

Plan Change 50
Rural & Residential Review

Urban Design Guide
Medium Density Housing & CRDs
Aug 2020

DRAFT FOR DISCUSSION ONLY

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1 | PURPOSE

The purpose of this guide is to provide urban design guidance to inform the design of new comprehensive and/or medium density residential development that is of a high quality and responds to the Upper Hutt context. Such development includes townhouses as well as terraced and multi-unit housing.

Who is it for?

The guide applies to anyone involved in the design and development of comprehensive and medium density residential buildings, including architects, designers, developers and property owners. It will also be used by Upper Hutt City Council staff to assess medium density and comprehensive residential development proposals in the city to ensure that they are responsive to the local context and result in buildings and associated spaces that are liveable and attractive.

Why?

With a heightened emphasis on higher density living to meet the city's future growth needs, ensuring that good quality design outcomes are also delivered becomes increasingly important. As Upper Hutt continues to change and adapt to cater for these needs it is critical that the potential visual, privacy and/or amenity impacts of larger scale development is properly managed, particularly on sites or in neighbourhoods that are spatially constrained.

Where does it apply?

To provide lifestyle choice the Upper Hutt District Plan includes provisions that enable more intensive development in many of the city's residential areas. The design guidance that follows applies to areas that have been identified as being suitable for medium density and comprehensive development in the plan.

UHCC
DISTRICT
PLAN

BEST
PRACTICE

DESIGN
GUIDELINES

2 | DESIGN GUIDE STRUCTURE

The guide does not prescribe development requirements but instead supports and complements the design outcomes sought for residential development in the Upper Hutt District Plan (e.g. appearance, height effects, amenity). It explains the key characteristics of medium density and comprehensive residential development and offers practical advice to guide such development using best practice principles and relevant examples.

Key design considerations are divided into fourteen contributory elements split across three themes as follows:

- » **Site Layout** covers the design elements that are related to effects of development at a site scale.
- » **Built Form & Character** covers elements related to the appropriateness of the building design.
- » **Sustainability and amenity** cover the elements that contribute to living comfort and environment

Photographic examples and indicative diagrammatic interpretations are provided showing how these considerations can be met.

The guidelines apply to any area that is defined as suitable for medium density and comprehensive residential development in the Upper Hutt District Plan. As the guidelines are based on a relatively universal set of urban design principles, most are applicable to residential development at a variety of scales.

6 | DESIGN ELEMENTS

6.1 SITE LAYOUT

Setback & frontage

The configuration of a development on a site and its relation to adjoining public space is an important consideration to ensure good amenity and reduce overshadowing and privacy concerns to adjoining lots. The set back and frontage of a building contribute to a socially active and safe environment. The front yard provides additional amenity to residents and adds value to the house.

1. Indoor living areas should be located in the front of the building at ground level, facing the street or communal space. Solid, blank walls should be avoided on public facing sides. (Note: living area includes any active space like lounge, family dining or kitchen)
2. Public, semi-public and private spaces should be clearly defined. The front yard should act as a buffer between public and private space, rather than as amenity or outdoor living space for the residents, to ensure that public and communal open spaces are well overlooked. Private spaces, that generally contain taller solid fencing or vegetation, should be located in the rear.
3. Building fronts should provide direct access from the street, with the house number and letterbox clearly visible from the street.

Access & car parking

The location, type and design of pedestrian and vehicle access points have significant impact on streetscape, site layout and building façade design. The circulation networks should be safe and legible and provide comfort for pedestrians and cyclists.

4. On street parking should be provided wherever practical as it contributes to activity and interaction within the street. It reduces the number of driveways

Diagram 1 - FRONTAGE AND BUILDING ORIENTATION

Photo 1 - WALLACEVILLE ESTATE

7 | UPPER HUTT RESIDENTIAL DESIGN GUIDE

Reference to associated design principles

Context and purpose of this design element

Explanatory diagrams

Captions highlighting guidelines in practice

Guidelines

Example photos

FRONTAGE AND BUILDING ORIENTATION

3 | CHARACTER

'CHARACTER' IS DEFINED AS:

'common, consistent natural and physical features and characteristics that collectively combine to establish the local distinctiveness and identity of an area, and that contribute towards the general sense of character and amenity experienced.'

