



Memorandum

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Attention: Johnathan Shaw, Invercargill City Council

Cc: Lisa Thorne / Emma Spalding, Taylor Planning

Date: 4 November 2025

From: Tim Church, Miriam Moore, Sean Eustace – Urban Designers

Message Ref: ICC Housing Diversification Plan Change – s32 Urban Design Technical Report

Project No: BM240553.04

Introduction

Invercargill City Council (ICC) is progressing the Housing and Code of Practice Plan Change (Plan Change), which in relation to enabling more housing, applies to two specific zones. This memorandum primarily focusses on one of the key Plan Change intentions, which is to identify the Residential 1A Zone as a 'Medium Density' Residential Zone and provide a more certain pathway to consenting medium density infill development close to the City Centre and South City areas. Although, some of our Urban Design review also extends to provisions that cover the larger Residential 1 Zone.

The Plan Change seeks to enable more density than is currently provided for under the Operative District Plan within the street grid urban blocks close to the City Centre and South City areas. Council sees a risk that if housing is not designed and managed well, these more intensive and complex developments can lead to poor functional and amenity outcomes.

Boffa Miskell has been engaged by ICC to 'road test' the draft Plan Change and provide Urban Design technical advice and reporting, including feeding into the s32 benefits and cost analysis. This advice covers all urban design related matters across the Plan Change, including the objectives and policies of residential chapters. This assessment tests the built form standards to demonstrate the typical on-the-ground outcomes that would be delivered by any proposed standards and provides recommendations for standards where they are considered to deliver a more appropriate urban design outcome.

A draft Urban Design Guide (UDG) has been prepared to advise applicants as to how the outcomes sought by the plan change can be achieved. The UDG will sit outside of the District Plan as a non-statutory document. Boffa Miskell have also been engaged to refine the draft text and graphics and prepare the UDG for publication. Part of our scope of work is to ensure the Plan Change provisions are well-aligned with the UDG and vice versa.

Methodology

To recommend a draft set of provisions for Invercargill's Residential 1 and 1A zones, we undertook a process, as follows:

Literature Review

A comparative district plan and urban design guide literature review has been prepared by ICC, which assessed a range of medium density provisions and design guides that apply to other similarly sized Councils and their equivalent zone. The review included NPS-UD Medium Density Residential Standards (that apply to all Tier 1 councils), and the medium density rules of Central Otago District Council (draft), Queenstown Lakes District Council, Mackenzie District Council, Selwyn District Council and Waimakariri District Council. The findings were summarised in ICC's Options and Preferred Approach Report. Boffa

Miskell has drawn from these review findings in conjunction with bringing our own expertise in contributing to some of these and other similar plan changes and design guides. We also have applied experience in designing, assessing and reviewing medium density residential consents in real world situations.

Test Modelling and GIS Analysis

We created a series of 3D development models on 'typical' lots in Invercargill, using GIS software to analyse the representative lot sizes and dimension in these zones. Within this model series, we ran a range of scenarios, testing the maximum building envelope that would result from a combination of building height, recession plane angles, height from boundaries, setbacks, and site coverage. In testing the minimum lot dimensions or 'shape factor' for subdivision, we tested potential development outcomes on amalgamated sites to understand the difference between what could be enabled on larger sites. Testing these rules allowed us to visualise the individual and cumulative impacts of the maximum building envelopes, and also understand whether the design outcomes illustrated in the UDG would be achievable within the limitations of the maximum building envelope. We initially tested the rule set that was identified in ICC's Preferred Approach document and used this as a basis to further refine the draft set of rules.

Review of draft Plan Change

The tables below summarise the issues and rationale for each of the draft changes to objectives, policies, rules and matters of discretion that are relevant to Urban Design. Objectives, policies and rules with minor changes or unrelated to urban design while subject to assessment as part of the wider process, have not been listed as part of this memo.

Technical Review

Draft Recommended Objectives and Policies (Residential Zones 1 and 1A)

OBJECTIVE / POLICY	RECOMMENDED OBJECTIVE / POLICY	ISSUE / RATIONALE
RES-O1	<u>Invercargill City District has a well-functioning residential environment, where Critical mass is maintained, and medium density housing is enabled, within the defined residential areas.</u>	Issue: Medium density housing will both <i>increase</i> the critical mass of housing within the Residential 1A Zone and its greater intensity and complexity has a higher risk of poor-quality outcomes. Rationale: The intent of the Plan Change is to enable a clear consenting pathway for progressively infilling existing lower density residential areas with medium density housing. While this potentially further relieves pressure on greenfield expansion at the edge of Invercargill and achieves better urban form relationships close to the City Centre, it is important that this housing is well-designed to effectively manage this transition (retaining social licence) and efficiently utilise the land.
RES-O2	<u>A range of housing types and built forms are available, meeting the housing needs of a population that is growing only slowly and ageing</u>	Issue: While Invercargill is growing slowly, its demographics, lifestyle expectations and affordability levels will likely change. Medium density residential housing types that efficiently utilise land and rely more on public amenities within the City Centre will likely have more intensive built forms. Rationale: Providing for more enabling building envelopes within the Residential 1A Zone has the potential to accommodate larger buildings and up to three storeys. This

OBJECTIVE / POLICY	RECOMMENDED OBJECTIVE / POLICY	ISSUE / RATIONALE
		addition reflects that this is likely to result in a wider range of built forms that are typical across medium density developments, including compact detached houses, semi-detached houses, terraced houses and low-rise apartments.
RES-O3	<u>A high standard of Residential amenity is provided maintained, in accordance with the anticipated outcomes and character of the zone.</u>	Issue: Medium density built forms are more distinct from the predominant detached and low rise multi-unit housing that currently exists across the residential zones. It is anticipated that within the Residential 1A Zone a progressive change in character will occur and occupants will likely have different functional and amenity expectations. Rationale: The amendment better reflects the Plan Change intent to enable a diversity of infill housing typologies and built form across these zones, particularly medium density in the Residential 1A Zone. It is therefore important to recognise that the character and other housing qualities will change and that proposed provisions take both quantitative and qualitative approaches (supported by a non-statutory design guide) to ensure they positively shape anticipated outcomes and character. The term 'high standard' is removed to set realistic expectations for affordable housing and that achieving the basic urban design fundamentals is more important.
RES-P2	To provide for a range of housing densities <u>and built forms</u> , from large lot residential to medium density, in recognition of the changing demographics <u>and housing needs</u> of the Invercargill population.	Issue: Medium density built forms are more distinct from the predominant detached and low rise multi-unit housing that currently exists across the residential zones. Residential Zones must enable new housing typologies to enable a more compact urban form, and cater to a changing housing needs, such as smaller household size, 'lock and leave' lifestyle choices, affordability, etc. Rationale: The amendment better reflects the Plan Change intent to enable a diversity of infill housing typologies across these zones. It recognises that new housing is not just about higher density, but new housing typologies (built forms) that will come with it. The term 'housing needs' is introduced to recognise that housing options will look different for people with different needs, whether that be affordability, accessibility, size and maintenance.

