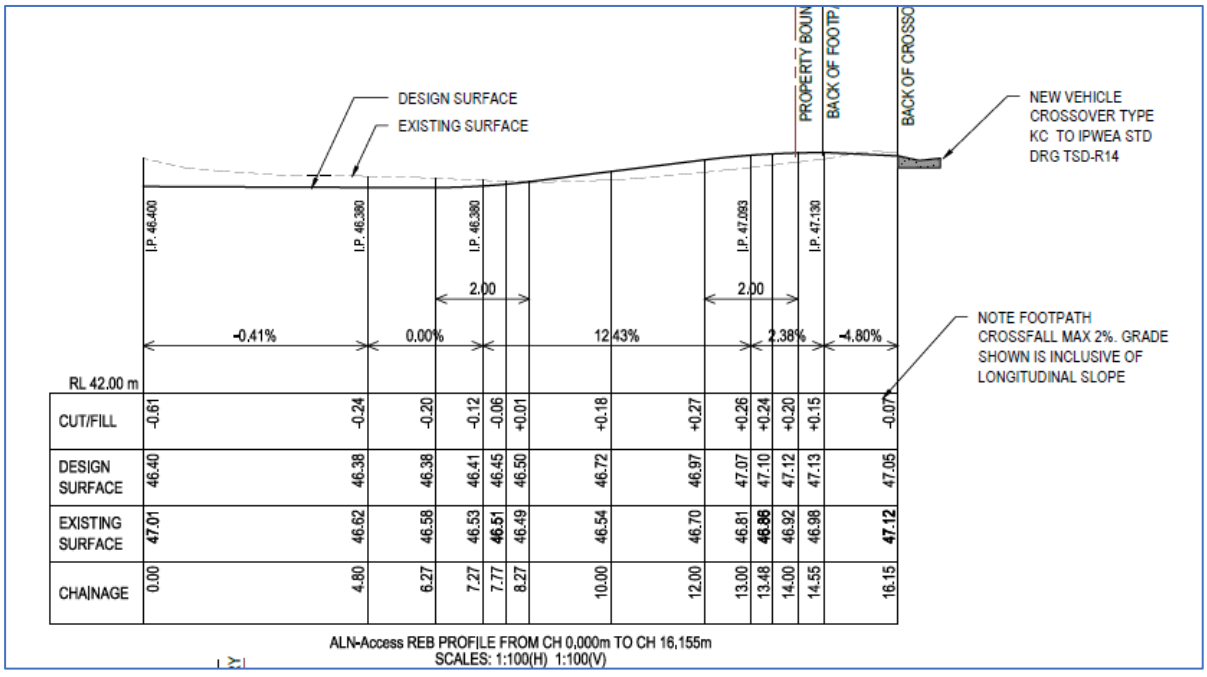
15. Appendix E – Longitudinal driveway profile

Longitudinal profiles of the driveway

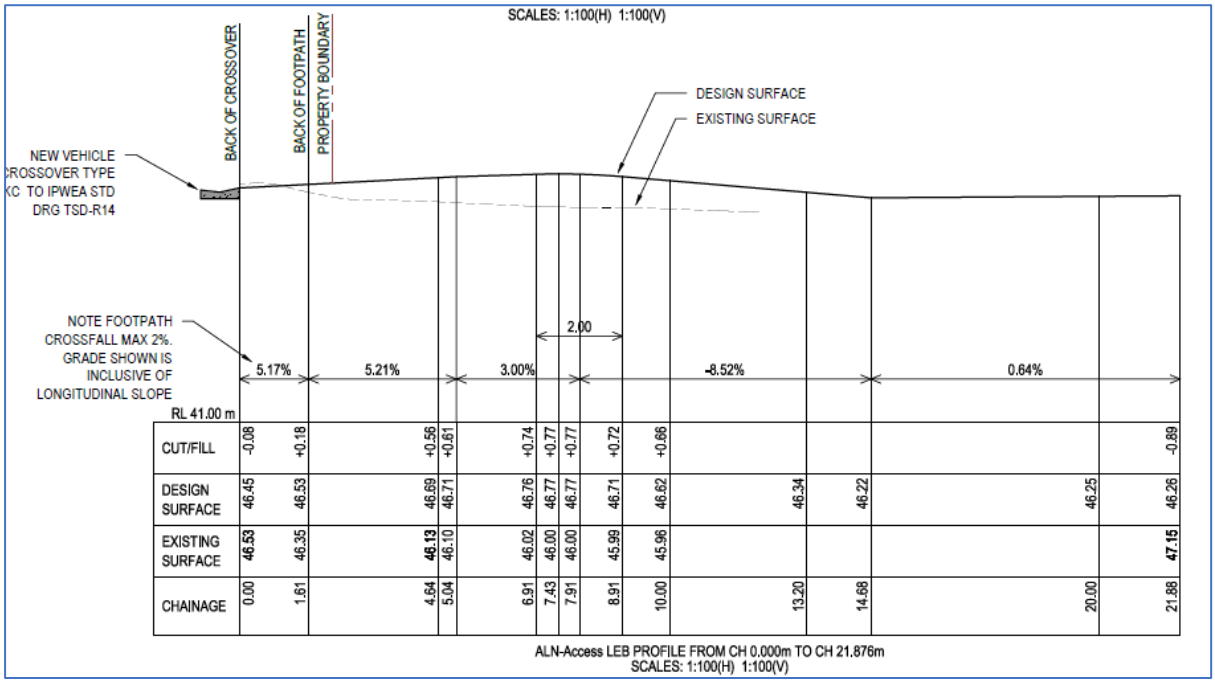
Longitudinal profile of the internal ramp



