PINNACLE

GLENORCHY CITY COUNCIL
PLANNING SERVICES
APPLICATION No. : PLN-26-198
DATE RECEIVED: 12 August 2026

12.08.2026

Dear Sir/Madam,

2 – 4 Burgan Circle, Chigwell

Pinnacle Drafting & Design, on behalf of our client Homes Tasmania, is pleased to lodge the enclosed Development Application for the construction of six new social housing dwellings in Chigwell.

The proposal includes discretions relating to residential density and car parking. These matters have been considered against the relevant Performance Criteria of the Tasmanian Planning Scheme, which we believe the proposal appropriately addresses.

We met with Stephen Wildsmith and Rhys Thorp from Glenorchy City Council on 23 July 2026 to discuss the proposal and these discretions in detail. Given their familiarity with the project and the discussions undertaken, we respectfully request that, where possible, Stephen and Rhys be involved in the assessment of the application to provide continuity through the planning process.

Please find enclosed the relevant application documentation for Council's assessment. Should any further information be required, please feel free to contact our office.

Kind Regards,

James Davies
Director
Pinnacle Drafting & Design

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8.0 General Residential Zone

8.1 Zone Purpose

The purpose of the General Residential Zone is:

8.1.1 To provide for residential use or development that accommodates a range of dwelling types where full infrastructure services are available or can be provided.

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

8.1.3 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.

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

8.2 Use Table

Use Class	**Qualification**
No Permit Required	
Natural and Cultural Values Management	
Passive Recreation	
Residential	If for a single dwelling.
Utilities	If for minor utilities.
Permitted	
Residential	If not listed as No Permit Required.
Visitor Accommodation	

8.4 Development Standards for Dwelling

8.4.1 Residential density for multiple dwellings

Objective:	That the density of multiple dwellings: (a) makes efficient use of land for housing; and (b) optimizes the use of infrastructure and community services
Acceptable Solutions / Performance Criteria	
P1 Multiple dwellings must only have a site area per dwelling that is less than 325m², if the development will not exceed the capacity of infrastructure services and: (a) is compatible with the density of existing development on established properties in the area; or (b) provides for a significant social or community benefit and is:	(a) The proposed development comprises of six dwellings on an approximately 1,100m² site. The surrounding area includes established multiple-dwelling development, including six units at 7 Burgan Circle on an approximately 1,810m² site. The proposed density is therefore compatible with the established residential character of the area. (b) The development is a Homes Tasmania project that will deliver additional social housing, providing a significant social and community benefit. (i) The site is located approximately 60m walking distance from a public transport stop. (ii) The site is located approximately 100m walking distance from the Local Business Zone. Accordingly, the proposal satisfies P1, subject to confirmation that infrastructure services have sufficient capacity.

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(i) wholly or partly within 400m walking distance of a public transport stop; or (ii) wholly or partly within 400m walking distance of an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone, General Business Zone, Central Business Zone or Commercial Zone	

8.4.2 Setbacks and building envelope for all dwellings

Objective:	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; (c) provides separation between dwellings on adjoining properties to allow reasonable opportunity for daylight and sunlight to enter habitable rooms and private open space; and (d) provides reasonable access to sunlight for existing solar energy installations.
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 4.5m, or, if the setback from the primary frontage is less than 4.5m, 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 3m, or, if the setback from the frontage is less than 3m, 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	(a) The development has only 1 frontage, each unit frontages are is not less than 4.5m (b) N/A (c) The positioning of the units is consistent with the neighbouring dwelling and is within the character of the neighbourhood. (d) N/A

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A2 A garage or carport for a dwelling must have a setback from a primary frontage of not less than: (a) 5.5m, 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.	N/A No carports or garages are not within the scope of this development.
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 8.1, 8.2 and 8.3) determined by: (i) a distance equal to the frontage setback or, for an internal lot, a distance of 4.5m 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 8.5m above existing ground level; and (b) only have a setback of less than 1.5m from 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).	Proposed development protrudes outside of the building envelope. Unit 2 – East Building Envelope Drawing No. A0202 Unit 6 – East Building Envelope Drawing No. A0402 Refer to drawing set to shadow diagrams The maximum height of units between 1 – 6 are no greater than 8.5m.

8.4.3 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

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	(c) private open space that is conveniently located and has access to sunlight.
Acceptable Solutions / Performance Criteria	
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 that are 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.	The proposed site coverage is consistent with the surrounding development, including 7 Burgan Circle. A communal open space has been provided to encourage social interaction and a sense of community. Each dwelling's living areas and private open space are oriented north to maximise access to sunlight. Landscaping is provided throughout the development to soften hardstand areas and improve visual amenity. Although the site coverage exceeds 50%, this is balanced by the communal open space, convenient access to services and the large public open space directly opposite the site. Site Coverage: Unit 1 – Unit 6 503.64m² Concrete Driveway – 251.14m² Concrete Bin Storage – 21.46m² Concrete Communal Area – 23.93m² Unit 1 Concrete Patio & Concrete Landing – 3.30m² Unit 2 Concrete Patio & Concrete Landing – 2.10m² **TOTAL – 805.57m²** 2 – 4 Burgan Circle Site Area – 1114.07 Total Coverage 72.31%
P2 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 orientated to take advantage of sunlight.	(a) The private open space for each dwelling is conveniently accessed from its principal living area. Units 1 and 2 have private open space directly adjoining the living area, with a single step between the finished floor level and the outdoor area. Units 3–6 each have a large deck adjoining the living area, with minimal steps to the associated outdoor area. (b) The private open spaces and decks are oriented north to maximise sunlight and provide functional areas for outdoor relaxation, dining, entertaining and children's play.