OBJECTIVE / POLICY	RECOMMENDED OBJECTIVE / POLICY	ISSUE / RATIONALE
RES-P4	To require a high standard of residential amenity in new development, particularly with respect to space for outdoor living, to be <u>in accordance with the anticipated outcomes and character of the zone.</u>	Issue: Medium density built forms are more distinct from the predominant detached and low rise multi-unit housing that currently exists across the residential zones. It is anticipated that within the Residential 1A Zone, and to a lesser degree in Residential 1 Zone, a progressive change towards a more urban character will occur and occupants will likely have different functional and amenity expectations, particularly in provision of smaller private and / or communal outdoor living spaces and less car parking requirements. Rationale: The amendment better reflects the Plan Change intent to enable a diversity of infill housing typologies across these zones, particularly medium density in the Residential 1A Zone. It is therefore important to recognise that the character and other housing qualities will change from the existing environment and that proposed provisions take both quantitative and qualitative approaches (supported by a non-statutory design guide) to assessing amenity.
RES1Z-P3	To provide for ~~encourage~~ good urban design in terms of: ~~1. Context~~ ~~2. Character~~ ~~3. Choice~~ ~~4. Connections~~ ~~5. Creativity~~ ~~6. Custodianship~~ ~~7. Collaboration.~~ <u>1. Neighbourhood context</u> <u>2. Site layout</u> <u>3. Building design</u> <u>4. Entries to buildings</u> <u>5. Visual and acoustic privacy</u> <u>6. Outdoor living space</u> <u>7. Access and parking</u> <u>8. Landscape treatment</u> <u>9. Site facilities</u>	Issue: The original text listed the '7 C's' from the Ministry of Environment's Urban Design Protocol (2005) that are useful to understand general urban design practice, but have limited practical application to inform and assess site-based residential development. Rationale: Listing the chapter titles of the UDG instead of the '7 C's' provides clear and direct links to a more targeted range of design themes that should all be considered for residential developments to achieve good urban design outcomes. This provides much more clarity regarding urban design expectations of applicants and their design teams. These themes are further explained and illustrated in the UDG and are based on well-recognised urban design concepts, while allowing considerable design flexibility to respond to market needs, the context and constraints of development sites.
RES1AZ-O4	The Residential 1A (Medium Density Housing) Zone ~~developments are~~ <u>is a well designed, higher density residential living environment which:</u> <u>1. Contains a range of housing typologies and built forms, including detached, semi-detached, terraced housing, and low-rise apartments; and</u> <u>2. Provides good amenity to residents and offering a high level of amenity to the residents in the new units and</u>	Issue: The provisions did not state what the Residential 1A Zone anticipated outcomes and character were. Rationale: The amended objective provides clear direction regarding the anticipated outcomes and character in the Residential 1A Zone, as noted under RES-O3 rationale.

OBJECTIVE / POLICY	RECOMMENDED OBJECTIVE / POLICY	ISSUE / RATIONALE
	maximising beneficial effects, and minimising adverse effects, on the surrounding neighbourhood.	
RES1AZ-P2	<u>To ensure that development is consistent with the anticipated outcomes and character of the Zone contained in Objective RES1AZ-O4.</u> To require that the following urban design issues be addressed in the design and planning of medium density housing: 1. Neighbourhood context 2. Site layout 3. Building design, including consideration of universal design 4. Entries to buildings 5. Visual and acoustic privacy 6. Outdoor living space 7. Access and parking 8. Landscape treatment 9. Site facilities ~~1. Neighbourhood character – the relationship of the development with the surrounding neighbourhood and how well the development integrates with its neighbourhood~~ ~~2. Connectivity – how the development links to the neighbourhood and the wider community~~ ~~3. Site layout – provision, orientation, access, layout and function of outdoor spaces~~ ~~4. Building location – optimising amenity while making best use of the site, and also being a good neighbour~~ ~~5. Relationship to neighbouring buildings~~ ~~6. Visual and acoustic privacy – design to mitigate overlooking and unwanted noise~~ ~~7. Where off street parking is provided, vehicle access and parking are convenient, adequate, and safe, but not dominant~~ ~~8. On-site outdoor space – relationship of outdoor spaces to houses with respect to privacy, outlook, sunlight and landscape treatment~~ ~~9. Entries to buildings – visibility, shelter and security~~ ~~10. Site facilities – provision for services and utilities~~ ~~11. Landscape treatment – design for quality living environment.~~	Issue: The original text focused on integrating development with the surrounding neighbourhood, which can leave limited interpretation in designing new housing in line with the anticipated character. Rationale: As noted for RES-O3 and RES1AZ-O4 above, providing for ‘anticipated outcomes and character’ acknowledges an expected change from the existing neighbourhood qualities, and this policy is supported by the UDG, which advises on key considerations when integrating new built forms into existing neighbourhoods. Listing the chapter titles of the UDG provides more clarity regarding urban design expectations of applicants and their design teams. These themes are further explained and illustrated in the UDG and are based on well-recognised urban design concepts, while allowing considerable design flexibility to respond to market needs, the context and constraints of development sites.

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
SUB-R3 MINIMUM LOT SIZE (350M² – 400M²)	Minimum area dimensions of 15m x 15m	1. Within the Residential 1 Zone: Allotments of equal to or greater than 350m² but less than 400m² or more where; a. <u>Every allotment must be capable of containing an area with minimum dimensions of 15m x 15m</u>	Issue: There is potential that the subdivision of sites below 400m² within the Residential 1 Zone results in allotments which are too small or narrow to reasonably accommodate detached dwellings with external spaces and / or could preclude good urban design outcomes when developed. Rationale: GIS analysis indicated that 20m is the predominant site width within the Residential 1 Zone, along with a significant portion of sites which are between 15 and 18.5m in width (Figure 1). Amalgamation of two 50 x 20m parcels and subsequent subdivision would practically allow for two allotments along the street frontage with minimum 15m x 15m area dimensions and a common accessway to rear lots (Figure 2). This is consistent with existing patterns of development within the Residential 1 Zone. However, maximisation of yield on this representative site would result in allotments of less than 350m², triggering the requirement for a Restricted Discretionary consent. Amalgamation of two 50 x 15m parcels would allow for one allotment along the street frontage with minimum area dimensions of 15m x15m and a common accessway to two additional allotments (Figure 3). This is consistent with existing patterns of development within the Residential 1 Zone. The UDG will advise on best-practice subdivision layouts within a lot, with emphasis on providing an engaging street frontage, to assist with meeting discretionary matters for a restricted discretionary consent.