Longitudinal profile of the beginning of the driveway

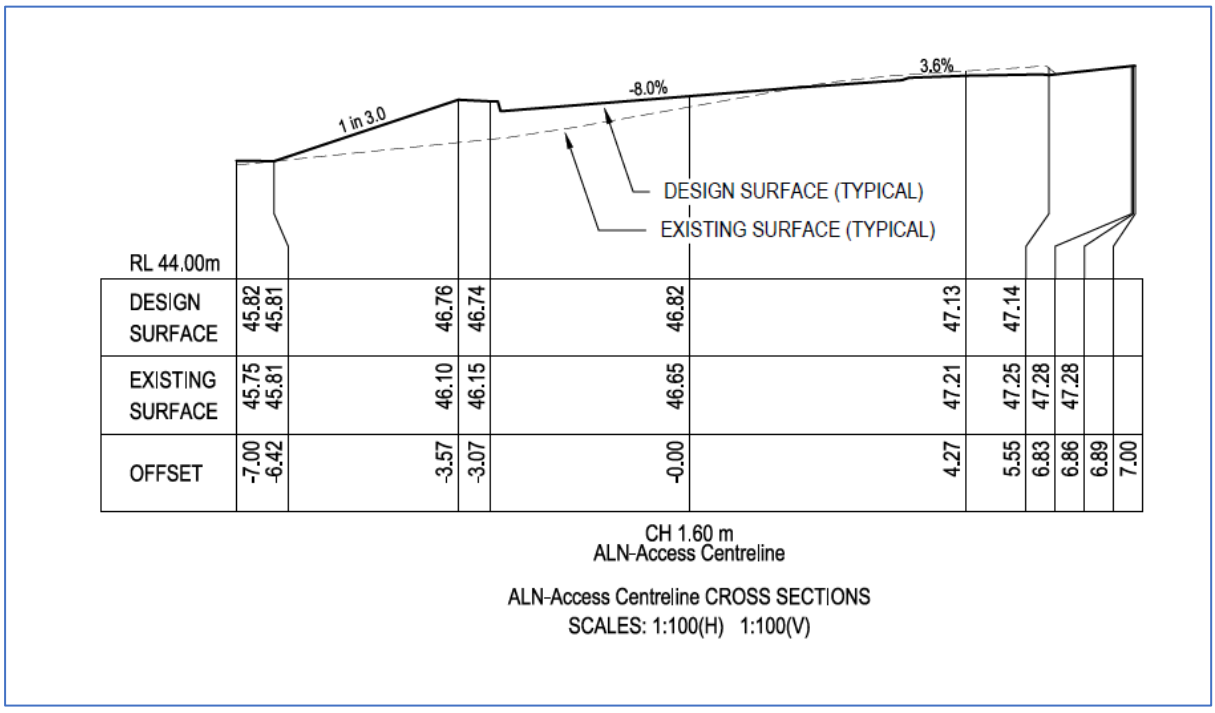


Longitudinal profile of the beginning of the driveway

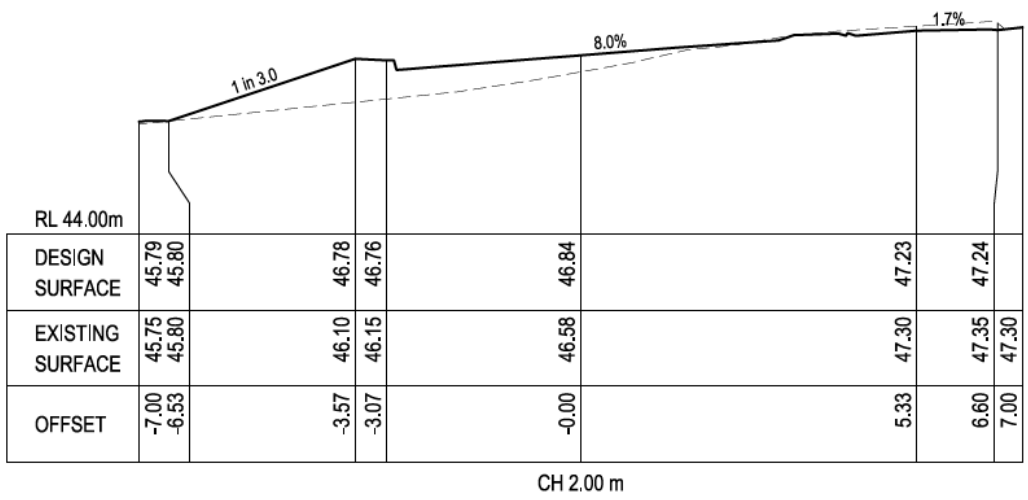


<u>Cross sections of the driveway</u>

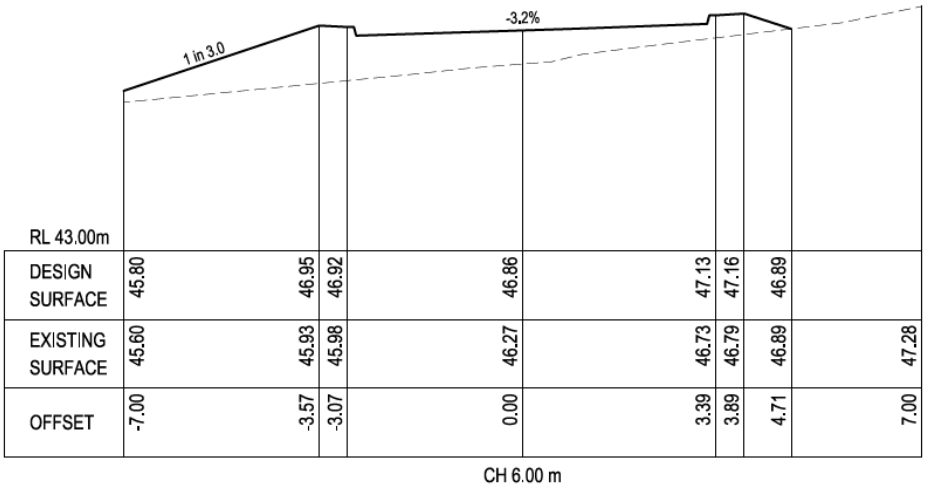
Cross section at chainage 1.60 metres



Cross section at chainage 2.00 metres

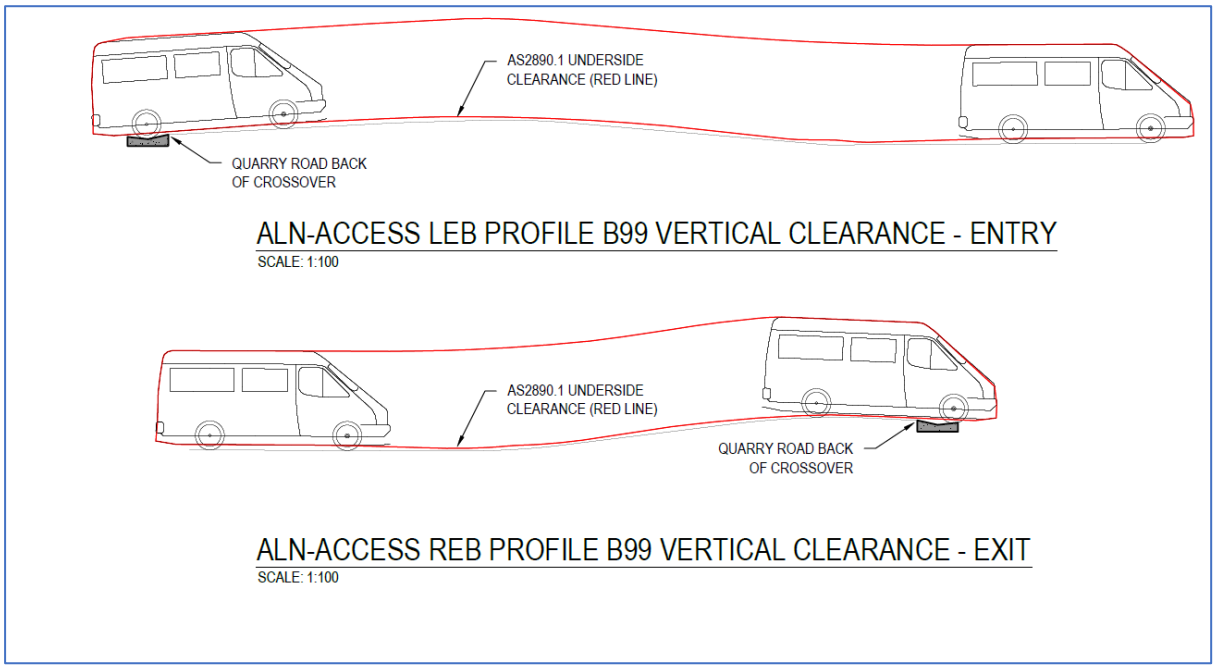


Cross section at chainage 6.00 metres

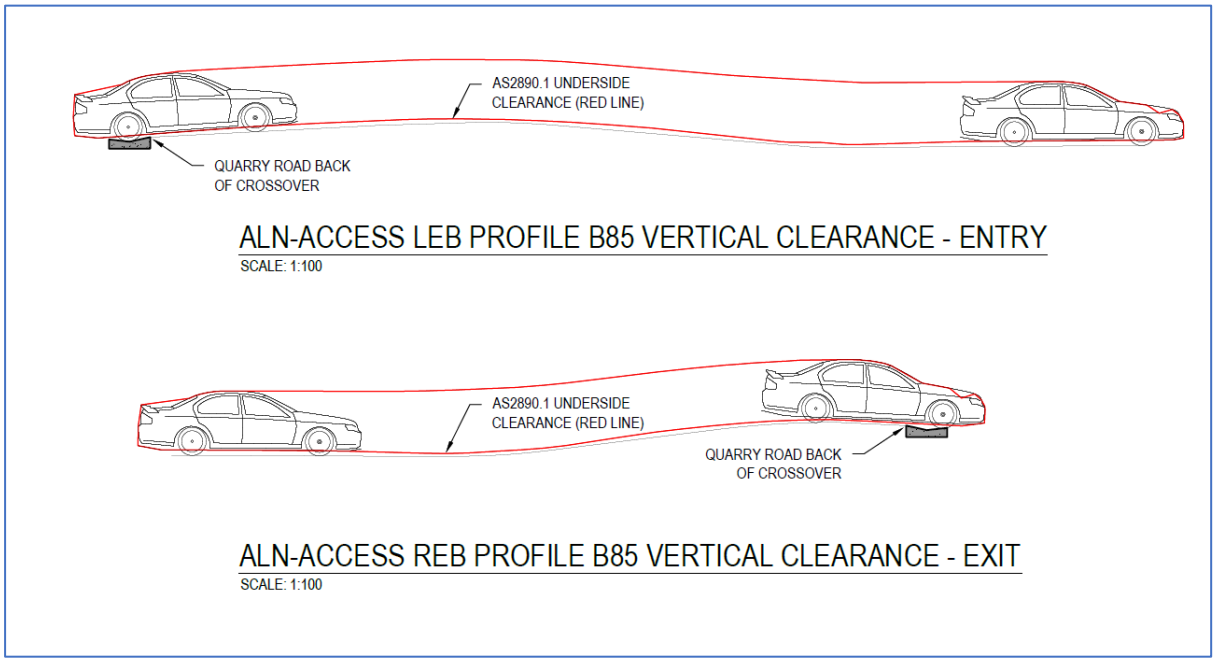


Vertical clearance profiles

Vertical clearance profile of a B99 vehicle



Vertical clearance profile of a B85 vehicle



16. Appendix F – Waste Collection service

VEOLIA

13th August 2026

To whom it may concern,

Service Assessment – 155 Cambridge Road

Following a comprehensive review of the proposed plans for 155 Cambridge Road, Warrane, we have evaluated the most suitable methodology for the provision of waste and recycling collection services at this location. Based on the supplied plans and vehicle turn path diagrams, our assessment has resulted in the following recommendations:

- A medium-sized rear-lift collection vehicle is deemed the most appropriate for servicing the site.
- Veolia will access the bins from Quarry Road, entering the complex in a forward direction and executing a three-point turn in the designated area adjacent to the bin compound.
- The Veolia operator will position the collection vehicle near the bin compound, conduct bin emptying operations, and exit the complex in a forward direction.
- The site features a moderate gradient, which is considered manageable for service operations.
- Visibility at the site is assessed as reasonable.
- Collection vehicles will be equipped with flashing safety beacon lights and reversing cameras to ensure operational safety.
- Collection services will be scheduled to avoid peak traffic periods.
- A formal Risk Assessment and Work Instruction will be provided to Veolia operators, outlining the above requirements and restrictions prior to the commencement of services.

Based on our assessment, we recommend the provision of three (3) 1100L General Waste bins and three (3) 1100L Commingled Recyclables bins, serviced once per week, to adequately meet the requirements of the site.

Should you require any further information regarding this assessment, please do not hesitate to contact me directly at 0459 836 924.