8.4.4 Sunlight to private open space of multiple dwellings

Objective	That the separation between multiple dwellings provides reasonable opportunity for sunlight to private open space for dwellings on the same site.
Acceptable Solutions / Performance Criteria	
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 8.4.3 of this planning scheme.	The private open spaces for Units 1 and 2 have been positioned as far as practicable from the dwellings to the north to maximise solar access. The private open spaces and decks for Units 3–6 are oriented north. Shadow diagrams included in the planning drawings demonstrate that at least 50% of each required private open space receives a minimum of three hours of sunlight between 9:00am and 3:00pm on 21 June. The decks serving Units 3–6 are also separated by screening walls to prevent overlooking and maintain privacy between dwellings.

8.4.5 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 /	

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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).	No garage's or carports have been proposed for this development.

8.4.6 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. **A2** A window or glazed door to a habitable room of a dwelling, that has a floor	The finished floor levels of the decks serving Units 1 and 5 are less than 1m above existing ground level. Accordingly, the screening requirements of A1 do not apply. The northern deck serving Unit 6 is more than 1m above existing ground level; however, it is setback approximately 5.351m from the rear boundary, exceeding the 4m requirement. Screening along the rear-facing side is therefore not required. Where the elevated decks associated with Units 4 and 6 are within 3m of a side boundary Unit 4 is less than 1m and Unit 6 has the side wall as a screen. The absence of windows in the side walls does not remove this requirement under A1

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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 not less than 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%.	
A3 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	The habitable-room windows serving Units 1 and 2 are located within 2.5m of the shared driveway. A permanently fixed 1.7m-high privacy screen is therefore provided between the windows and driveway in accordance with **A3(b)(i)**. The location and height of the screen are shown on the site plan.

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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.	

8.4.7 Frontage fences for all dwellings

Objective	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) is reasonably consistent with that on adjoining properties.
Acceptable Solutions / Performance Criteria	
P1 A fence (including a free-standing wall) for a dwelling within 4.5m of a frontage 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.	Tje private open space fencing associated with Units 1–6 is located more than 4.5m from the primary frontage and is therefore not subject to P1. The communal bin storage enclosure is located within 4.5m of the frontage and is screened by a 1.7m-high fence with a minimum transparency of 30%, as shown on the **Bin Frontage Elevation**. (a) The fence provides suitable screening and security for the bin storage area while retaining opportunities for passive surveillance of Burgan Circle. (b) Its height and transparency provide an appropriate presentation to the street, having regard to the site's topography, the function of the enclosure and traffic conditions on Burgan Circle.

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8.4.8 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 not less than 1.5m² per dwelling and is within one of the following locations: (a) an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or (b) 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 not less than 1.2m above the finished surface level of the storage area.	Refer to the site plan demonstrating the common bin storage area which access straight onto the street frontage. Surrounding the bin storage area is a 1700 high fence with a 30% transparency. Each unit has a minimum of 1.5m² area dedicated concrete

C2.5 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	
P1.1 The number of on-site car parking spaces for uses, excluding dwellings, must meet the reasonable needs of the use, having regard to: (a) the availability of off-street public car parking spaces within reasonable walking distance of the site; (b) the ability of multiple users to share spaces because of: (i) variations in car parking demand over time; or (ii) efficiencies gained by consolidation of car parking spaces; (c) the availability and frequency of public transport within reasonable walking distance of the site; (d) the availability and frequency of other transport alternatives; (e) any site constraints such as existing buildings, slope, drainage,	P1.1 P1.1 is not applicable, as the proposal is exclusively residential and does not include any non-residential uses. P1.2 (a) The proposal comprises six two-bedroom social housing dwellings, with one on-site parking space provided for each dwelling. Given the scale and nature of the development, together with nearby services and public transport, this provision is considered sufficient to meet the occupants' reasonable parking needs. (b) Each dwelling contains two bedrooms and is therefore unlikely to generate a demand for more than one dedicated parking space. (c) Additional unrestricted on-street parking is available along Burgan Circle, including adjacent to the public open space opposite the site. Nearby commercial premises provide their own parking and are primarily accessed from Bucaan Street or Allunga Road, reducing the likelihood of competing parking demand within Burgan Circle. Providing one space per dwelling also reduces hardstand coverage and allows additional landscaping, private open space and communal open space for residents.

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vegetation and landscaping; (f) the availability, accessibility and safety of on-street parking, having regard to the nature of the roads, traffic management and other uses in the vicinity; (g) the effect on streetscape; and (h) any assessment by a suitably qualified person of the actual car parking demand determined having regard to the scale and nature of the use and development. 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.	

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Stormwater Report

verto
Engineers+Project Managers



GLENORCHY CITY COUNCIL
PLANNING SERVICES

APPLICATION No. : PLN-26-198

DATE RECEIVED: 28 October 2026

Homes Tasmania
Pinnacle Drafting and Design

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5/03/2026

PROJECT INFORMATION

DOCUMENT TITLE	Stormwater Report – 26E52-39
PROJECT LOCATION	2-4 Burgan Circle, Chigwell TAS 7011
CLIENT ORGANISATION	Pinnacle Drafting and Design
CLIENT REFERENCE	
CLIENT CONTACT/S	Jason Nickerson
VERTO REFERENCE	26E52-39
VERTO CONTACT/S	Danton Evans (devans@vertotas.com.au)

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Verto will notify you immediately if at any stage during the works we believe that the fee will be higher than this estimate. In this event Verto will cease works until written approval to proceed is provided by you.