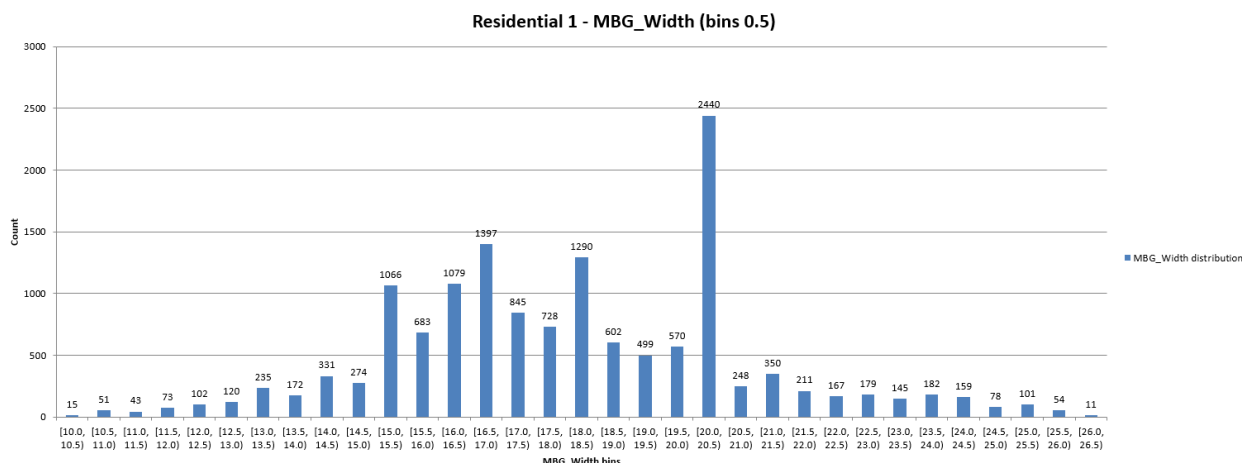


Figure 1: Distribution of parcel widths in the Residential 1 Zone.

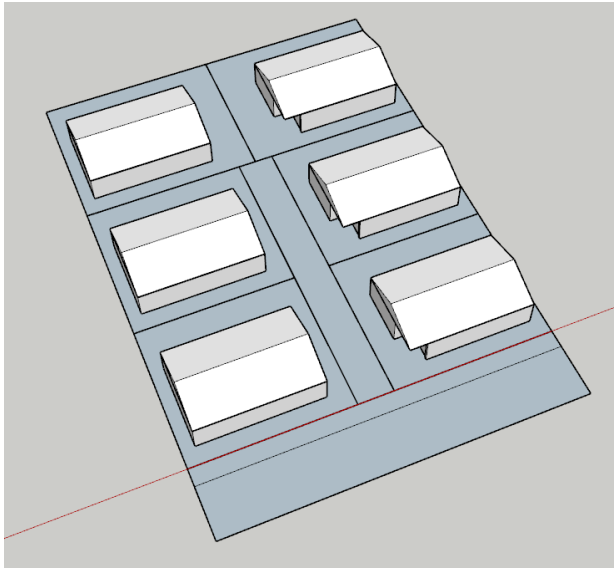


Figure 2: Subdivision of two amalgamated 20m x 50m sites with minimum area dimensions of 15m x 15m

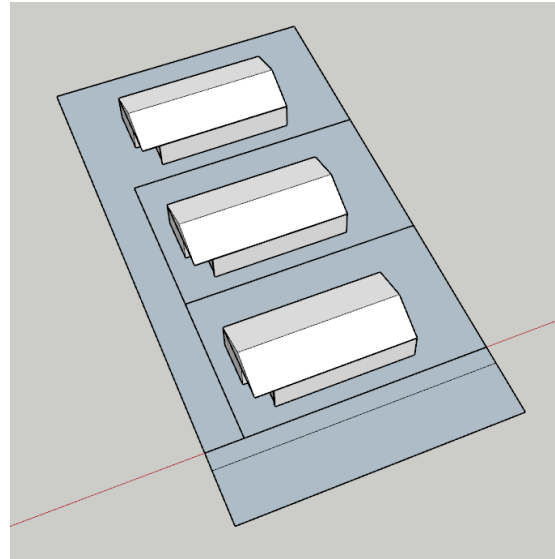


Figure 3: Subdivision of two amalgamated 15m x 50m sites with minimum area dimensions of 15m x 15m

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
SUB-R3 MINIMUM LOT SIZE (GREATER OR EQUAL TO 300M²)	Minimum area dimensions of 12m x 12m	1. Within the Residential 1A Zone: a. Allotments of equal to or greater than 300m² where; i. <u>Every allotment must be capable of containing an area with minimum dimensions of 12m x 12m</u>	Issue: There is potential that the subdivision of sites within the Residential 1A Zone results in allotments which are too small or narrow to reasonably accommodate detached dwellings with external spaces and / or could preclude good urban design outcomes when developed. Rationale: GIS analysis indicated that 20m is the predominant site width within the Residential 1A Zone. However, there are also numerous sites with widths between 15-17m (Figure 4). On a representative site, created through the amalgamation of two 50 x 20m parcels, 12m x 12m minimum area dimensions would enable the creation of six allotments, each with an area greater than 300m², including space for a common accessway (Figure 5). Whilst not required, garages are common in the Invercargill market and could also be provided within these compact detached housing typologies. Three of those allotments could be arranged along the street frontage, which would be a positive urban design outcome. On a representative site, created through the amalgamation of two 50 x 15m parcels, 12m x 12m minimum area dimensions would enable the creation of four allotments including space for a common accessway. Two of those allotments could be arranged along the street frontage (Figure 6).

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
			This level of development is anticipated within the Residential 1A Zone and 12 x 12m minimum area dimensions would enable orientation of dwellings to achieve a positive interface with the street. The UDG will advise on best-practice subdivision layouts within a lot, with emphasis on providing an engaging street frontage, to assist with meeting discretionary matters for a restricted discretionary consent.

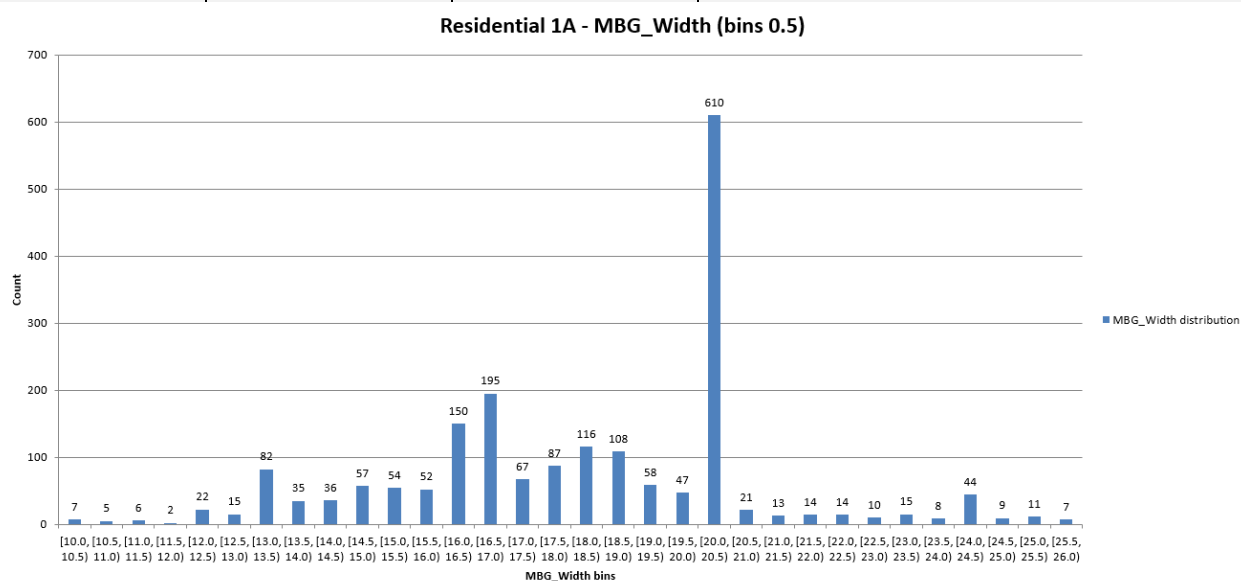


Figure 4: Distribution of parcel widths in the Residential 1A Zone.