Kind regards,

Martin Robinson
General Manager – Business Development & Marketing



155 Cambridge Road, Warrane, Tasmania Remediation Action Plan

Draft Plan

Prepared for

Terroir
Level 1, 3 Morrison Street,
HOBART TAS 7000

Homes Tasmania
GPO Box 65
HOBART TAS 7001

13 November 2025
PROJECT REFERENCE: JN25699

Elgin Associates Pty Ltd
ABN 59123488639

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Document Information

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Reviewed By Mr Andrew Roberts

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Project: Elgin JN25699

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Record of Report Status

Item	Status	Date	Status / comments:
1 Digital	Draft	13 November 2025	Draft to Terroir and Homes Tasmania

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Appendix A - Remediation zone
Appendix B - Development Plans

ABBREVIATIONS

ACM	Asbestos containing material
AHD	Australian Height Datum
AEC	Area of concern
ASC-NEPM	National Environment Protection (Assessment of Site Contamination) Measure
BTEXN	Benzene, toluene ethylbenzene, xylene, naphthalene
CSM	Conceptual site model
COC	Contaminant of concern
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DQO	Data quality objectives
EPA	Environment Protection Authority
HASP	Health and safety plan
IB105	Information Bulletin No. 105 – Classification and Management of Contaminated Soil for Disposal (v3, 2018)
LOR	Limit of reporting
m^2	Metres squared
mbgl	Metres below ground level
NATA	National Association of Testing Authorities
PAH	Polycyclic aromatic hydrocarbons
PFAS	Per-and polyfluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOS	Perfluorooctane sulfonic acid
RAP	Remediation action plan
SAQP	Sampling and quality analysis plan
SWMS	Safe work method statements
TIT	Triple interceptor trap
TPH	Total petroleum hydrocarbons
TRH	Total recoverable hydrocarbon
VOC	Volatile organic compounds

INTRODUCTION

1 INTRODUCTION

1.1 Background

Elgin Associates Pty Ltd (Elgin) was engaged by Terroir for Homes Tasmania (Homes Tas) to prepare a Remediation Action Plan (RAP) for the management of remediation and validation works at 155 Cambridge Road, Warrane (the site). The site is proposed to be developed for residential purposes.

Elgin has previously undertaken detailed site investigations at the site from October 2024 to April 2025 (Elgin, 2025[1]). The assessments identified several areas that exceeded the adopted human health and/or ecological criteria for residential land use in shallow soil present on the site and sludge and water remaining in a triple interceptor trap (TIT). The surrounding soil contamination status in the vicinity of the TIT and wash bay was also not well understood due to the presence of infrastructure limiting sampling opportunities.

Based on previous investigations, localised remediation of site soils and management of the sediment and water within the TIT was required to make the site suitable for the proposed future residential use.

The site boundaries, current site features and the development overlay are shown on attached **Figure 1, Appendix A.** The proposed development plans are attached in **Appendix B**.

[1] Elgin (2025) Stage 2 Environmental Site Assessment, 155 Cambridge Road, Warrane. Final report dated 10 April 2025

INTRODUCTION

1.2 Remediation Objectives

The objective of the RAP is to provide a description of the works, procedures and standards which will be required for remediation at the site and to set remediation criteria for the future use of the site as residential.

The RAP would also be prepared to meet the Tasmanian Planning Scheme; Potentially Contaminated Land Code C14.5 where performance criteria states:

An environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes:

(i) Any specific remediation and protection measures required to be implemented before any use or development commences.

1.3 Scope of Work

With the aim of achieving the above objectives, the scope of work for the RAP includes:

- a brief summary of the site description, history and current condition;
- preparation of a conceptual site model (CSM);
- definition of the remediation goals and criteria;
- details of the preferred remediation strategy and works;
- development of the site validation strategy; and
- communication of health and safety and site management issues.

The measures provided in this RAP are designed to accompany site-specific management plans, such as a safe work method statement (SWMS) and sampling, analytical quality plan (SAQP) that will be developed for the site works.

1.4 Responsibilities and Contacts

Responsibilities for the various parties involved with the remediation program are shown in **Table 1**.

Table 1. Responsibilities and Contacts

Responsible Party	Details	Responsible for:
Property Owner/Site Contact	Homes Tasmania Thomas Chandler 0499 835 564 Terroir Mitchell Gardoll 03 6234 6372	• Site access; • Submission of this RAP as part of the Development Application to Council for site remediation; • Provision of any permits required; • Engagement of remediation contractor.
Remediation Contractor	TBA	• Implementation of remediation measures outlined in the RAP in consultation with Elgin; • Implementation of safety and environmental controls outlined in the RAP; • Excavation, segregation of materials and/or disposal of materials removed from site in accordance with state legislation.
Environmental Consultant	Elgin Associates Pty Ltd Erika Heiden (Project Manager) 0407 832 411	• Preparation of RAP; • Supervising remediation work and that environmental controls are carried out as identified in the RAP; • Implementation of validation sampling as outlined in the RAP; • Reporting any environmental issues to Terroir/Homes Tasmania; • Preparation of site validation report; • Preparation of Tasmanian EPA approvals for waste disposal and treatment, if required. • Liaison with all parties involved in remediation works.

2 REGULATORY FRAMEWORK

This RAP has been prepared with consideration of the following guidelines and legislation:

2.1 State legislation and guidelines

- *Environmental Management and Pollution Control Act (EMPCA), 1994.*
- *Environmental Management and Pollution Control (Waste Management) Regulations, 2020.*
- *Information Bulletin No.105 – Classification and Management of Contaminated Soil for Disposal (v3). EPA Tasmania (2018) (referred to herein as 'IB 105').*
- *Tasmania State Polices and Projects Act, 1993.*
- *The State Policy on Water Quality Management, 1997.*
- *National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended and in force on 16 May 2013 ('ASC-NEPM').*
- *WorkSafe Tasmania, Work Health and Safety Regulations, 2022.*
- *The National Remediation Framework, CRC Care, 2020.*

2.2 Commonwealth legislation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the centrepiece of the Commonwealth's environmental regulatory regime. The following objectives of the EPBC Act are relevant to the management of contamination:

- to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- to promote: ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; the conservation of biodiversity; and a co-operative approach to the protection and management of the environment involving governments, the community, landholders and indigenous peoples; and
- to assist in the co-operative implementation of Australia's international environmental responsibilities.

SITE DESCRIPTION AND BACKGROUND

3 SITE DESCRIPTION AND BACKGROUND

3.1 Site Description

The site had previously been used as a Department of Defence training depot and is listed as Potentially Contaminated Land on the Clarence Local Provision Schedule.

The site has recently been purchased by Homes Tasmania, is currently vacant and is proposed to be re-developed for high density residential purposes. The development is to include:

- demolition of two buildings, two storerooms and five sheds on the site,
- re-use of two existing buildings with refurbishment into two 2-storey residential unit blocks;
- construction of an additional five 3-storey residential unit blocks;
- installation of new services;
- development of sealed outdoor car parking areas; and
- construction of a stormwater detention basin and landscaping areas.

The site location, proposed development overlay and development plans are shown in **Appendix A, Figure 1 and Appendix B**.

Key site details and characteristics are provided in Table 2 below:

Table 2. Site Details

Item	Site details
Street address	155 Cambridge Road, Warrane, Tasmania
Property ID and title reference	5165285 84951/1
Approximate size	8,600 m^2
Current owner	Homes Tasmania
Local government area	City of Clarence Council
Zoning	27 Community Purpose
Current land use	Commercial/industrial
Code Overlays	14 – Potentially contaminated land (Defence Facility) 16 – Airport obstacle limitation area
Surrounding land use and zoning	North – child care centre, Cambridge Road and residential properties beyond East – residential properties South – Quarry Road and residential properties beyond West – Cambridge Road and residential properties beyond

SITE DESCRIPTION AND BACKGROUND

Item	Site details
Topography, surface water and drainage	The site is generally flat with an elevation of 45 mAHD (likely developed from a cut on the southern side and fill to the north). A moderate slope is present on the northern boundary of the property to Cambridge Road The site is predominantly sealed with bitumen, with some concrete present in the vicinity of the wash bay and TIT area, and the remaining unsealed with grass cover. Surface water would be primarily captured by an onsite stormwater system and discharged offsite to stormwater on Cambridge Road, with the exception of water captured in the vicinity of the wash bay, which is directed through the TIT prior to discharge to stormwater. The nearest waterway is the Kangaroo Bay Rivulet, a freshwater creek located approximately 480 m to the north-west of the site
Local Geology (within remediation zone)	Fill comprising silt with clay, sand or gravel from surface to 0.3-0.9 m below ground level (mbgl) across the cut level of the site, overlying fractured dolerite bedrock.
Hydrogeology and groundwater	The hydrogeological unit onsite consists of fractured dolerite. The inferred groundwater flow direction is predominantly to the north, based on data collected in 2025. Groundwater beneath the site was inferred to be within the fractured bedrock aquifer with variable depths ranging between 4.5 m below ground level (GW1) and 15 mgbl (GW2).
Vegetation, flora and fauna	Little vegetation was present at the site during previous investigations other than grass cover. Some native shrubs have been planted along the boundaries and a few eucalypts are present to the north adjacent the child care centre. No threatened flora and fauna or species of conservation significance have been identified onsite

3.2 Site Background

Previous investigations at the site are described in detail in Elgin (2025). In summary of these works, two areas were identified that exceeded the adopted human health and/or ecological criteria for low and high density residential land use, which included:

1. Shallow soil located adjacent the former lecture rooms where concentrations of PFOS and PFOA were identified to be greater than human health criteria for low density residential land use and the ecological criteria. The impacted soil was limited to the top 0.5 m in this vicinity (above shallow bedrock). This area comprised the highest concentrations of PFOS and sum PFHxS +PFOS on the site. It was also the only area of the site to have detections of other PFAS compounds, such as PFHxS and PFOA. PFOS, PFHxS and PFOA are individual compounds in the per- and polyfluorinated alkyl substances (PFAS) group, and are contaminants commonly detected from historical use of fire-fighting foams. Historical records did not indicate why

shallow soils in this grassed area had been contaminated with PFAS – its proximity to the lecture rooms suggest firefighting demonstration and/or training could be a possible reason.