FROM: UPPER HUTT RESIDENTIAL CHARACTER ASSESSMENT

Successful higher density residential development is largely a product of recognising and working with the different elements that contribute to the character of the neighbourhood or area in which it is located. A good understanding of key local building patterns helps inform new development that:

- » respects rather than replicates existing character; and
- » fits more comfortably within the existing context of an area.

A character assessment of Upper Hutt's residential areas was undertaken in 2019, with this providing a richer understanding of the urban character of the city and the appropriateness of existing residential areas to absorb future change.

The historical development of Upper Hutt has resulted in residential areas that are typically characterised by a mix of building types and forms, as well as a wide range building ages and material design.

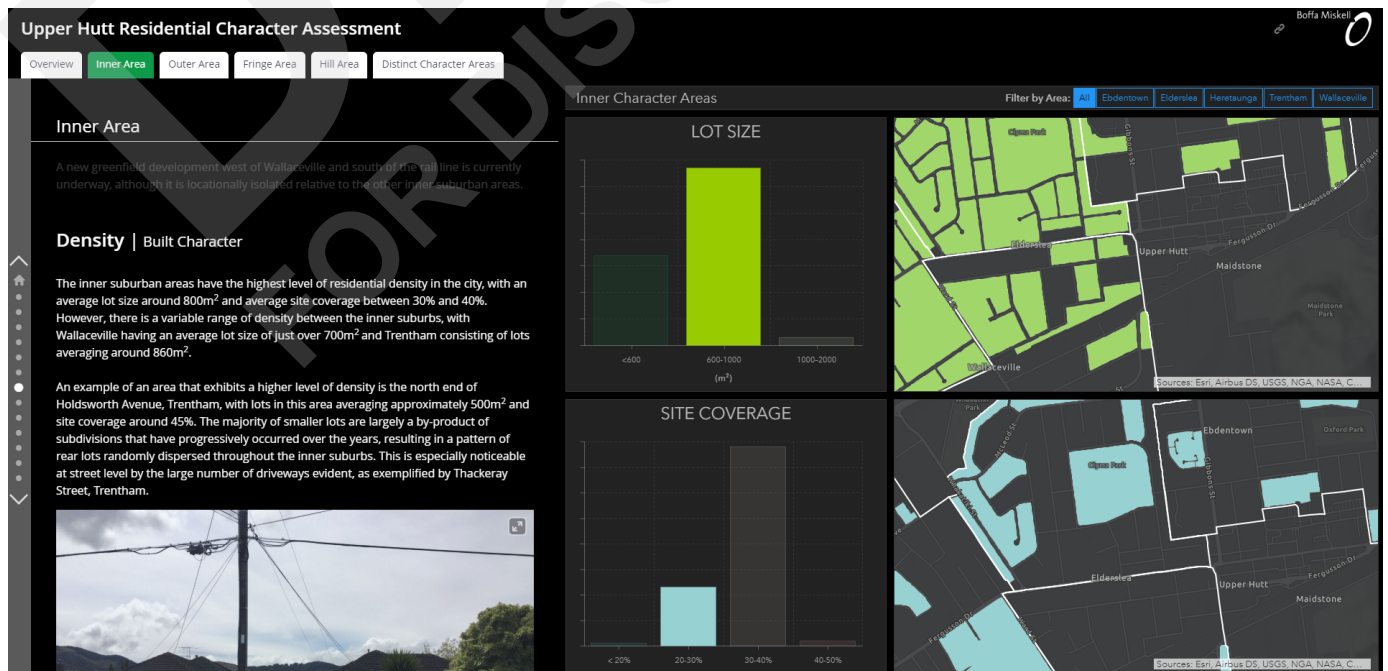
Taking into account evident patterns such as topography and development character, the residential areas of Upper Hutt were, for the purposes of the residential character assessment, divided into the following groups:

- » Inner character (Heretaunga, Trentham, Elderslea, Wallaceville and Ebdentown)
- » Outer character (Silverstream, Clouston Park, Maoribank, Totara Park, Brown Owl, Timberlea and Birchville)
- » Fringe character (Te Marua and Pinehaven)
- » Hill character (Riverstone Terraces and Kingsley Heights)

Within these areas medium density and comprehensive residential development is generally considered appropriate close to retail centres or locations with good access to major roads or public transport routes.

The full Upper Hutt Residential Character Assessment can be found on the UHCC website:

<https://arcg.is/DT4WX>



UPPER HUTT RESIDENTIAL CHARACTER ASSESSMENT

4 | TYPOLOGIES



Single dwelling

Single dwellings on either a conventional or infill site - this is the predominant residential development type in the city. They can also be a contributor to medium density development, providing diversity and increased housing choice.



Dual occupancy

Two dwellings that are fully or partly attached. They can be duplex dwellings that share a common wall or include a unit that occupies an upper storey. Units in dual occupancy generally have their own separate entry.



Multi dwelling housing

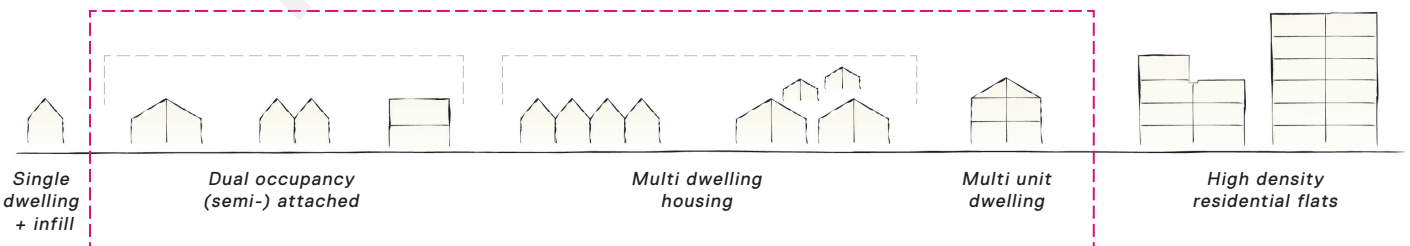
Three or more dwellings on a single site, each with separate access at ground level. They can either be fully attached (terraced) or a collection of semi-detached buildings. Dwelling frontages generally align with the adjacent public road or internal street.



Multi unit dwelling / apartment

A single building, with one or more entries, that contains three or more units up to a maximum of three storeys.

Medium density



5 | DESIGN PRINCIPLES

How we design our buildings and the relationship they have with the street and surrounding neighbourhood has a considerable bearing on the way we live, work and meet. The following design principles have been developed to encourage high quality design that contributes to the existing and future character of Upper Hutt and provides an attractive and comfortable living environment for users, residents and visitors.

R

RESPOND TO LOCAL CONTEXT

- » Contribute positively to the natural and built environment of the area in line with local Upper Hutt values
- » Integrate with the existing and desired future character of the streetscape and neighbourhood
- » Result in density that is appropriate for the area and is supported by infrastructure, public transport and the environment

A

APPLY APPROPRIATE BUILT FORM & DESIGN

- » Achieve a scale, bulk and height appropriate for the existing and desired future character of the street and surrounding buildings
- » Provide a suitable balance of the design with a good composition of elements, internal layout, building materials and colours
- » Allow for natural surveillance of the public domain while providing for visual privacy to the residents

P

PROVIDE AMENITY

- » Contribute to positive living environments and residents wellbeing
- » Combine an appropriate orientation with access to sunlight, outlook, attractive indoor and outdoor spaces
- » Establish a well-designed green space that positively contributes to the (social) living experience and surrounding landscape character
- » Provide good accessibility for all age groups and degrees of mobility