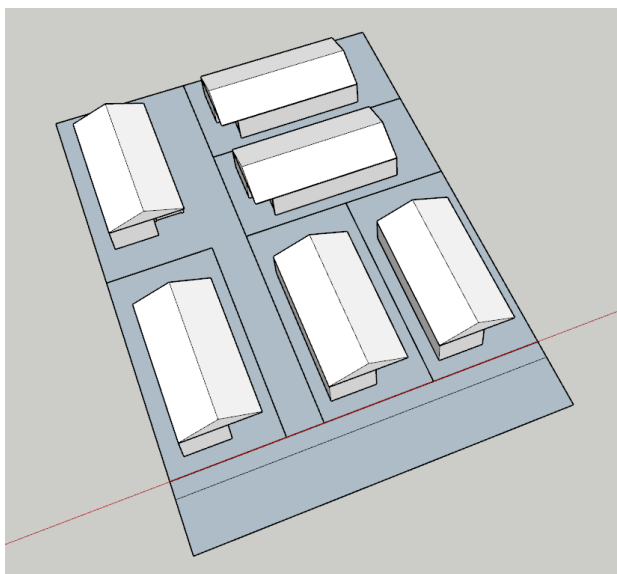


Figure 5: Subdivision of two amalgamated 20 x 50m sites with minimum shape factor dimensions of 12 x 12m

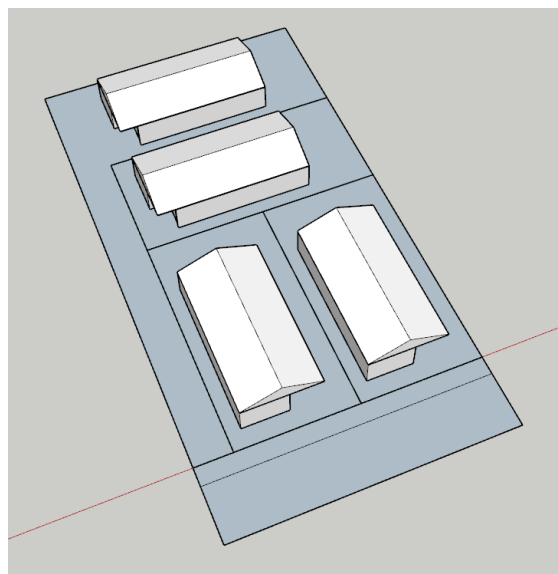


Figure 6: Subdivision of two amalgamated 15 x 50m sites with minimum shape factor dimensions of 12 x 12m

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
RES1AZ-R2 - RES1AZ-R6	* Existing rule requiring site size of 2000m² for MDR * Alternative density rules and number of residences rules as recommended.	<u>Res1AZ-R2 The maximum residential density is one residence per 300m² under contiguous ownership.</u> <u>Res1AZ-R3 Where the residential density is one residence per 200m² to 299m², under contiguous ownership, then it is a restricted discretionary activity.</u> <u>Res1AZ-R4 Where the residential density is one residence per 199m² or less, under contiguous ownership, then it is a discretionary activity.</u> <u>Res1AZ-R5 The maximum number of permitted residences per site is 3.</u> <u>Res1AZ-R6 4 or more residences per site is a restricted discretionary activity.</u>	Issue: A minimum site size of 2000m² for medium density residential overly restricts the majority of individual lots in existing residential neighbourhood being infilled and regenerated. Currently lower density developments are typically derived by rule-based standards where environmental effects on residents, neighbours or the wider community from one or two houses on larger suburban sites have less impact or can be readily managed. While this option remains available in the Residential 1A Zone, an alternative or complementary pathway is needed for applicants seeking consent for more complex medium density developments where Council can review its amenity and functional outcomes using a more qualitative assessment-based process. Rationale: While comprehensively developed medium density residential on lots over 2000m² can result in efficient use of urban land and facilitate good urban design outcomes, the aggregation of multiple lots can be difficult to achieve and is less enabling for infill development. Medium density development on smaller lot sizes in other cities is commonplace. However, the progressive change in activity status recognises that an increase in residential density on smaller sites is likely to result in more complex urban design issues arising. As such, urban design assessment is more likely to be needed to mediate between competing or conflicting design responses where compromises may have to be made between amenity and functional issues to achieve an optimal balance of development outcomes overall. This provides a more flexible approach on a case-by-case basis, where a combination of design responses and the qualities of the site and context can be better considered. This approach needs 'trigger' rules at an appropriate level of density to change the application into a restricted discretionary or discretionary status that allows the Council to assess the qualitative aspects of urban development, which may be difficult to achieve through a simple quantitative, rule-based approach. Lower and upper triggers for both site density and unit numbers are required as medium density residential development sits between low and high densities on the housing continuum. The trigger standards are based on the literature review carried out by ICC and are

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
			relative to existing low density zones, enabling a clear distinction in built form between Residential 1 and 1A zones. While some medium density developments would be expected to be developed below a residential density of 200m ² for greenfield sites, this is an appropriate trigger relative to infill of existing urban areas of Invercargill. SUB-R3 testing (above) indicates that representative lots in Invercargill can accommodate three detached houses as part of multi-unit developments and beyond this semi-detached, terraces and apartment medium density typologies are more likely.
RES1AZ-R7 NUMBER OF RESIDENCES PER SITE	N/A	<u>For applications under RES1AZ-R3 and R6 the following are the matters over which the Council shall restrict its discretion... the following matters, will be among those taken into account by the Council:</u> 1. <u>The extent to which the application achieves good urban design outcomes, including in relation to:</u> a) <u>Neighbourhood context</u> b) <u>Site layout</u> c) <u>Building design</u> d) <u>Entries to buildings</u> e) <u>Visual and acoustic privacy</u> f) <u>Outdoor living space</u> g) <u>Access and parking</u> h) <u>Landscape treatment</u> i) <u>Site facilities</u>	Issue: As noted under RES-O1 and RES1Z-P3 above, this rule is the primary pathway for providing multiple dwellings on one site to achieve the medium density enabled by the zone, but the greater intensity and complexity of these typologies have a higher risk of poor-quality outcomes without the opportunity for qualitative assessment. Rationale: <i>The extent to which the development achieves good urban design outcomes</i> is best shifted into its own matter of discretion, as it provides the over-arching outcome being sought. The lettered design themes at a) – i) provides a range of design themes that should all be considered for residential developments to achieve good urban design outcomes. These correspond directly to the chapter titles of the UDG, providing a clear links to how 'good urban design outcomes' are achieved, without making the residential design guide a statutory document.
RES1AZ-R8 OUTDOOR LIVING	• Minimum depth: 3m • Minimum area: 20m²	<u>Residences at or near ground level: A designated area of outdoor living space is to be provided as follows:</u>	Issue: Typically ground level dwellings provide for larger households in a development and even small private outdoor living spaces still need to meet day-to-day functions of providing outdoor furniture, landscape screening and utility