2. Sludge and water remaining in a triple interceptor trap (TIT) and surrounding wash bay area. Concentrations of total recoverable hydrocarbons TRH >C_{10}-C_{16} (F2) and >C_{16}-C_{34} were identified in the sediment/sludge material in the pit adjacent to the interceptor trap, greater than human health criteria for both low and high density residential use and the ecological criteria. Concentrations of both dissolved and total metals (cadmium copper, lead and zinc) in water from the TIT were also generally in exceedance of the adopted ecological criteria. Based on the results, management of the sediment and water within the TIT was required to make the site suitable for the proposed future residential use. Additionally, during previous investigations, the soil beneath the wash bay slab could not be assessed due to the presence of sub-surface infrastructure, however detection of a greasy film and odour in groundwater adjacent this area indicates that localised soil contamination may also be present here.

In addition to the above, assessment of soil surrounding the former armoury and the petrol oil and lubricant (POL) store identified concentrations of zinc, PFOS or TRH>C_{10}-C_{40} that were greater than the adopted ecological criteria, but below human health criteria. Because these two buildings remained in place during previous assessments, a visual assessment of underlying soil should be undertaken following demolition works and any potentially impacted soil excavated, removed and remaining soil validated for the proposed land use.

Dissolved copper and PFOS were detected in groundwater exceeding ecological criteria in monitoring bores GW1 and GW3 on the site. Given that the elevated concentrations were detected in bores that are both inferred to be up-gradient and down-gradient on the site, based on the information available, an up-gradient source of copper and PFOS could not be discounted. It was noted that groundwater was deep (>4.6 m in depth) and slightly brackish and given that the site is within a built-up urban area supplied with a reticulated drinking water system, groundwater would be unlikely to be extracted and used on site. Groundwater use on-site is proposed to not be permitted, with restriction on groundwater extraction listed as a covenant or similar on the land title.
Based on the above findings, it was recommended that the identified areas outlined above be appropriately managed and/or remediated prior to development of the site.

The estimated remediation zone boundaries, for the purposes of this RAP, are shown with the red and yellow hatch shown in attached **Figure 2, Appendix A**.

CONCEPTUAL SITE MODEL AND REMEDIATION

4 CONCEPTUAL SITE MODEL (CSM) AND REMEDIATION REQUIRED

The CSM has been developed as a basis for the development of remediation targets.

4.1 Sources, Pathways and Receptors

4.1.1 Contamination sources

Elevated concentrations of PFOS and Sum of PFHxS and PFOS, TRH >C_{10}-C_{34}, and zinc were reported in the TIT area, adjacent the former lecture rooms, POL and armoury store that are likely derived from historic site use such as localised fire training, use of the wash down bay for vehicles and the use/cleaning of equipment adjacent the armoury and POL store.

4.1.2 Human and ecological receptors

The following receptors have been identified:

- future residents / workers at the proposed residences;
- construction workers involved in redevelopment of the site, and ongoing intrusive maintenance workers; and
- flora and fauna located within proposed landscaping areas within the site.

4.1.3 Potential exposure pathways

The potential routes by which the identified receptors may be exposed to contamination are:

- dermal contact and ingestion of contaminated surface soils, subsurface soils and dust (construction workers and future residents / workers);
- dermal contact or ingestion of contaminated surface water (construction workers and future residents / workers);
- dust inhalation during redevelopment works (workers and adjacent site users during construction works);
- migration of contaminated soil and surface water offsite to the stormwater system and Kangaroo Bay Rivulet; and
- plant uptake and/or exposure to contaminated soil and surface water (flora and fauna).

4.2 Tier 1 Risk Assessment

A risk assessment was undertaken for each of the identified potential receptors, including risk management measures considered required to mitigate risks posed by the identified contamination. A summary of the risk assessment is presented in **Table 3** below:

Table 3. Tier 1 risk assessment and required management.

Potential Receptor	Potential Exposure Pathway(s)	Identified Contamination	Tier 1 Risk Evaluation	Risk Management
Future residents and workers at the site	Dermal contact, ingestion or inhalation of contaminated soil or surface water	PFOS in shallow soil adjacent the former lecture room greater than low density residential; TRH impacted soil and shallow water within the TIT and adjacent pits/drains greater than high density residential.	The results indicate potential unacceptable risks to future users of the site from exposure to impacted soil and water.	Provided that clean-up and remediation are undertaken in accordance with this RAP, there will be no remaining unacceptable risks to future users of the site.
Workers involved in remediation and site re-development and adjacent site users.	Dermal contact, ingestion or inhalation of contaminated soil or surface water	As above – however concentrations of the contaminants are lower than commercial/industrial guidelines and there is no specific guideline available for direct contact with impacted surface water.	The risks to construction workers and off-site users are considered low and acceptable on the basis that any exposure to the reported concentrations of contaminants in areas of the site are managed appropriately.	The recommendations and mitigation measures provided in this RAP should be implemented at all times during clean-up to reduce exposure of workers to unacceptable contamination levels.
Ecological receptors – flora and fauna	Direct contact and ingestion or uptake of contaminated soil and surface water.	PFOS and isolated zinc in shallow soil fill around the former lecture theatre and POL store. TRH in sediment in the TIT pit and shallow soil adjacent the former armoury.	The results indicate potential unacceptable risks to onsite and offsite ecological receptors from exposure to contaminated soil and surface water.	Provided that clean-up and remediation are undertaken in accordance with this RAP, there will be no remaining unacceptable risks to ecological receptors. Minor exceedances of zinc and TRH adjacent the POL and armoury are unlikely to require management unless further impact is identified in the vicinity of these buildings. Mitigation measures, as presented in this RAP, are recommended to prevent the lateral and vertical migration of contaminants to soil and water off-site during remediation and construction works.

4.3 Data Gaps and Uncertainties

In relation to the previous investigations, uncertainties or data gaps exist which relate to the following:

- Soil sampling was targeted to the identified areas of concern where the potential for contamination was highest. Soil sampling also included general site coverage, but was not possible beneath building footprints, inaccessible buildings and in the vicinity of services.
- Soil sampling was undertaken in some areas with identified surface soil impact. Delineation of potential impact laterally across the surface had not been undertaken in some areas. It is anticipated that this can be undertaken as part of remediation and validation sampling during removal of the impacted material.

4.4 Lateral and Vertical Extent of Remediation

Based on the above information, the following remediation works are required before the site can be used for residential use. The approximate extent of the remediation areas are shown on **Figure 2, Appendix A**:

4.4.1 TIT and Wash Bay

Sludge and water in the TIT and adjacent pit to be removed/pumped out and stored on-site awaiting, waste classification and disposal by a licenced waste transporter.

Removal of concrete and associated wash bay infrastructure.

Shallow soil under the wash bay slab should be removed, based on visual and volatile organic compound (VOC) concentrations (measured with a photo-ionisation detector (PID)), with an area of up to 10 m wide x 10 m long x 0.8 m depth (potential anticipated) and soil stockpiled separately for sampling, waste classification or re-use purposes.

4.4.2 Eastern side former lecture rooms

Removal of any concrete and bitumen in the remediation area.

The remediation area should be excavated to bedrock (approximately 0.5 m in depth) and initially includes the area of known impact directly adjacent the lecture rooms, based on the zone outlined on **Figure 2, Appendix A**. It is estimated that the area requiring excavation may be ~130 m^2, with an in-situ volume estimated at 65 m^3, which includes a buffer zone of approximately ~5 m surrounding the known impacted areas. A subsequent expanded excavation area may be required based on validation results, noting that the area is to be redeveloped as car parking hardstand with the northern most portion being within a building footprint.

4.4.3 Former armoury and POL store

Following demolition of these buildings, sub-surface soils would be inspected and excavated if necessary based on visual indicators and VOC concentrations. Any proposed excavations are estimated to be up to 5 m surrounding the former armoury and POL store footprints, to a maximum depth of 0.5 m.

REMEDIATION STRATEGY

5 REMEDIATION STRATEGY

5.1 Remediation Clean-up Goal/Validation Criteria

Validation criteria used to assess the success of remediation has been based on Tier 1 criteria from the ASC-NEPM (2013) which have been adopted as remediation criteria for the remediation works. The remediation criteria listed below will be specific to the contaminants identified within each area of concern and are based on the most recent development plans for the site (**Appendix B**) – allowing for high density residential use including hardstand carparking areas, landscaping areas including an area in the centre of the site used as for stormwater detention in high rainfall events and also with informal lawns.

5.1.1 Soil Assessment Criteria

The adopted assessment criteria for soils remaining onsite following remediation works are summarised in Table 4 below:

Table 4. Soil assessment criteria.