DOCUMENT CONTROL

REVISION	DATE	REVISION DETAILS	PREPARED	VERIFIED	APPROVED
A	1/10/2026	Planning Approval	DE		
B	28/10/2026	Planning Approval – RFI Response	DE		

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1. INTRODUCTION

Verto have been engaged to provide a stormwater report for the proposed development at 2-4 Burgan Circle, Chigwell.

The development must comply with the stormwater quantity and quality requirements of the Glenorchy City Council Stormwater Management Policy.

This report aims to demonstrate that the development at 2-4 Burgan Court, Chigwell complies with the above stormwater quality and quantity requirements.

2. SITE OVERVIEW

The development site is a consolidation of 2 Burgan Court (C.T. 61049/29) and 4 Burgan Court (C.T. 61049/28) and totals approximately 1,114m^2 (see Figure 1 below). The site previously housed 2 conjoined units across to two titles. These units have since been demolished to make way for the new development.

The site survey located 2 existing site stormwater connections, which discharge to a DN100 stormwater main (GCC asset ID 3123802) which runs parallel to the rear boundary, through the backyard of 18 Allunga Road and connects to an existing manhole (GCC asset ID 3112089) in the footpath of Allunga Road. The existing connection and main is proposed to be upgraded to a DN150 PVC SN8, matching the existing levels and falls. It is proposed to cap and seal the existing connection at 4 Burgan Circle and use the existing connection location at 2 Burgan circle as the post-development site connection point.

The proposed development involves the construction of a 6 new units, 2 standalone units at the front of the site, and 4 conjoined units to the rear. The increase in impervious area within the site is expected to increase the quantity of site stormwater runoff. Refer Figure 2 for post-development site layout.



FIGURE 1: EXISTING SITE

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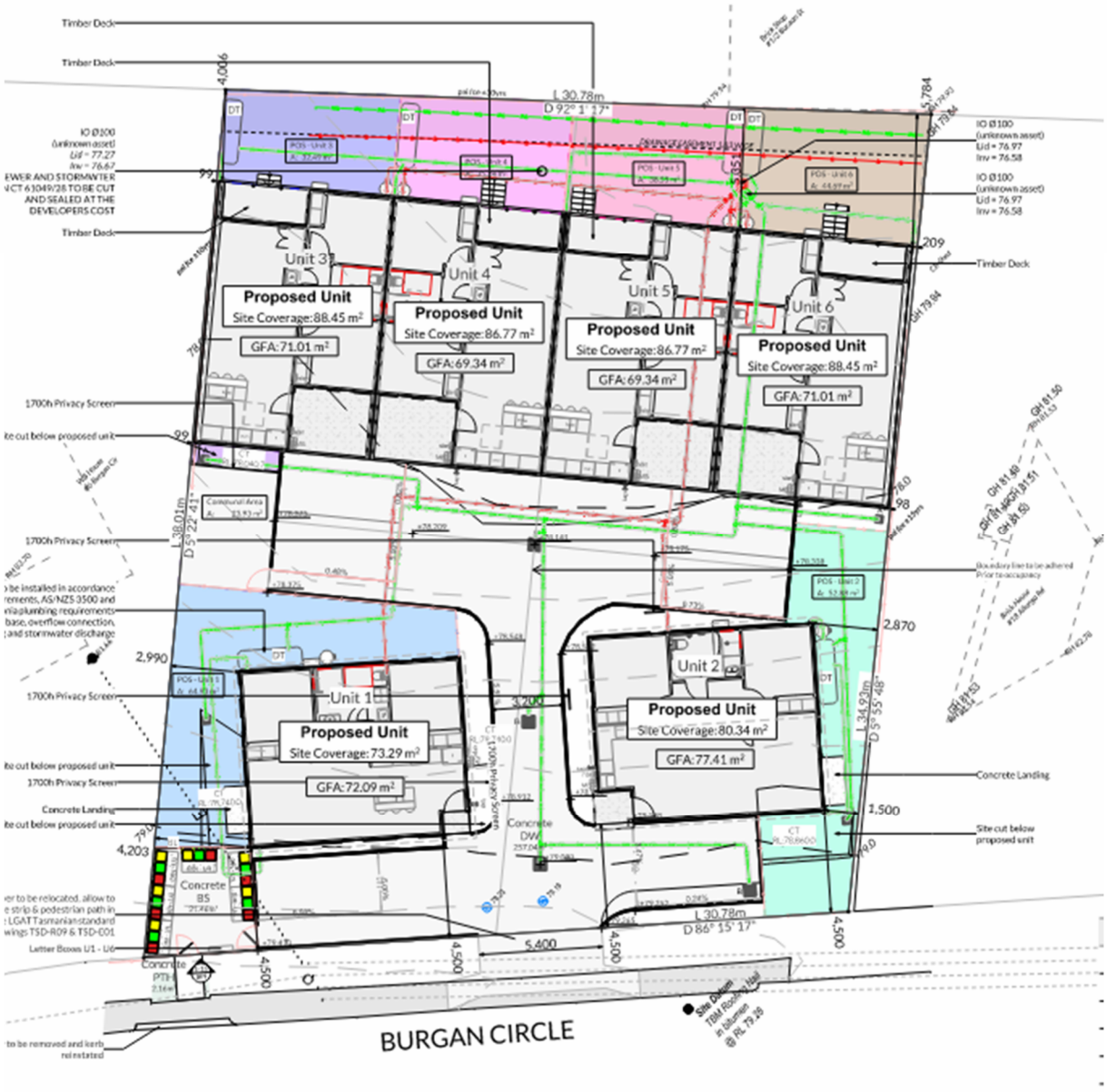


FIGURE 2: PROPOSED SITE

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3. QUANTITY MODEL

3.1 MODIFIED RATIONAL METHOD

The modified rational method was applied within the software Autodesk Storm and Sanitary Analysis (SSA) to determine the increase in runoff between the pre-development and post-development conditions. The SSA model was then used to determine the volume and configuration of on-site detention required to reduce the site runoff below the pre-development condition for the 5% AEP storm.