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
	• Allowing for conservatories	1. <u>Has no dimension less than: 3m</u> <u>Minimum area of a single contiguous space: 20m²</u> 2. <u>The space shall be directly accessible from a habitable room</u> 3. <u>The space shall be free of all parking spaces, servicing areas, manoeuvring areas, and buildings, except for accessory buildings of no more than 3m² or conservatories, where the total combined area of accessory buildings and conservatories is no more than 8m² and the space free of buildings has no dimension less than 3m.</u>	services (e.g. washing lines, storage sheds etc.) within these spaces. Rationale: A minimum dimension of 3m, and area of 20m² is in line with zones enabling a similar level of density, providing enough space to allow for passive recreation, function and amenity. There are mixed approaches to how this space is allocated, and ensuring the 20m² is contiguous better allows for the functional space and amenity sought by the objectives and policies. This also helps manage the inclusion of conservatories. Invercargill is unique from other Plans in that it allows for 'conservatories' in private outdoor living spaces. Conservatories provide indoor spaces that substitute some benefits typically provided by private outdoor space but is usable in colder or inclement weather often experienced in Invercargill. The Plan Change allows for smaller private outdoor spaces than current provisions, and it is important that conservatories, where used, do not occupy all private outdoor space and diminish other functions and amenity. The proposed Plan Change edits ensure provision of conservatories are appropriately scaled. The rule also allows accessory buildings (e.g. utility sheds), which may be desirable for the storage of larger equipment (e.g. bikes, scooters and prams) where garages are not provided. Providing a maximum stand alone and combined area for conservatories and accessory buildings, whilst maintaining the minimum dimension, will ensure they are provided at an appropriate scale relative to the size of the private outdoor living space. The UDG provides supplementary advice on the design and location of conservatories.
RES1AZ-R9 BALCONIES	• No balcony • Minimum area 8m² • Minimum horizontal dimension 1.8m	<u>Residences located one or more stories above the ground floor: A balcony is to be provided as follows:</u> 1. <u>Minimum area of a single contiguous space: 8m²</u>	Issue: Medium density development allows for walk-up or apartment housing typologies which do not have access to private outdoor living space on the ground floor. Balconies provide some private outdoor space, which need to be appropriately sized and placed in lieu of ground floor private outdoor access. Rationale: Balconies are required, given the important benefits of outdoor living space for residents (identified above) that can be directly accessed from an upper-level

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
		<u>2. Minimum horizontal dimension: 1.8m</u> <u>3. The balcony shall be directly accessible from a habitable room</u>	dwelling. This can be supplemented by communal outdoor living space, but some allowance for private, secure space that can be personalised supports resident's wellbeing. Furthermore, they contribute to good urban design functional and amenity outcomes, including articulating facades, mitigating overlooking and managing solar gain. A minimum dimension of 1.8m, and area of 8m² is in line with zones enabling a similar level of density, providing enough space to allow for furniture function and amenity. 1.8m is typically needed to accommodate a table and 2 chairs for a small apartment. There are mixed approaches to how this space is allocated, and ensuring the 8m² is contiguous better allows for the functional space (e.g. furniture arrangements) and amenity (e.g. pot plants) sought by the objectives and policies. The additional requirement for the balcony to be 'directly accessible from a habitable room', contributes to the functional indoor / outdoor flow with the interior layout (e.g. living rooms) and will provide other benefits, such as passive surveillance. Privacy impacts other design considerations are advised through the UDG.
RES1AZ-R10 AND R11	N/A	<u>R10 - Where an activity does not comply with RES1AZ-R8 and/or RES1AZ-R9 above, the activity is a discretionary activity.</u> <u>RES1AZ-R11 - Applications under RES1AZ-R10 above shall address the following matters, which will be among those taken into account by the Council:</u> <u>1. The extent to which practicable outdoor living is achieved</u> <u>2. Access to acceptable levels of daylight and sunlight</u> <u>3. The extent to which a designated</u>	Issue: This rule is a pathway for providing dwellings that infringe the private outdoor space standards set by the zone, but does not indicate that there are appropriate alternative design approaches that could be used to achieve the same overall quantum of outdoor living space. Rationale: An additional provision for communal outdoor living space acknowledges that purposeful use of the site to provide communal outdoor space can provide more efficient and higher amenity outcomes than a multiple smaller private outdoor living spaces. This includes supplementing the use of upper storey balconies for apartments. The UDG outlines guidance on incorporating social facilitation, universal access, location and other considerations which contribute to a successful communal outdoor living area.

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
		<u>outdoor living space not meeting RES1AZ-R8 and/or RES1AZ-R9 is mitigated by communal outdoor living space</u> <u>4. The extent to which the development achieves good urban design outcomes</u>	
RES1AZ-R12 SPACE AROUND BUILDINGS	• Retain or increase front yard setback of 2m. • Retain or remove side yard 1.5m.	<u>1. A yard at least 2 metres deep shall be provided along the front (road) boundary of the site</u> <u>2. A yard of at least 1.5 metre deep shall be provided along all other boundaries of the site.</u>	Issue: The Plan process to date included a suggestion by Council planners to increase front yard setback deeper than 2m for reasons of character and shading causing frost on the roads in winter. Rationale: Deep front yard setbacks can be an inefficient use of land, and frost issues can be operationally managed by other means when required. Locating buildings closer to the street has the added benefits of creating a more defined and activated street environment, which is sought by the UDG, while retaining a reasonable public / private space transition zone or 'buffer' to the dwelling (i.e. arm's length). This also provides sufficient depth for front porches, landscape amenity and bin stores. Side yards proposed work in combination with the other bulk and location standards tested (i.e. height and recession planes) to manage visual dominance, shading and privacy relationships with existing neighbours. These are more important to provide a buffer for infill housing where the zone is likely to be in transition over an extended period.
RES1AZ-R16	• 40% • 45% • 50%	<u>Maximum coverage of all buildings on the site shall not exceed 45% of net site area</u>	Issue: Building coverage manages open space to building ratio on the site and must be able to balance providing the level of density sought alongside maintaining as sense of openness and stormwater management. Rationale: Enlarging the building coverage to 45% provides more flexibility for compact single storey houses, generous floor areas within two storey houses or more comprehensive development typologies, such as three storey apartments with a common access core. 45% represents a modest addition to the built form enabled through existing rules and will contribute to providing a distinct change in built form