F

FOSTER DIVERSITY & SOCIAL INTERACTION

- » Provide housing choices for different cultural groups, ages and stages, lifestyles and household budgets
- » Respond to the social context by encouraging a range of dwelling sizes to suit the existing and future social mix
- » Provide opportunities for social interactions through communal open space and provide an attractive and social interface with the street

E

ENCOURAGE SUSTAINABILITY BY PASSIVE DESIGN

- » Improve the liveability for residents by providing natural ventilation and sufficient sunlight access
- » Reduce energy usage and cost by carefully considering building location, orientation and design
- » Allow landscape elements to enhance the environmental performance of the site, contributing to an integrated and sustainable network

DESIGN PRINCIPLES	RESPOND TO LOCAL CONTEXT	APPLY APPROPRIATE BUILT FORM & DESIGN	PROVIDE AMENITY	FOSTER DIVERSITY & SOCIAL INTERACTION	ENCOURAGE SUSTAINABILITY BY PASSIVE DESIGN
	R	A	P	F	E

SITE LAYOUT

Setback & frontage	■	■		■	■
Access & car parking		■		■	
Outdoor living & (communal) open space			■	■	
Stormwater management					■
Storage, waste & service areas			■		■

BUILT FORM & CHARACTER

Building mass, height & recession plane	■	■			■
Building entrances & balconies		■		■	
Garages	■	■			
Building design & materials		■	■	■	
Building diversity	■	■		■	

AMENITY & SUSTAINABILITY

Landscape treatment			■	■	■
Sunlight access		■	■		■
Energy efficiency			■		■
Privacy & safety		■	■		

6.1 SITE LAYOUT

R A F E

Setback & frontage

The configuration of a development on a site and its relation to adjoining public space is an important consideration to ensure good amenity and reduce overshadowing and privacy effects on adjoining lots. Having a defined front and back, as well as a clear delineation between public, semi-public and private spaces contributes to the legibility of the site and street.

The setback and frontage of a building also contribute to a socially active and safe environment, while the front yard provides additional amenity for residents and a setting for the house.

1. Dwellings should be orientated with the front of the dwelling facing the street or public space.
2. The main entry should be accessed directly from the street, with the property address and letterbox clearly visible at street level.
3. Where possible, dwellings should be configured so that there are habitable spaces located at the front of the building, with an outlook from ground and upper storey windows or balconies enabling natural surveillance. Solid, blank walls on public facing façades should also be avoided.
4. Public, semi-public and private spaces should be clearly defined and front yards kept to a minimum. Yards not only provide amenity or outdoor living space for residents but act as a buffer between public and private space and provide a means of passive surveillance of public and communal open spaces. Private spaces generally contained by taller solid fencing or vegetation should be located to the rear or the side, depending on the site shape and orientation.

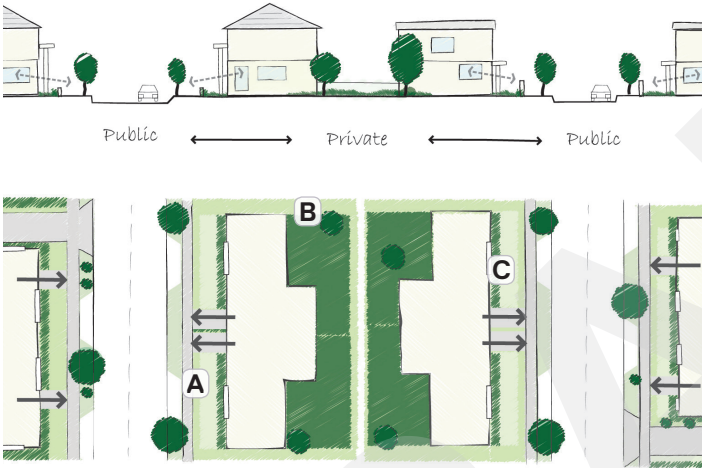


DIAGRAM 1 - FRONTAGE AND BUILDING ORIENTATION

- A** Dwellings should have a clear frontage that addresses the street/public space along with a clear area to the rear.
- B** A clear delineation between private and public space
- C** Front yard acts as a buffer between private and public space
- D** Access directly from the street with a visible house number and letter box