Reference	Sub Reference	Reason for Use
ASC-NEPM 1999 (amended 2013) and CRC Care Technical Report No. 10. Part 2.	Soil Health Based Investigation Levels for high density residential use (HIL-B) and public open space (HIL-C) (Table 1A (1)).	Assessment of human health risk for proposed site use.
	Soil Health Screening Levels for vapour intrusion, residential use (HSL-B) (Table 1A (3)), sand soil type.	Assessment of risk for ongoing residential use from hydrocarbon vapour intrusion into buildings.
	Direct Contact HSL-B for residential land use (Table B4).	Assessment of risk to residential site users from direct contact with petroleum hydrocarbons.
PFAS National Environmental Management Plan Version 3.0 (2025)	Soil Health Based Investigation Levels for residential use (HIL-B) and public open space (HIL-C).	Assessment of human health risk for the proposed site use

5.1.2 Waste Classification Criteria

Adopted waste classification criteria for materials to be removed from the site are summarised in **Table 5** below:

REMEDIATION STRATEGY

Table 5. Waste Classification Criteria

Reference	Sub Reference	Reason for Use
EPA Information Bulletin No. 105. Classification and Management of Contaminated Soil for Disposal, Version 3 (2018).	Maximum total concentrations and leachable concentrations for classification as Level 1, Level 2 or Level 3 waste.	Criteria for the classification and management of contaminated soil for disposal.
PFAS National Environmental Management Plan Version 3.0 (2025)	Interim landfill acceptance criteria for unlined, clay/single composite lined and double composite lined landfill types.	Criteria for the classification and management of PFAS impacted soils for disposal.

5.2 Remediation Options and Preferred Remediation Strategy

The ASC-NEPM 1999 (amended 2013) guidelines indicate that the preferred hierarchy for site remediation options and/or management should be:

- on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or, if the above are not practicable:
    - consolidation and isolation of the soil on site by containment with a properly designed barrier; and
    - removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material; or,
    - where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

When deciding which option to choose, the sustainability (environmental, economic and social) of each option should be considered, in terms of achieving an appropriate balance between the benefits and effects of undertaking the option.

For this site, a number of remediation options were reviewed along with the following considerations:

- nature, volume and concentration of contaminants;
- remediation timeframe;
- effectiveness in achieving the remediation objectives;

- protection of the environment;
- sustainability;
- ongoing liabilities (maintenance requirements); and
- relative financial cost.

Taking into account the above considerations, the nature of contaminants (PFOS, PFHxS, hydrocarbons and zinc), the remediation objectives may be met via the following applicable options:

1. no action;
2. treat in-situ;
3. cap in place;
4. excavate, classify, reuse and dispose.

The above options are presented and discussed in **Table 6** below.

Table 6. Remediation Strategy and Options

Option	Description	Advantages	Disadvantages	Suitability
1. Do Nothing	Leave the soil in place with no intervention. This approach relies upon the existing physical and biological processes to reduce contaminant concentrations over time or is suitable when contaminants are not mobile and exposure is unlikely.	• Minimal disturbance. • No transport or landfill disposal costs. • Meets both the waste and remediation hierarchy to divert material from landfill and manage contamination on-site. • May be appropriate for hydrocarbon impacted material at the wash bay.	• PFAS compounds are very stable and do not biodegrade under typical environmental conditions. • Impacted soils remain a source of contamination to surface and groundwater. • Limitations on land use options. • May require an ongoing environmental management plan (EMP).	This option is not considered suitable for the site due to the stability of PFAS compounds and the small volumes of impacted soil in the wash bay area which can be better managed. Also a key objective of the works is to make the site suitable for residential use.
2. Treat in-situ	This is often the preferred strategy where large volumes of heavily contaminated soils require remediation. May include in-situ methods such as stabilisation or thermal treatment and requires sufficient land area to facilitate the process for the time period required.	• Cost effective if soils can be re-used onsite. • No transport or landfill disposal costs. • Meets both the waste and remediation hierarchy to divert material from landfill and treat/manage contamination on-site.	• Long timeframes and high costs are likely to be required for design, trials and monitoring of a suitable method. • Environmental approvals may take an extended period of time and are not certain. • Risk of treatment not being sufficiently effective to allow the final treated material to be left onsite • Constraints in mobilizing a treatment plant to site, including financial costs.	This option is not considered suitable given the small volume of soil to be excavated and likely ongoing costs and liabilities.
3.Cap in place	Involves the construction of a physical barrier around the contaminated area to prevent potential migration pathways of contaminants. This would include a low permeability cap and surface water controls to provide a sufficient level of protection to future residential users and intrusive maintenance workers to the underlying	• No off-site removal. • Mitigates human health risks by eliminated exposure pathways. • No transport or landfill disposal costs. • Meets both the waste and remediation hierarchy to divert material from landfill and treat/manage contamination on-site.	• Would require excavation, placement of an impermeable barrier and emplacement of excavated impacted soil. • Would be cost prohibitive for such a small volume of soil. • Long lead-up time given the required bench trials. • May put restrictions on the future use of land. • Environmental approvals may take an extended period of time and are not certain.	This option is not suitable due to the small volumes of soil involved, type of contamination and likely costs involved with designing and constructing a containment cell.

Option	Description	Advantages	Disadvantages	Suitability
	impact. Would also require the implementation of an ongoing environmental management plan (EMP).		• Liability for future risks would remain with Homes Tasmania.	
4.Excavate, classify, reuse and landfill disposal	Contaminated soil is excavated, segregated based on known or unknown contamination status, classified and either reused or removed from the site to a suitable landfill. Landfill disposal is subject to EPA and landfill operator's approval. Any soil classified as Level 1 fill material may be suitable for on-site re-use.	• Contaminated materials are completely removed from site, removing environmental and health risks. • Material excavated and classified as Level 1 fill material may be suitable for reuse on the site. • No future liability for Homes Tasmania. • No restrictions on land use. • Partially meets both the waste and remediation hierarchy to divert material from landfill (should Level 1 fill material be identified). • Relatively short timeframe for remediation and potential development approval.	• Transport and landfill disposal costs. • Transfer of waste to another location (landfill). • Sustainability issues related with disposal to landfill.	**Preferred option:** • Would meet the remediation objectives and timeframes. • Suitable for small volumes of soil. • Does not require space onsite • Landfill and EPA approvals for disposal generally straightforward.

Based on the analysis, option 4 (excavate, classify, reuse and disposal) is considered the most suitable option based on the volumes of impacted soil, contaminant concentrations, overall financial costs involved relative to remediation requirements and timeframes required for the proposed development.

VALIDATION

6 REMEDIATION WORKS

6.1 Consent and Permit Requirements

The following consent and permit requirements have been identified:

- at the time of preparing this RAP, it was not yet understood if a permit is required to demolish the POL and armoury stores; and
- no other consent or permits are understood to be required.

6.2 Remediation Sequence

The main remediation works will include the following general steps, which are described in the sections below.

- Site establishment and pre-works.
- Wash bay area – pump out/dispose, demolition and soil excavation.
- Lecture theatre – removal of concrete and soil excavation.
- POL store and former armoury – demolition and soil inspection/excavation.
- Remediation zone validation and reporting.

6.2.1 Site establishment

Initial activities at the site shall involve the establishment of all plant and equipment necessary for the remediation works. This would include:

- identification of the car parking area for site workers and visitors to the site;
- establish traffic routes, decontamination areas for vehicles leaving the site and access for remediation work;
- confirmation of presence/absence of sub-surface infrastructure, such as underground services, at the site in the remediation zone.
- delineation on site of remediation zone boundaries for the duration of the works;
- establishment of designated stockpiling and material segregation areas (Section 8.2); and
- establish environmental controls (see Section 8);

6.2.2 Wash bay area

The following sequence of works are proposed for the wash bay area.

- Supervision of the pump out and storage, testing and removal of impacted water/sediment within the TIT. The material is likely classified as 'Level 2 – Low-Level Contaminated Soil' based on initial testing in 2024. It is not fully understood how much material is present within the TIT and the material likely needs to be removed and stored within an IBC or similar to await waste classification testing for disposal purposes.
- Supervision of the removal of the TIT and wash bay area, including concrete apron and associated drains. Concrete should be segregated for recycling if possible.
- Excavation of underlying soil in ~0.3 m increments, based on visual observations and VOC concentrations, to determine the extent of impact (if any). We have assumed some excavation of impacted soil based on the identification of odours in groundwater at this location (indicating soil impact). While we have allowed for an estimated excavation of around 10 m x 10 m x 0.8 m (80 m^3 in-situ soil) for removal, it is recommended that excavation be undertaken as a staged approach, initially guided by the visual and VOC indicators, so as to minimise the volume of soil excavated and removed from the site.
- Soil excavated is to be stockpiled separately (from other site soils or heavily impacted soil), sampled and classified for waste disposal or re-use. Materials that exhibit unusual odour, staining and/or VOC readings >30 ppm will be segregated.
- Depending on the depth of excavation, the area may require fencing prior to backfilling (following validation sampling) with either clean site soils or imported clean fill from a reputable quarry. It is noted that this area is to remain at around existing surface levels for development.

6.2.3 Eastern side former lecture rooms

The following sequence of works are proposed for adjacent the former lecture rooms area.