3.2 DESIGN RAINFALL DEPTHS

Rainfall depths for the model were retrieved from the Bureau of Meteorology website (http://www.bom.gov.au/water/designRainfalls/revised-ifd/). Multiple durations of the 5% AEP storm were analysed to determine the critical storm duration.

TABLE 1: DESIGN RAINFALL DEPTHS

DESIGN RAINFALL EVENT	DESIGN RAINFALL (mm)
5% AEP 5 minute	84.9
5% AEP 10 minute	63.9
5% AEP 20 minute	44.2
5% AEP 30 minute	34.8

3.3 SITE CATCHMENTS

The site catchments assumed for the modified rational method calculations were determined from the architectural site plan prepared by Pinnacle Drafting and Design dated 25/09/2025. Runoff coefficients were adopted for each catchment area as per Glenorchy City Council Stormwater Management Policy (2020):

TABLE 2: SITE CATCHMENTS

CATCHMENT	AREA (m2)	RUNOFF COEFFICENT C
Pre-development total site area	1,114	0.55
Post-development impervious roofed areas	536.5	1.0
Post-development impervious driveway areas	257	0.90
Post-development pervious areas	320.5	0.40

3.4 DETENTION MODEL RESULTS

The results of the Stormwater and Sanitary Analysis model showed that the post-development site runoff is increased by 15.29 L/s over The PSD target, as shown in Table 3.

To reduce the post-development site outflow below the target PSD, an on-site detention system comprising of the following was simulated in Autodesk SSA.

- 8,000 L underground detention tank with 40mm low flow orifice and DN150 overflow

The model results showed that the underground detention tank system was adequate to store the detained volume of runoff in a multitude of storm durations.

A Site Storage Requirement calculation was completed to determine if the supplied detention volume can cater for the difference between the Permissible Site Discharge and the peak discharge over the period of the design storm. This analysis is detailed in Tables 5 and 6. Full specifications for the required on-site detention system are given in Table 7.

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Figure 3 below shows the site outflow hydrograph for the pre-development condition compared to the post-development condition mitigated by on-site detention.

TABLE 3: PEAK FLOW RATE SUMMARY

SCENARIO	SITE RUNOFF (L/s)	CRITICAL DURATION
Pre-development	5.84	30-minute
Post-development unmitigated	21.13	5-minute
Post-development with OSD	4.83	5-minute

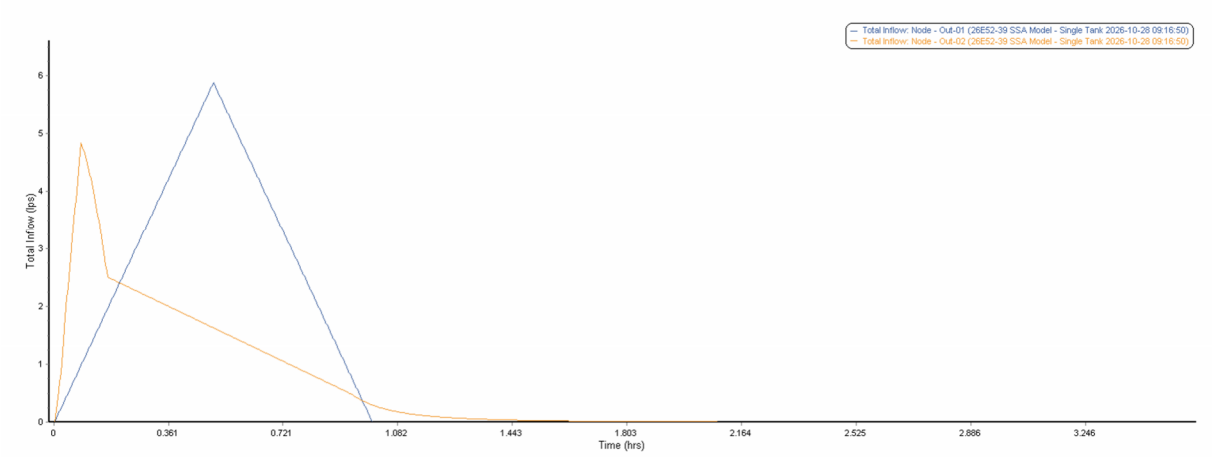


FIGURE 3: SITE RUNOFF HYDROGRAPHS

TABLE 4: DETENTION TANK MAXIMUM VOLUMES

STORM AEP AND DURATION	8,000 L UNDERGROUND DETENTION TANK VOL. (L)
5% AEP 5-min	4,480
5% AEP 10-min.	6,080
5% AEP 15-min	6,560
5% AEP 20-min	6,800
5% AEP 25-min.	6,890
5% AEP 30-min	6,880
5% AEP 60-min	5,680