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
			sought by the Residential 1A Zone, while retaining a level of openness attributed to the existing characteristics of the zone. 50% site coverage is more commensurate with Tier 1 metropolitan urban areas such as Wellington and Auckland, which seek a more intensive built form than that being sought for the Residential 1A Zone. 45% will be sufficiently enabling of the outcomes sought, with a discretionary consenting pathway enabled for 50% coverage, which is supported by guidance in the UDG in terms of visual bulk and location and other non-Urban Design impacts (i.e. Stormwater infrastructure).
RES1A-R20 1 HEIGHT	• 10 metres • 11 metres • 1m exceedance for 50% of roof sloped at 15 degrees or more	<u>1. Maximum height: 11 metres, except:</u> <u>a. That 50% of a building's roof in elevation, measured vertically from the junction between the wall and the roof, may exceed this height by 1m, where the entire roof slopes 15 degrees or more.</u>	Issue: The existing maximum building height of 10m enables 3-storey buildings with flat or low angle roof forms and / or potentially compromises internal stud heights within dwellings. Furthermore, sub-optimal building heights could disincentivise three storey developments that cannot add value over lower rise alternatives. Rationale: An 11m maximum building height would enable 3-storey buildings with spacious internal amenity and gable roof forms in most circumstances with minimal additional overshadowing, overlooking, or visual dominance effects. This enables a greater variety of roof forms, which would contribute to a more visually interesting streetscape, reducing likelihood of monolithic development types. A 1m exceedance allowance for 50% of the roof with a slope of 15 degrees or more would enable that gable roof forms for 3-storey buildings more broadly across the Residential 1A Zone.
RES1AZ-R20 2 RECESSION PLANE	• 3m side boundary height + 60° northern boundary, 45° east & west boundaries, 35° southern boundary • 3.5m side boundary height + 60° northern boundary, 45° east & west boundaries, 35° southern boundary 4m	<u>4m side boundary height + 60° northern, east & west boundaries, 45° southern boundary</u>	Issue: A key good urban design outcome is to utilise built form to define and activate public streets. The existing recession plane angles of 60° on the northern boundary, 45° on the eastern and western boundaries, and 35° on the southern boundary with a 3m recession plane origin height only enables two, 2-storey semi-detached dwellings to front the street on a typical 20m wide site. However, it does not permit two 3-storey semi-detached dwellings to front the street (Figure 7) or two 2-storey semi-detached dwellings (to Figure 8) on a narrower 15m wide site. This typically results in 'sausage block' buildings that run perpendicular to the street and face towards neighbours, often resulting in more privacy conflicts. Nonetheless, there is potential for additional shading, privacy and

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
	side boundary height + 60° northern boundary, 45° east & west boundaries, 35° southern boundary • 4m side boundary height + 60° northern, east & west boundaries, 45° southern boundary • 4m side boundary height + 60° northern, east, west & southern boundaries		visual dominance effects on neighbours with taller side boundary heights and steeper recession planes. Rationale: Increasing the height of the recession plane origin point to 4m is insufficient to achieve two 3-storey semi-detached dwellings fronting the street (Figure 9), or two 2-storey semi-detached dwellings on a narrower site (Figure 10). However, altering the recession plane angles to 60° better enables this outcome for typical site sizes in Invercargill (Figures 11 and 12). Modelling showed that the 3.5m side boundary height did not offer an envelope that would provide a distinctively different urban form outcome that the Residential 1A Zone seeks to achieve. As such, the national MDRS envelope provisions are preferred that have been justified at a national level, including consideration of shading, privacy and visual dominance effects. This approach aligns with general metropolitan areas nationally, while being more restrictive than Tier 1 urban environments that similarly edge commercial zones and transit routes. Moreover, to reflect the geographic location of Invercargill and the predominant north/south site orientation, a 45° recession plane on the southern boundary helps to balance additional shading on neighbouring properties with street activation. A more restrictive recession plane at the rear of sites can also complement the positioning of car parking deeper within the development. On sites oriented east/west, a 45° recession plane on the southern boundary still enables two semi-detached units fronting the street, with the one on the northern side being 3-storeys and the one on the southern side being 2-storeys (Figure 13). GIS analysis indicates that 36% of parcels within the Residential 1A Zone are oriented east/west (Figure 14). Overall, this recommended approach will enable typologies that provide an active and interesting street-front and better utilise the internal site and the street for outlook and amenity. The UDG will advise on managing privacy and shading outcomes.

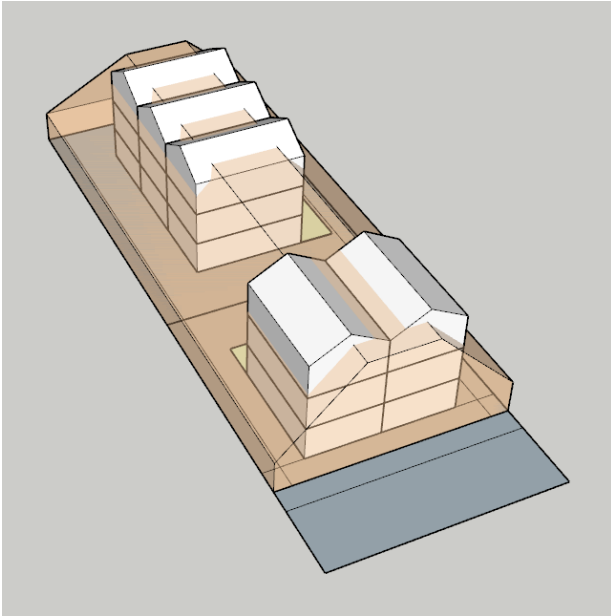


Figure 7: 3-storey dwellings on a 20 x 50m site with 3m side boundary height, 60° northern boundary, 45° eastern and western boundaries, 30° southern boundary, and 10m building height limit

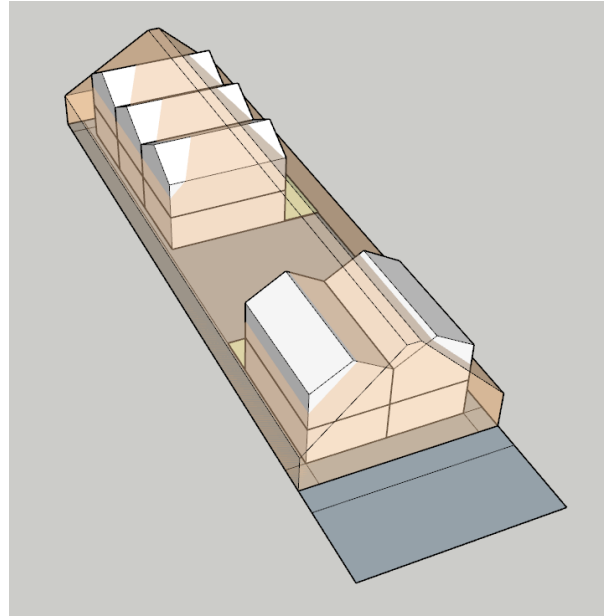


Figure 8: 2-storey dwellings on a 15 x 50m site with 3m side boundary height, 60° northern boundary, 45° eastern and western boundaries, 30° southern boundary, and 10m building height limit