- Supervision of the excavation of soil from adjacent the former lecture rooms, including some concrete and an area of bitumen. Concrete and bitumen would be segregated for recycling (concrete only) and subsequent removal from the site.
- Excavation to bedrock in the designated remediation zone (approximately 0.5 m in depth), based on the area outlined on **Figure 2 (Appendix A)**. and a buffer zone of approximately ~5 m.
- Soil excavated to be stockpiled separately (from other site soils or heavily impacted soil), sampled and classified for waste disposal or re-use. Based on in-situ testing, this material is likely to be classified as 'Level 2 – Low-Level Contaminated Soil'.
- Excavation would be undertaken as a staged approach. In this instance, the initial investigation would need to be guided by previous testing locations. The excavation would be validated and should the results exceed allowable criteria, further excavation would then be completed.

- Depending on the depth of excavation, the area may require fencing while awaiting backfilling (following validation) with either clean site soils or imported clean fill from a reputable quarry. It is noted that this area is proposed to be cut relatively level or with a slight cut to -0.2—0.4 m below existing surface levels for development.

6.2.4 Former armoury and POL store

- Following demolition of these buildings (prior to the above site works), sub-surface soils would be inspected and excavated if necessary.
- The environmental consultant will advise the extent and depth of recommended soil excavation based on visual indicators and VOC concentrations. Materials that exhibit unusual odour, staining and/or VOC readings >30 ppm will be stockpiled separately.
- If required, excavation would be undertaken in ~0.3 m increments, as a staged approach, so as to minimise unnecessary soil excavation.
- Excavated soil will stockpiled separately on site for waste classification purposes.

6.2.5 Validation sampling (see Section 7.1)

- Soil sampling will be undertaken at excavated locations to verify that the remediation targets have been achieved.
- If validation testing failed to achieve the targets, another round of soil excavation may be required.

6.3 Disposal / Re-use Options of Soils (see Section 7.6)

Based on the identified areas of impact and subject to final excavations and waste classification, excavated soil will either be re-used on-site (if Level 1) or disposed off-site to McRobies landfill, subject to EPA and landfill approvals.

Designated stockpiling, segregation and re-use areas would be identified during site establishment works.

6.4 Backfill Requirements

Any voids and areas where soil has been removed from the site, where necessary and after discussion with Terroir, would be backfilled with imported fill sourced from a commercial quarry or validated site soils. If sourced elsewhere, the material would be assessed for contamination prior to import.

VALIDATION

7 VALIDATION

7.1 Validation Sampling

Validation sampling will be undertaken following excavation works to assess whether the remediation targets have been met.

Validation samples will be identified using a 'VAL' (validation) prefix. A detailed sample register will be kept, recording the sample number, date, field observations and field measurements (e.g. PID where relevant). Field sketches will be prepared showing the area and locations sampled. Photographic evidence will be taken of validation areas.

Validation sampling will be in accordance with the SAQP developed for the site and the general procedure described in Table 7.

Table 7 Validation Sampling

Action	Description
Sample Collection	Collection of validation samples will be directly from excavated surfaces, to a maximum depth of 0.1 m. Samples would be collected using a decontaminated stainless steel trowel. Where samples are collected from an excavator bucket, material that may have touched the sides would be avoided.
Sampling Frequency	One sample per 10 linear metres from the sides of an excavation, with at least one sample from each side of any single excavation. One to two samples per 100 m^2 from the base of an excavation or surface scrape (based on a 10 x 10 m grid).
Analytical Suite	Adjacent former lecture theatre: • Total metals (arsenic, cadmium, copper, chromium, nickel, zinc and lead) and PFAS.
	Wash Bay, POL, Armoury: • Total metals (arsenic, cadmium, copper, chromium, nickel, zinc and lead), PFAS; total recoverable hydrocarbons (TRH); benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN); polycyclic aromatic hydrocarbons (PAH).
Quality Assurance/Quality Control	QA/QC procedures including sample handling and collection of duplicates and rinsate blanks will be undertaken in accordance with the SAQP to be developed for the remediation works.

VALIDATION

7.2 Validation Criteria

As discussed in section 5.1 and in accordance with the ASC-NEPM (2013; Schedule B1), the remediation zone will be deemed successfully remediated if:

- 95% Upper Confidence Limit (UCL) mean concentration for each COC in soils remaining after excavation is less than the Tier 1 investigation Levels for residential-B land use (residential use with limited access to soil) and public open space;
- no individual result exceeds 250% of the investigation levels;
- the standard deviation of the dataset is less than 50% of the investigation levels.

These criteria will be applied to each main area of remediation (excavation) on the site.

7.3 Validation Reporting

Following completion of the remediation works, a remediation and validation report will be prepared in accordance with the ASC NEPM (2013), which is to demonstrate whether the site has been remediated in accordance with the remedial objectives outlined in this report and to meet the Tasmanian Planning Scheme; Potentially Contaminated Land Code C14.5 where performance criteria states:

An environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes:

(i) Any specific remediation and protection measures required to be implemented before any use or development commences.

(ii) a statement that the land will be suitable for the intended use.

7.4 Waste Classification

Excavated material shall be stockpiled in designated areas of the site (based on area of excavation) for further characterisation and segregation of the material. Representative samples shall be collected from each stockpile area. Stockpile samples will be identified using a 'SP' prefix.

Sampling of stockpiles for waste classification shall be in accordance with the criteria listed in Table 8 below.

Table 8. Waste Classification Sampling

Action	Description
Sample Collection	Waste classification sampling will be directly from stockpiles using a stainless steel trowel.
Sampling Frequency	One sample per 25m^3 of material and a minimum of three samples from any one stockpile.
Analytical Suite	Stockpile from the former lecture theatre:

VALIDATION

Action	Description
	• Total metals (arsenic, cadmium, copper, chromium, nickel, zinc and lead) and leachable PFAS with select samples analysed for IB105.
	Stockpiles from the wash bay, POL, Armoury areas: • Total metals (arsenic, cadmium, copper, chromium, nickel, zinc and lead), leachable PFAS; total recoverable hydrocarbons (TRH); benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN); polycyclic aromatic hydrocarbons (PAH) with select samples analysed for IB105.
Quality Assurance/Quality Control	QA/QC procedures including sample handling and collection of duplicates will be undertaken in accordance with a sampling analytical and quality plan (SAQP) developed for the remediation works.

Stockpile and materials management will be undertaken in accordance with Section 8.2 below.

REMEDIATION WORKS MANAGEMENT

8 REMEDIATION WORKS MANAGEMENT

8.1 Remediation Schedule

An estimated schedule, subject to approvals and engagement, for the remedial works is detailed below:

Timeframe/schedule	Remedial works
Weeks 1-2	• Approval of RAP. • Engagement of Remediation Contractor. • Remediation works pre-meeting. • Demolition of POL/armoury stores.
Weeks 3-5	• Site establishment and remediation works as proposed in this RAP. • Validation and stockpile testing.
Week 6-7	• Receipt of validation results. • Assuming no additional excavation required, applications for waste disposal.
Week 8-9	• Removal of contaminated materials • Site re-instatement if required.
Weeks 10-12	• Validation report preparation.

8.2 Materials Handling and Management

The applicable management measures during remediation works are presented in **Table 9.**

Table 9. Material Handling and Management

Item	Description/Requirements
Remediation contractors	Clean up will be completed by the remediation contractor to ensure: • all workers on site are aware of the environmental and health and safety requirements to be adhered to; • contamination is not spread further as a consequence of the works; and • there are no pollution incidents, health impacts or complaints.
Stockpiling of materials	All stockpiles will be maintained as follows: • stockpiles are to be segregated based on the areas of excavation and with highly odorous or stained material separated from remaining soils; • stockpiles are to be placed on areas of hardstand; • stockpiles are to be clearly labelled;

REMEDIATION WORKS MANAGEMENT

Item	Description/Requirements
	• stockpiles left on site for longer than 24 hours should be protected with hay bales or other suitable bund and covered to prevent losses from surface erosion during rain events.
Removal of water and sediment	• any water and sediment identified in the TIT and associated pits shall be pumped out/removed into an IBC or appropriate container; and • the material shall be tested and disposed of accordingly by a licenced waste transporter.
Transport of waste material	• the Remediation Contractor will organise removal and disposal/recycling of all waste streams from the site, including concrete, contaminated waste soil stockpiles and any liquids; • all soil removed from site is required to be classified by the Environmental Consultant in accordance with Tasmanian EPA IB105 'Classification and Management of Contaminated Soil for Disposal, Version 3' (2018); • following classification, the material will be assigned to an appropriate waste disposal facility; • all trucks transporting soils from the site are to be covered; and • road transport shall only be carried out by a licenced controlled waste transporter.
Material tracking	Records will be maintained by the Remediation Contractor and/or Consultant of all materials transported off-site. The following information will be recorded: • date/time; • transporter; • load number; • approximate volume/weight; • material type; • final waste classification; and • landfill receiving the waste. Materials excavated from the site shall be tracked from the time of their excavation until their disposal. Locations, waste disposal documentation (weighbridge dockets) and the above listed information must be provided to the Environmental Consultant for reporting purposes.
Inspection of remediated areas prior to validation sampling	Following the completion of remediation works as specified in this RAP, the Environmental Consultant would undertake the following: • a visual inspection of the work area. If visual observations indicate contamination, further works may be required to rectify the issue (i.e. further excavation); and

Item	Description/Requirements
	• following completion of the visual inspection, validation sampling would be completed.
Importation of any fill	Should fill materials be required to be imported into the site for backfilling purposes, the imported materials must be sourced from a reputable quarry and be: • source and material visually inspected by the Environmental consultant; or • certified. If certification cannot be provided, the imported materials must be validated in accordance with TAS EPA IB105.