TABLE 5: PERMISSIBLE SITE DISCHARGE PARAMETERS

PARAMETER	VALUE
Pre-development run off coefficient	0.55
Catchment time of concentration (mins)	30
Catchment 20-year ARI rainfall intensity	34.8
Permissible site discharge	5.84

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TABLE 6: SITE STORAGE REQUIREMENT CALCULATIONS

PARAMETER	STORM DURATION (MINS)					
	5	10	15	20	30	60
Catchment 5% AEP rainfall intensity (mm/hr)	84.90	63.90	51.90	44.20	34.80	22.70
Post development peak flow (L/s)	20.96	15.77	12.60	10.75	8.59	5.45
Total post development run off volume (m^3)	6.29	9.46	11.34	12.90	15.46	19.62
Stored Volume (m^3)	4.54	5.96	6.08	5.89	4.95	-1.40
Site Storage Requirement (SSR) (m^3)			6.08			

As seen above, the Site Storage Requirement is 6.08m^3 or 6,080 L. In its current specification, the site has a total storage capacity of approximately 8,000. Therefore, the site storage requirement is satisfied.

TABLE 7: DETENTION TANK PARAMETERS

TANK ID	8,000 L underground detention tank
DESCRIPTION	Nom. 4.0m L x 2.0m W x 1.0m H)
BASE AREA (m2)	8
TANK HEIGHT (m)	1
INLET HEIGHT (m)	0.8
DETENTION CAPACITY (L)	Nom. 8,000 L
ORIFICE DIAMETER (mm)	40
OVERFLOW PIPE DIAMETER (mm)	150
PEAK DISCHARGE RATE (L/s)	4.83
MAX. VOLUME 5% AEP (L)	6,890 (25-min duration)
EMPTYING TIME (MINS)	164 (25-min duration)
CONTRIBUTING ROOF AREA (m2)	536.5

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4. 5% AEP DESIGN

The development site is currently serviced by a DN100 CO stormwater main (asset ID A3123802). This is proposed to be upgraded to a DN150 PVC SN8 stormwater connection and main, matching the existing levels and falls of the DN100 connection and main.

Survey information gathered on site determined the site stormwater connection has an invert level of 76.58 and is located approx. 33.58m away from the stormwater manhole in the Allunga Road road reserve. The lid level of this manhole was recorded as 76.24, and the depth given on the Glenorchy City Council GIS data is 1.2, resulting in an approximate invert level of 75.04.

Using the above information to determine an estimate pipe gradient,

$$S = \frac{76.58 - 75.04}{33.58} = 0.459 \approx 4.6\%$$

The capacity of the new DN150 PVC SN8 stormwater pipe at 4.6% gradient can be estimated using the Mannings Equation for Open Channel flow, with minimal freeboard.

Diameter:	$150mm$	
Freeboard:	$5mm$	(assumed at full flow)
Slope, S:	4.6%	(as calculated)
Manning's Coefficient:	0.012	(for finished concrete pipe)
Radius, r:	$0.075m$	$r = \frac{Diameter/2}{1000}$
Theta, θ:	$2.77\ Rads$	$\theta = \pi - \cos^{-1}\left(\frac{Radius - \frac{Freeboard}{1000}}{r}\right)$
	$158.96\ Degrees$	$Degs = \frac{\theta \times 180}{\pi}$
Area (Hydraulic):	$0.02m^2$	$A_h = r^2 \times \left(\theta - (\sin\theta \times \cos\theta)\right)$
Radius (Hydraulic):	$0.04m^2$	$R_h = \frac{A_h}{2 \times r \times \theta}$
Velocity:	$2.16\,m/s$	$V = \frac{R_h^{2/3} \times S^{1/2}}{Manning's\ Coefficient}$
Flow:	$37.79\,L/s$	$Q = (V \times A) \times 1000$

With a peak post development flow of 9.92 L/s in a 5% AEP event, the proposed DN150 connection has adequate capacity to service the development, along with the existing upstream and downstream properties.

5. 1% AEP DESIGN AND OVERLAND FLOW

The proposed development site slopes away from Burgan Circle at approximately 7%, making a viable overland flow path back to the street not possible.

The previous two-unit layout (now demolished) had driveways down either side of the units, leaving room for any overland flow to travel around the dwellings and to the rear of the site. Reviewing Google Map and Street view imagery, a solid brick structure is constructed directly on the rear boundary and effectively cuts off the property from directing any overland flow onto Unit 1 & 2 Bucaan Street to the North. The lowest point of the site (the Northeast corner) is also bounded to the East by a shed structure on 18 Allunga Road.

The post-development scenario will look to maintain this previously existing overland flow path, directly flow to the Northeast corner of the lot.

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To determine the expected overflow for a 1% AEP, 2100 climate change impacted event, a simulation was conducted in Autodesk SSA on the proposed site stormwater layout using factored storm intensities as below.

TABLE 8: 1% AEP SSP3-7.0 2100 FACTORED RAINFALL DEPTHS

DESIGN RAINFALL EVENT	DESIGN RAINFALL (mm)
1% AEP 5 minute	197.2
1% AEP 10 minute	152.4
1% AEP 30 minute	81.6
1% AEP 60 minute	52.1

The results of the model suggested an expected peak post development flow of 16.88 L/s (piped), combined with an overflow of approx. 24.99 L/s in a 5-minute duration event. Longer storm durations were simulated but less peak overflow was determined.

Given the new layout spans almost the entire width of the site, and the driveway has been designed with a central low point, the post development overland flow path is more complex than the previous development scenario.