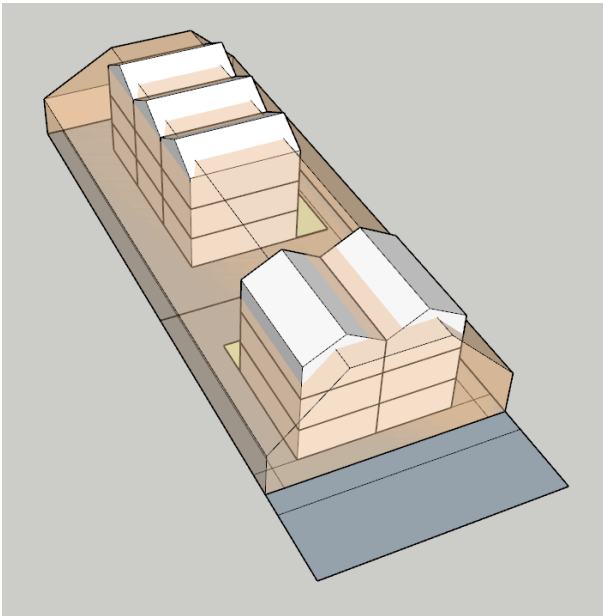


Figure 9: 3-storey dwellings on a 20 x 50m site with 4m side boundary height, 60° northern boundary, 45° eastern and western boundaries, 30° southern boundary, and 10m building height limit

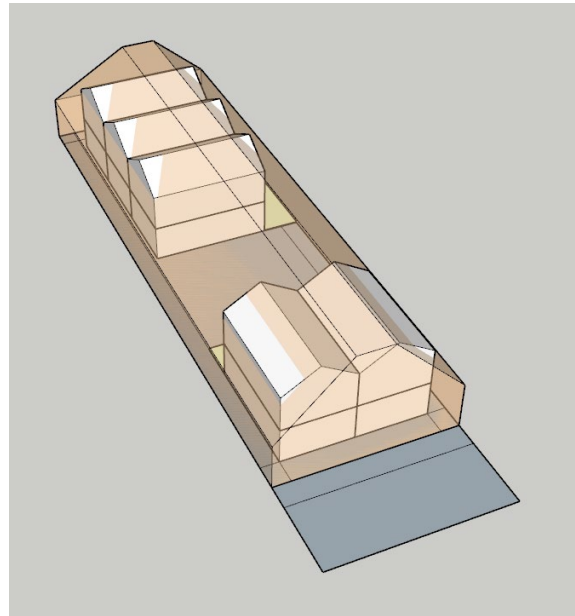


Figure 10: 2-storey dwellings on a 15 x 50m site with 4m side boundary height, 60° northern boundary, 45° eastern and western boundaries, 30° southern boundary, and 10m building height limit

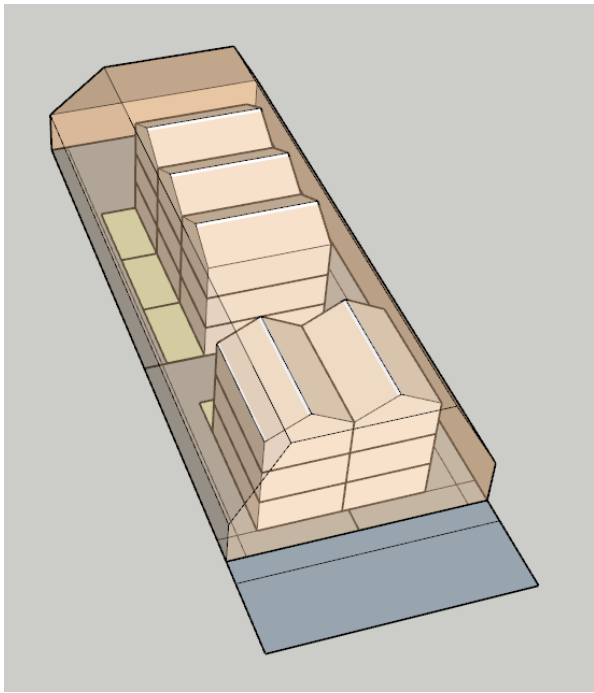


Figure 11: 3-storey dwellings on a 20 x 50m site with 4m side boundary height, 60° northern, eastern and western boundaries, 45° southern boundary, and 11m building height limit

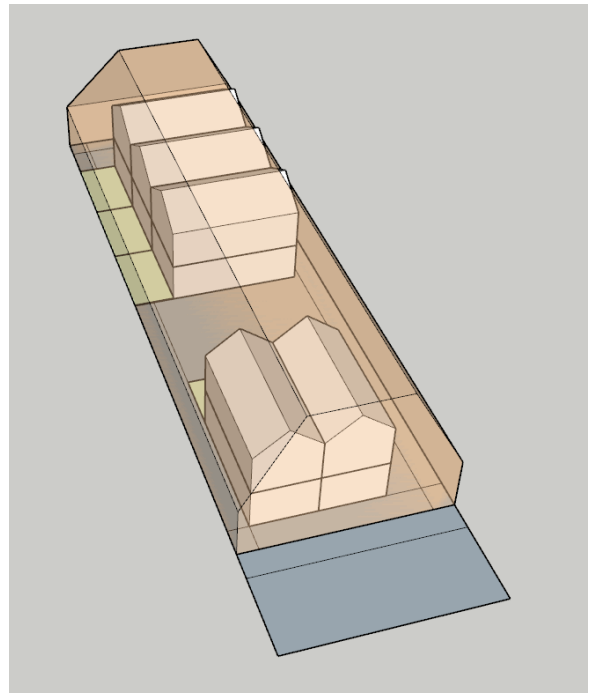


Figure 12: 2-storey dwellings on a 15 x 50m site with 4m side boundary height, 60° northern, eastern and western boundaries, 45° southern boundary, and 11m building height limit

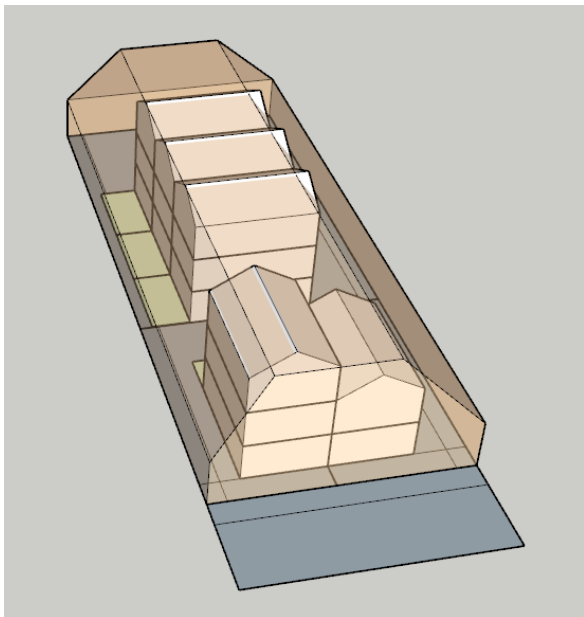


Figure 13: 3 and 2-storey dwellings on a 20 x 50m east/west site with 4m side boundary height, 60° northern, eastern and western boundaries, 45° southern boundary, and 11m building height limit

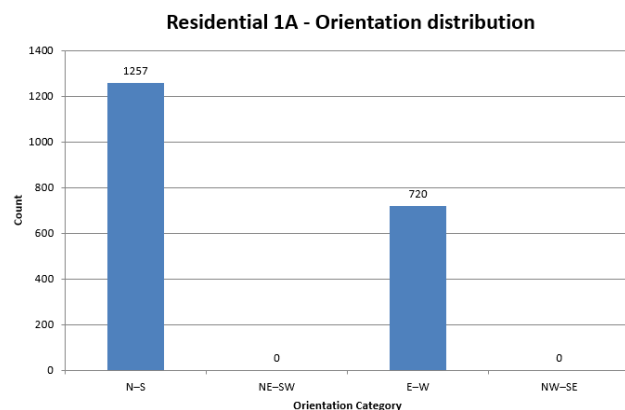


Figure 14: Orientation of parcels within the Residential 1A Zone. 36% of parcels are orientated east/west.

RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
RES1AZ – R25 OUTLOOK	• 4m x 4m outlook • 1m x 1m outlook • No outlook (across principal living area, primary bedroom and other habitable rooms)	All habitable rooms shall have <u>minimum outlook space of at least:</u> <u>1. 4m in depth and 4m in width, for principal living rooms</u> <u>2. 1m in depth and 1m in width, for other habitable rooms</u>	Issue: Lack of outlook spaces in more intensive medium density developments can result in poor visual connection with the outside, a claustrophobic feel or lack of natural light into more regularly used habitable rooms. Rationale: As well as providing a sense of openness, outlook provisions can influence building placement and configuration of windows to orientate views within the site or towards the street improve resident's amenity and the relationship with neighbouring residential properties. Maintaining the 4x4 outlook for the main principal living area only is in line with MDRS and similar plans. The wording has been refined to clarify it only applies to one living area. This rule does not specify outlook to be co-located with private outdoor living space to allow for some flexibility. However, dimensions of outdoor living space rule will make this the most likely outcome, and the UDG will encourage this.
RES1AZ – R28 GLAZING	• 0%, 20%, 25%, 33% and 50% street-facing glazing	<u>Street facing units must have a minimum of 20% of the street-facing façade in glazing. This can be in the form of windows or doors.</u>	Issue: Developments with an 'active' frontage positively engage with the street, contributing to a visually interesting, vibrant and safe neighbourhood. A minimum level of glazing ensures this is provided. Rationale: Simple modelling has been undertaken to understand the percentage of transparent glazing that would be considered reasonable within front façades of buildings to address streets and other public open spaces (Figure 15). The results of the modelling demonstrate that 20 percent or a fifth of the façade achieves a good balance between providing sufficient glazing to enable views out of buildings from multiple points on the façade and provide a sense of activation, while not overly constraining design flexibility.



RULE	RULES TESTED / CONSIDERED	RECOMMENDED RULE	ISSUE / RATIONALE
RES1AZ – R30 AND R31 FENCING	• 50% visually permeable to a maximum height of 1.8m Or • Maximum height of 1.2m where fence is less than 50% visually permeable and 1.8m where the fence is more than 50% visually permeable	<u>The maximum height of a fence along a road boundary must be:</u> <u>1. 1.2m where the fence is less than 50% visually permeable</u> <u>2. 1.8m where the fence is more than 50% visually permeable</u> <u>For all other fences the maximum height shall be 1.8 metres, except:</u> <u>1. Along a public open space boundary, and</u> <u>2. Along an internal pedestrian or vehicle accessway</u> <u>Where any fencing above 1.2m should be 50% visually permeable to maximum 1.8m</u>	Issue: 64% of sites are orientated N/S which could result in half of these developments wanting to place private outdoor living space fronting the street for solar orientation. This results in potential conflicts between the need for some privacy while also achieving best practice crime prevention by maintaining passive surveillance over the street. Rationale: An option of maximum 1.2m solid fencing and then some provision of visual permeability between 1.2m and 1.8m provides a compromise between privacy and overlooking of the street for instances where a private outdoor living space is more optimally located in the street-facing side of the development. The UDG will provide guidance on where this outcome is more appropriate and ways of designing good fence treatments. Wording of the rule was refined to include public open space and internal pedestrian and vehicle accessways. This provides opportunity to increase passive surveillance over public spaces, as well as ensures internal driveways and pedestrian accessways are treated similar to street frontages.
BUILDING LENGTH	• Inclusion of a building length rule (maximum length 24m) • No maximum building length rule	No rule recommended	Issue: Long buildings can be visually dominant and lead to monotonous building design. Rationale: Experience indicates that providing a maximum length can be interpreted as a target and also does not address the issue of building steps or separation distances when this length is reached. Also, a limit on building length may discourage terraced housing typologies or apartment buildings that may be more appropriate in a zone that seeks to enable medium density. Managing the perceived impact of the excessive bulk and massing of a building is better managed in a more responsive way through more regular modulation and articulation than a prescriptive building length (Figure 16). A building exceeding 24m would likely trigger restricted discretionary consent due to the number of dwellings, requiring assessment of the building design as a matter of discretion. The Residential Design Guide will provide clear direction on using modulation and articulation to manage the perceived visual bulk of longer buildings.

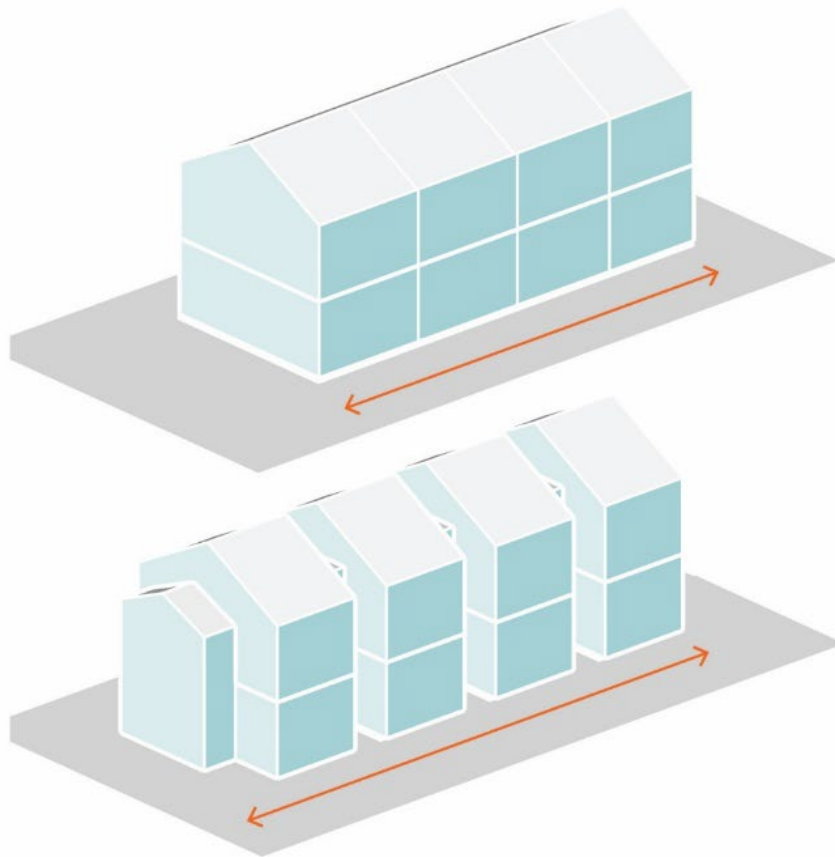


Figure 16: A 22m long building (top) compared with a 26m long building (bottom) showing that building length is best mitigated through modulation and articulation methods.