8.3 Environmental Management

The environmental management measures in regard to the remediation works are presented in Table 10.

Table 10. Environmental Management Measures

Type	Measure
Site Stormwater and Sediment Control	Appropriate measures will be taken to ensure that potentially contaminated surface water and sediment does not leave the site. This will include: • use of sediment traps such as hay bales where necessary; • diversion of any stormwater from contaminated stockpiles; and • if stormwater collects in any open excavation >0.2 m in depth, it will be pumped out into IBCs for further testing and off-site disposal if necessary.
Dust and Odour	Appropriate measures will be taken to avoid dust and odour generation during the works. The following dust control procedures should be implemented: • stockpiles should be protected from wind to avoid dust dispersion; • all trucks transporting soils from the site are to be covered; • dust suppression measures should be implemented, if required; and • temporarily ceasing an activity that generates dust during inclement weather. Given the nature of the contamination on the site there is a low potential for odours to be emitted and be of concern. Odour controls are not considered to be required.
Noise and Vibration	The Australian Standard, AS 2436 shall be used as a guide for appropriate measures for mitigating construction and demolition noise. Noise emitted during the demolition and remediation works may be permitted during the following hours (as per EMPCA noise regulations):

Type	Measure
	• Monday to Friday: 7am to 6pm. • Saturday: 8am to 6pm. • Sundays and Public Holidays: 10am to 6pm.
Hours of Operation	Hours of remediation works operation are as follows: • 7:00 am and 5:00 pm Monday to Friday. • 8:00 am and 5:00 pm Saturday (if required).

8.4 Site Health and Safety

Site-specific safe work method statements (SWMS) shall be prepared by the Environmental Consultant and Remediation Contractor and implemented during the remedial works. The purpose is to manage the health and safety of site workers during the various stages of the works and would include, but not limited to, the following information:

- site access and inductions;
- emergency contact numbers;
- required personal protective equipment (PPE);
- existence of this RAP;
- safety controls required during works;
- record keeping;
- SWMS for tasks undertaken and controls; and
- emergency response and incident reporting.

8.5 Remedial Contingencies

Contingency plans will be developed on a site-specific basis to address actions to be undertaken where performance criteria are not met. Contingency plans will consider, but not be limited to, implementation of the scenarios outlined in **Table 11**.

Table 11. Remedial Contingency Scenarios

Scenario	Remedial Contingency/Action Required
The duration of the earthworks activities is extended due to unforeseen circumstances	A reassessment of the management strategies should be undertaken by the Remediation Contractor and Environmental Consultant, in consultation with Terroir.
Leaking machinery or equipment	Stop work, repair source of leakage, use appropriate absorbent material.
Encountering materials that are not representative of those previously identified at the site.	The unexpected finds protocol (Section 8.6) shall be implemented.

Complaint management	Notify Terroir and Homes Tasmania (if required) and following procedures.

8.6 Unexpected Finds Protocol

8.6.1 Purpose

This protocol has been provided in response to the potential to unexpectedly encounter contaminated soil, water or hazardous materials during excavation activities. This protocol does not apply to contamination already identified during the environmental investigations.

All personnel on-site shall be aware of this protocol and receive the appropriate level of training for the tasks being undertaken.

8.6.2 Contaminated Soils

Unexpected finds associated with contaminated soils can include many different types of materials which can be encountered during excavation. The following are signs of contaminated material (but not limited to):

- odours or detection of gas/vapours with a portable gas detector;
- discolouration or staining;
- fragments of unexpected foreign material;
- fibrous or corrugated sheeting which potentially contains asbestos; and
- presence of underground tanks or infrastructure.

8.6.3 Contaminated Water (Groundwater or Surface Water)

The following are signs of contaminated water (but not limited to):

- odours or detection of gas/vapours with a portable gas detector; and
- oily sheen or water discoloration.

8.6.4 What to do if an unexpected find is encountered?

In the event that any unusual conditions are encountered or any of the above, the following steps shall be implemented:

- immediately STOP WORK and secure the work area with tape/bunting or temporary fencing;
- notify the Site Contact and Environmental Consultant;
- Site Contact to arrange for the nominated Environmental Consultant to inspect the unexpected find to determine the appropriate course of action which may include the collection of sample(s) for laboratory analysis to characterise the nature of the contamination and risk, if any, posed to humans and the environment;
- as an interim control measure, the area of unexpected find may be barricaded (if appropriate) and works in the area to cease until an appropriate course of action has been decided.

CONCLUSIONS

9 CONCLUSIONS

The purpose of this RAP was to provide a description of the remediation objectives, works and procedures to be implemented during the course of the project for the successful remediation and management of impacted soils and sediments of the site.

This RAP is intended to be used in conjunction with a SAQP and SWMS to be developed prior to the commencement of the remediation works to provide further details of procedures.

The following stages of remediation works are proposed to meet the project objectives:

- pre-works meetings and site preparation;
- pump out of TIT and associated pits, demolition of the TIT and concrete apron;
- excavation of potentially contaminated soils in the TIT area;
- excavation of impacted materials adjacent the former lecture theatre;
- segregation of waste streams for recycling and stockpile management;
- inspection of soils beneath the former POL and armoury with excavation as necessary;
- validation sampling to verify the clean-up has met the remediation targets; and
- waste classification sampling, approvals and removal of contaminated soils as required.

Following completion of the remediation and validation works, a Remediation and Validation Report will be prepared in accordance with the ASC-NEPM (2013) suitable to meet the Tasmanian Planning Scheme; Potentially Contaminated Land Code C14.5 where performance criteria states:

An environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes:

(iii) Any specific remediation and protection measures required to be implemented before any use or development commences.

(iv) a statement that the land will be suitable for the intended use.

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10 REFERENCES

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11 LIMITATIONS

Elgin Associates Pty Ltd (Elgin) have prepared this RAP for the sole use of Terroir and Homes Tasmania in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. Elgin, or any of its related entities, employees or directors owes a duty of care (whether in contract, tort, statute or otherwise) to any third party with respect to or in connection with this report and no Elgin Person Accepts any liability for any loss or damage suffered or costs incurred arising out of or in connection with the use of this report by any third party.

The methodology adopted and sources of information used by Elgin are outlined in this report. Elgin has made no independent verification of this information beyond the agreed scope of works and Elgin assumes no responsibility for any inaccuracies or omissions.

This RAP was prepared in November 2025 using data collected during October 2024 to April 2025, and is based on the conditions encountered and information reviewed at the time. Elgin disclaims responsibility for any changes that may have occurred after this time. Opinions and recommendations contained in this report are based upon information gained during a desktop study and fieldwork and information provided from government authorities' records and other third parties. The information in this report is considered to be accurate at the date of issue and reflects the site at the dates sampled. This document and the information contained herein should only be regarded as validly representing the site conditions at the time of the fieldwork unless otherwise explicitly stated in a preceding section of this report.

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Appendix A

Site Figures



Legend

- Current Site Features - Reused/Demolished
- Site Extent
- Cadastral Parcels
- Proposed Development