In event of a major storm, the stormwater system will back up and begin surcharging from the grates in the underground detention tanks (lowest grate height open to atmosphere). The surcharging stormwater will pool in the middle of the driveway, before overtopping to the East in the low point of the driveway. Strategic landscaping will then direct the overland flow to the 300mm W x 100mm D concrete dish drain which is to be constructed between the wall of Unit 6 and the boundary fence.

The capacity of the dish drain can be estimated using the Mannings Equation for open channel flow.

Width, w:	$0.3m$ $(0.15m\ a\ side)$	
Depth, d:	$0.1m$	
Side Slope, z:	3	$(z = w/d)$
Slope, S:	Approx. 7.0%	(Installed to match natural grade)
Manning's Coefficient:	0.012	(Finished concrete)
Area (Hydraulic):	$0.015m^2$	$A_h = \frac{1}{2} \times (w \times d)$
Radius (Hydraulic):	$0.0416m$	$R_h = \frac{A_h}{(2 \times d)(\sqrt{1}+z^2)}$
Velocity:	$2.64\,m/s$	$V = \frac{R_h^{2/3} \times S^{1/2}}{Manning's\ Coefficient}$
Flow:	$39.70\,L/s$	$Q = (V \times A) \times 1000$

Therefore, the proposed concrete dish drain has adequate capacity to convey the expected overland flow to the pre-development overland flow path location.

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6. QUALITY MODEL

The Tasmanian Stormwater Policy Guidance and Standards for Developments stipulates that developments resulting in an increase in impervious area less than 500 m^2 are exempt from stormwater treatment requirements. As the proposed development includes an increase in impervious area of 793.5m^2, the development is required to include a stormwater treatment system.

6.1 STORMWATER QUALITY MODEL

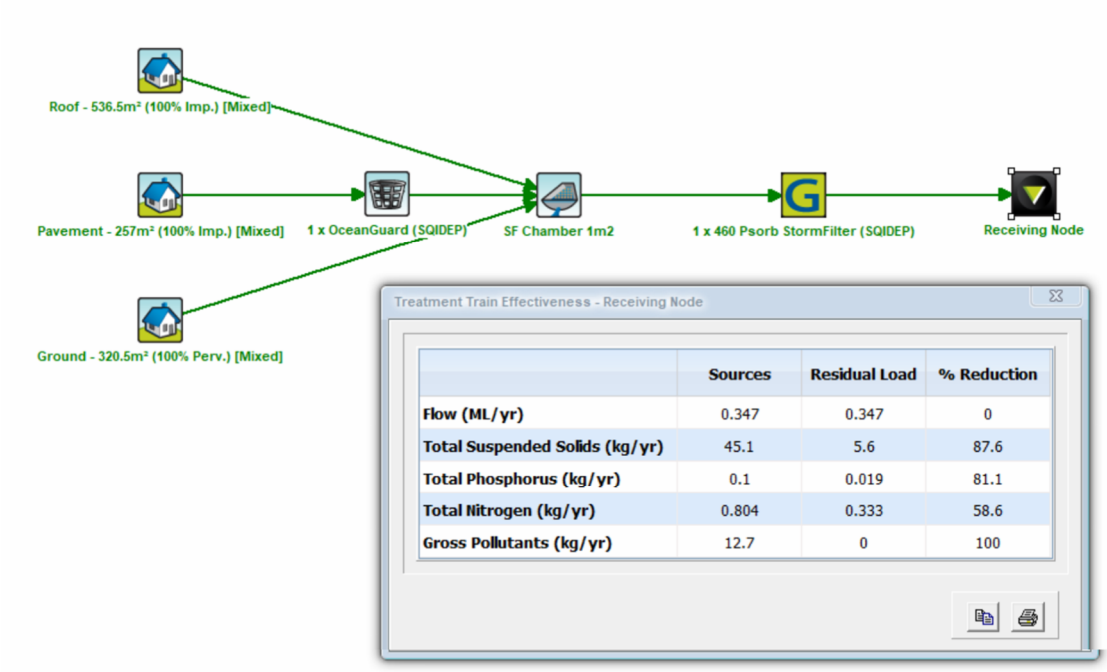
In accordance with the Glenorchy City Councils Stormwater Policy, the proposed development must incorporate water sensitive urban design principles.

Verto Engineers have collaborated with Ocean Protect and a Model for Urban Stormwater Improvement Conceptualisation (MUSIC) was used to model the site and the effectiveness of various treatment devices to achieve the stormwater quality targets outlined in the State Stormwater Strategy (2010) of:

- An 80% reduction in the average load of total suspended solids (TSS)
- An 45% reduction in the average annual load of total phosphorous (TP)
- An 45% reduction in the average annual load of total nitrogen (TN)

A proprietary device by OceanProtect was utilised to meet the water quality targets. The propriety devices is:

- 1 x Standard (460) PSorb StormFilters, installed within the underground concrete detention tank.
- 1 x OceanGuard with 200um mesh bag (OG-200)



	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.347	0.347	0
Total Suspended Solids (kg/yr)	45.1	5.6	87.6
Total Phosphorus (kg/yr)	0.1	0.019	81.1
Total Nitrogen (kg/yr)	0.804	0.333	58.6
Gross Pollutants (kg/yr)	12.7	0	100

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7. MAINTENANCE

The recommended maintenance schedule for the on-site detention and treatment devices specified in this report are outlined in Table 9 and 10.

The manufacturer's maintenance requirements for the stormwater detention devices that are installed will form part of the project's Plumbing Maintenance Schedule.

TABLE 9: MAINTENANCE PLAN FOR DETENTION TANK

ACTIVITY	FREQUENCY
Visual inspection of detention tank for sediment accumulation, sludge, and algae growth, and clogging at outlet orifice.	Every 6 months
Vacuum truck sediment removal/desludging of rainwater detention tank	Approximately every 2-3 years or if sediment/'sludge' is evident upon inspection

TABLE 10: MAINTENANCE PLAN FOR TREATMENT DEVICE

Activity	Frequency
StormFilter	
Visual inspection of StormFilter for sediment accumulation, sludge, and algae growth, and clogging at outlet orifice.	Every 6 months
Vacuum truck sediment removal/desludging of precast detention tank	Approximately every 2-3 years or if sediment/'sludge' is evident upon inspection

8. CONCLUSION

This report has demonstrated that the proposed development complies with the stormwater quantity and quality requirements of the Glenorchy City Council Stormwater Management Policy.

Note:

- No assessment has been undertaken of Council's stormwater infrastructure and its capacity.
- This report assumes the Council stormwater main has capacity for the pre-development peak discharge.
- It is the responsibility of Council to assess their infrastructure and determine the impact (if any) of altered inflows into their stormwater network.

Please contact me at devans@vertotas.com.au if you require any additional information.

Yours faithfully,



Danton Evans BEng Civil (Hons)
Senior Civil Engineer

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verto
Engineers+Project Managers



Hobart
Lower Ground, 199 Macquarie St,
Hobart, TAS 7000
GPO Box 1248, Hobart, TAS 7001
Telephone: (03) 6234 8666
Email: hello@vertotas.com.au

Launceston
22-24 Paterson St,
Launceston, TAS 7250
PO Box 1898, Launceston TAS 7250
Telephone: (03) 6388 9200
Email: hello@vertotas.com.au

Devonport
33-35 Steele St
Devonport, TAS 7310
PO Box 1898, Launceston TAS 7250
Telephone: (03) 6388 9200
Email: hello@vertotas.com.au

vertotas.com.au

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PINNACLE

10 September 2026

Att: Steve Wildsmith

Glenorchy City Council

GLENORCHY CITY COUNCIL
PLANNING SERVICES
APPLICATION No. : PLN-26-198
DATE RECEIVED: 7 October 2026

Dear Sir/Madam,

PLN-26-198

2–4 Burgan Circle, Chigwell TAS 7011

Response to Request for Further Information

In response to Council's correspondence dated 7 September 2026, please find below our response to each matter raised.

ITEM	COUNCIL REQUEST	DEVELOPMENT RESPONSE
General 1	Please provide a site plan clearly showing the location of the car spaces on the site and how they correspond to each dwelling.	The Site Plan (Drawing A0001, Issue DA-02) shows the proposed on-site car parking spaces and internal access arrangement. The plans have been updated to show the parking spaces as a thicker line with a bigger text for each unit. Drawing No. A0001
General 2	The documentation refers to shadow diagrams; however, none have been submitted. Please submit the set of shadow diagrams.	See attached Drawings A002, A003 & A004 for the updated shadow diagram for June 21st June 0900h – 1500h