N

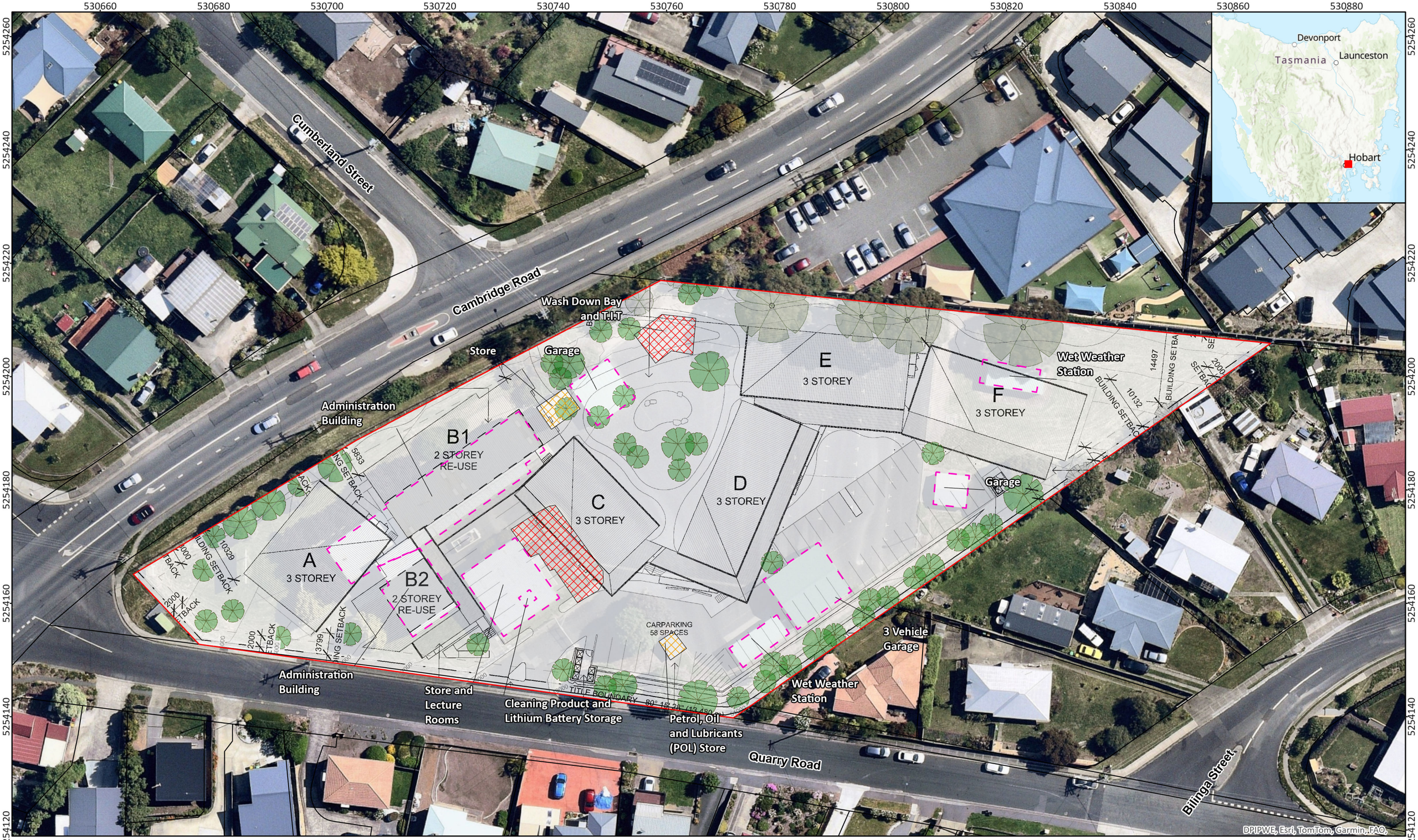
0 5 10 20 Meters

Site: 155 Cambridge Road, Warrane	Client: Homes Tasmania	Title: Site Layout and Proposed Development Plan	**Figure 1**
Spatial Reference: GDA2020 MGA Zone 55 Scale: 1:619	Job Number: JN25699 Date: 11/11/2025 Size: A3	Prepared: BS Approved: EH Version: Rev B	elgin associates

C:\Users\BikramSedhai\Elgin\GIS - GIS\2. TAS Projects\JN25699 Cambridge Rd\1. Project aprx\JN26699 Cambridge Rd.aprx

530660 530680 530700 530720 530740 530760 530780 530800 530820 530840 530860 530880

5254260 5254240 5254220 5254200 5254180 5254160 5254140 5254120



Legend

- Site Extent
- Current Site Features - Reused/Demolished
- Proposed Development
- Cadastral Parcels
- To be inspected + excavated if necessary
- To be excavated

N

0 5 10 20 Meters

Site: 155 Cambridge Road, Warrane	Client: Homes Tasmania	Title: Proposed Site Remediation Works	**Figure 2**
Spatial Reference: GDA2020 MGA Zone 55 Scale: 1:600	Job Number: JN25699 Date: 11/11/2025 Size: A3	Prepared: BS Approved: EH Version: Rev A	elgin

C:\Users\BikramSedhai\Elgin\GIS - GIS\2. TAS Projects\JN25699 Cambridge Rd\1. Project aprx\JN26699 Cambridge Rd.aprx

Appendix B

Development Plans

GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING

CONFIRM ALL DIMENSIONS AND SETOUTS ON SITE PRIOR TO MANUFACTURE & INSTALLATION

ALL WORK IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS

TO BE READ IN CONJUNCTION WITH ENGINEERS DOCUMENTS.

LEGEND

0 m 10 m 20 m 30 m 40 m

PROPOSED SITE LEGEND

- SETBACK
- SITE BOUNDARY
- EXISTING ON SITE TREE
- PROPOSED ON SITE TREE
- EXISTING OFF SITE TREE

EXISTING TREES TO BE RETAINED (TBC BY ARBORIST) REFER TO ARBORIST REPORT

REFER LANDSCAPE ARCHITECTS DRAWINGS FOR LANDSCAPE DESIGN

BUILDING B RE-USE EXISTING STRUCTURE

COVERED WALKWAY

FULLY ENCLOSED WASTE STORE 3.1M x 3.3M ENCLOSURE 2.4M INTERNAL HEIGHT. BINS ENCLOSED WITH TRANSPARENT METAL FENCE AND ROOFING SYSTEM TO MATCH WALKWAY BALUSTRADE FINISH.

EXISTING FENCE TO BE RETAINED ALONG NORTHERN AND EASTERN BOUNDARIES. BARBED WIRE AND ANGLED TOP TO BE REMOVED.

COVERED WALKWAY

EXISTING VEHICLE SITE ENTRY RE-USED. TRAFFIC ISLAND PROPOSED FOR SAFE PEDESTRIAN ACCESS ACROSS DRIVEWAY

FULLY ENCLOSED WASTE STORE 5.2M x 4.9M ENCLOSURE 2.4M INTERNAL HEIGHT. BINS ENCLOSED WITH TRANSPARENT METAL FENCE AND ROOFING SYSTEM TO MATCH WALKWAY BALUSTRADE FINISH. ENCLOSURE BENCHED INTO EMBANKMENT FOR REDUCED IMPACT TO STREET FRONTAGE

VISITOR CARPARKING BAYS TO BE ALLOCATED IN THIS BANK OF CARPARKING

Rev	Date	Description
E	28/07/25	DRAFT DA ISSUE
D	27/06/25	DRAFT DA ISSUE
C	01/04/2025	DRAFT DA ISSUE
B	24/03/2025	FOR COORDINATION
A	06/03/2025	FOR COORDINATION

Sydney Level 2, 79 Myrtle St
Chippendale 2008
Nominated Architect: Gerard Reinmuth 6629
T 02 9698 2198
F 02 9698 2353

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Hobart 7000
Nom. Architect TAS: Scott Balmforth CC1041T
Registered Architect VIC: Scott Balmforth 16263
T 03 6234 6372
F 03 6231 4939

TERROIR

Project:
Homes Tasmania
155 Cambridge Road
Warrane, Nipaluna Lutrawita,TAS 7018

Drawing Description:
PROPOSED SITE PLAN

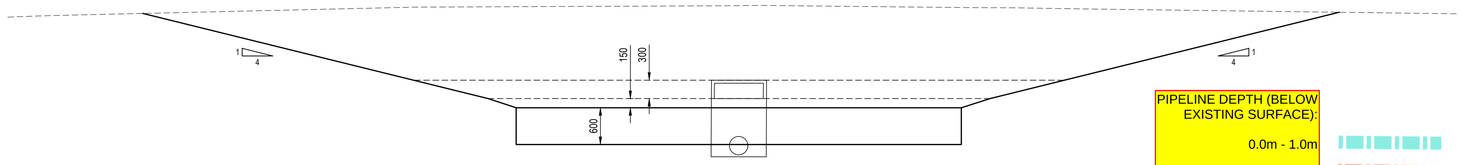
Drawn by: QR Checked by: MG Scale: As indicated@A1

PROJECT NO:	DWG NO:	REV NO:
24302	DA00-11	E

Drawing Status: DEVELOPMENT APPLICATION

N

0 2.5 5 7.5 10 12.5m
SCALE 1:250



SECTION A
SCALE: 1:50

PIPELINE DEPTH (BELOW EXISTING SURFACE):
0.0m - 1.0m
1.0m - 2.0m
2.0m - 3.0m



COMPARISON SURFACE
(EXISTING SURFACE LEVEL TO BULK EXCAVATION LEVEL)

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
1	-2.0	-1.8	
2	-1.8	-1.6	
3	-1.6	-1.4	
4	-1.4	-1.2	
5	-1.2	-1.0	
6	-1.0	-0.8	
7	-0.8	-0.6	
8	-0.6	-0.4	
9	-0.4	-0.2	
10	-0.2	0.0	
11	0.0	0.2	
12	0.2	0.4	
13	0.4	0.6	
14	0.6	0.8	

WORK IN PROGRESS
NOT FOR CONSTRUCTION

REV	DATE	REMARK
P3	11/03/2025	PRELIMINARY ISSUE
P2	18/02/2025	PRELIMINARY ISSUE
P1	13/02/2025	PRELIMINARY ISSUE

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

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PROJECT
155 CAMBRIDGE ROAD
SOCIAL HOUSING

TITLE
GENERAL ARRANGEMENT

Accepted (Discipline Head)	CJM	Date
Accepted (Team Leader)	BHL	Date
Approved (Principal)	CJM	Date

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SCALES @ A1	DESIGNED BY	DRAWN BY
	BHL	JFB
1:250	PLOT DATE	11/03/2025

DO NOT SCALE. Use only figured dimensions. Locations of structure, fittings, services etc on this drawing are indicative only. CONTRACTOR to check Architects & other project drawings for co-ordination between structure, fabric, fixtures, fittings, services etc. CONTRACTOR to site check all dimensions and exact locations of all items. JMG accepts no responsibility for dimensional information scaled or digitally derived from this document.

PLOT DETAILS 240698CS - GENERAL ARRANGEMENTS.DWG

PROJECT NO. 240698CS

DWG NO.	REVISION
SK01	P3

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ISSUE	STATUS	DATE	REVIEWED
*	Issue for Development Application	27-03-2025	PST

L001

SHEET TITLE
Preliminaries Series
Landscape Master Plan
01 of 01

CLIENT
TERROIR
181 Elizabeth St
Hobart TAS 7000
ph: 03 6234 6372

PROJECT NAME
Homes Tasmania - 155 Cambridge Road Landscape Works

SITE ADDRESS
155 Cambridge Road
Warrane TAS 7018

PROJECT NO.
24-061

STAGE
DD / DA

DESIGNED
LG/AK

DRAWN
AK

SCALE
1:250@A1

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PLAYSTREET
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