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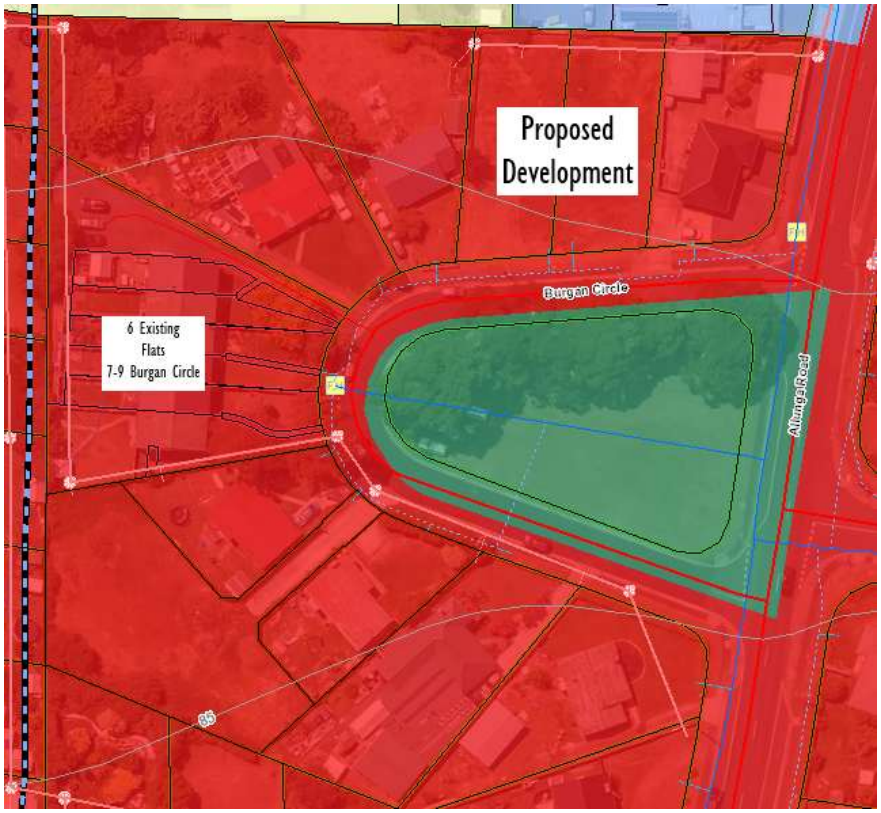
8.4.1	Please provide further justification against the proposed site density for the development.	The proposal is for six multiple dwellings on a site area of 1114m², equating to approximately 185.7m² per dwelling. This is below the Acceptable Solution in clause 8.4.1 A1 and is addressed against Performance Criterion 8.4.1 P1. The proposed residential density should not be considered solely by reference to a numerical comparison of site area per dwelling. In *Clarence City Council v Drury [2021] TASSC 5*, the Supreme Court confirmed that the assessment of whether a development is compatible with the density of the surrounding area requires a broader qualitative assessment. Statistical measures may inform that assessment but are not, of themselves, determinative of compatibility. The Court endorsed an assessment directed to whether the proposed density is in broad correspondence with, and capable of existing in harmony with, the density of the surrounding area. In this instance, the development provides six two-bedroom dwellings across the site. The development is distributed as two detached dwellings and two pairs of attached dwellings rather than presenting as a single consolidated residential building. Each dwelling is provided with dedicated private open space, together with the proposed communal area and associated vehicle access and parking. Having regard to the range and pattern of residential development within the surrounding area, the proposed density is considered to be in correspondence with, and capable of existing in harmony with, that surrounding density. Accordingly, the proposed density is considered compatible with the density of the surrounding area for the purposes of clause 8.4.1 P1(a). See below at the end of this document the list satellite image demonstrating the surrounding area a similar street appeal & site density. **Evidence #1**
8.4.2(a)	The proposal plans do not show the existing ground level to assess compliance against A3/P3. Please provide existing ground level on plans.	The site plan has been amended to clearly show existing ground level and the applicable building envelope for assessment against clause 8.4.2 A3/P3.
8.4.2(b)	Please provide justification against the relevant performance criteria in relation to the setbacks.	The proposal relies on clause 8.4.2 P3 where the Acceptable Solution is not demonstrated. The dwellings are single-storey forms with a maximum building height shown on the elevations generally between approximately 4.85m and 5.45m, with side and rear boundary relationships shown on the Site Plan and elevations. Subject to the amended existing ground level information and shadow diagrams, the siting and scale of the dwellings are not expected to cause an unreasonable loss of amenity to adjoining properties having regard to sunlight, overshadowing, apparent scale, bulk and separation.
8.4.8	The proposal does not comply with the Acceptable Solution. Please provide justification against performance criteria.	The proposal is addressed against clause 8.4.8 P1. The Site Plan identifies waste storage locations for Units 1–6. The storage arrangement is intended to provide each dwelling with convenient bin storage capable of accommodating the required waste and recycling bins for the site. The area of the bins are shown on the revised Site Plan, the arrangement is considered capable of meeting clause 8.4.8 P1 because the storage will accommodate the required bins, be screened from the frontage and dwellings, and be located to minimise odour and noise impacts.

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	Provide a concept stormwater servicing plan showing the location of services and their connections to public infrastructure. The servicing plan must clearly indicate the following: o How all additional stormwater from the site, including hardstand drainage, driveway, and parking areas, as well as any detention, will be discharged to Council infrastructure with sufficient receiving capacity. o Design of the minor stormwater drainage system to accommodate up to a 5% AEP rain event. o Design of the major stormwater drainage system, including overland flow paths, to safely convey runoff from rain events up to a 1% AEP with a Climate Change loading for 2100. o Clear distinction between existing, proposed, public, and private stormwater infrastructure, with appropriate easements shown for the public infrastructure for the benefit of the Council. o Display all existing and proposed stormwater lines and connections, along with the profiles of the proposed lines. Advice: The applicant must accurately locate, size, and plot the stormwater infrastructure on the submitted site plans. It is also recommended to provide a stormwater management report with the plans, including all relevant calculations for OSD, WSUD design, and the drainage system design.	Please refer to both plans 261001 CIV 26E52-39 A & 261001 SR 26E52-39 A
	According to the Council's Stormwater Management Policy, any development that adds an impervious area greater than 40m² and exceeds the maximum allowed peak runoff must include OSD. For any additional impervious surface greater than 250m², please submit engineering calculations for the OSD design in accordance with the Council's Stormwater Management Policy. The policy is available on the Council website or via this link: https://www.gcc.tas.gov.au/council/documents-and-publications/council policies/	Please refer to both plans 261001 CIV 26E52-39 A & 261001 SR 26E52-39 A
	The location of permanent private infrastructure (detention tanks) within the drainage easement is not acceptable, please locate these to be completely outside of any drainage easement	Please refer to both plans 261001 CIV 26E52-39 A & 261001 SR 26E52-39 A
	For developments creating a total new impervious surface area over 500m², stormwater treatment measures are required. Please provide a concept design and supporting calculations to demonstrate that the proposed development incorporates the principles of Water Sensitive Urban Design (WSUD) and complies with the Stormwater Quality Management Requirements of the Stormwater Management Policy. Advice: Supporting calculations should include a MUSIC model or equivalent to show compliance with the stormwater quality targets.	Please refer to both plans 261001 CIV 26E52-39 A & 261001 SR 26E52-39 A

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Evidence #1



We trust the above information and documentation will address the matters raised in Council's request once the outstanding placeholders are resolved. We respectfully request that Council confirm the application is valid for the purposes of the Land Use Planning and Approvals Act 1993 and proceed with its assessment.

Should Council require any clarification regarding the information provided, please contact our office.

Kind Regards,

Jason Nickerson

Director

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