PHOTO 1 - AMBERLEY GARDENS (SILVERSTREAM, UPPER HUTT)



DIAGRAM 2 - PROVIDE ON STREET CAR PARKING WHERE POSSIBLE



DIAGRAM 3 - ON SITE CAR PARKING INTEGRATED INTO DESIGN

- A** On street car parking enables parking spaces to be re-used by different users
- B** Clear separation in surface treatment between driveways and pedestrian access
- C** Landscaping can be used to soften the outlook onto hard surfaces



PHOTO 2 - ON STREET PARKING ALONG INTERNAL STREET (MILLBROOK, OTAGO)

Access & car parking

The location, type and design of pedestrian and vehicle access points can have a significant bearing on the streetscape, site layout and building façade design. Considering alternative modes of transport and maximising opportunities for cyclists (e.g. bicycle parking) can also help ease pressure on car parking.

Circulation networks should be legible and provide a safe environment for pedestrians and cyclists.

5. On street parking should be provided wherever practical as it contributes to activity and interaction within the street. It also reduces the number of footpath crossings, increasing pedestrian safety, and enables available parking space to be flexibly used by a variety of users. Also, provision of off street parking between buildings and the street is discouraged as it reduces the dominance and presence of individual dwellings and the overall visual coherence of the streetscape.
6. Pedestrian access should be differentiated from vehicle access by using a variation in surface treatment or texture. Preferably, pedestrian and vehicle access should also be separated by a buffer such as vegetation or a raised surface.
7. Hard surface parking or large impermeable surface areas should be minimised to reduce visual dominance.
8. Multi-unit developments on larger or deeper sites should preferably be accessed from new streets and lanes, rather than long driveways. The frontage of dwellings along internal streets should be treated in a similar fashion to frontage onto a public street.
9. The design of internal streets, or rear lanes providing access to parking, should be safe for pedestrians and contribute to the amenity and attractiveness of the site. This can be achieved by incorporating landscape elements, bollards and variation in paving treatment into the design.

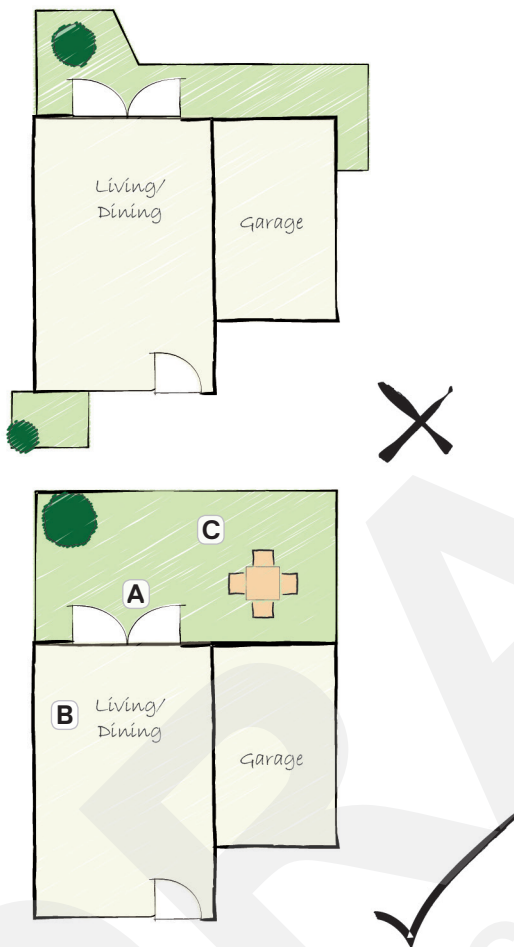


DIAGRAM 4 - ENSURE THAT OUTDOOR OPEN SPACES ARE USABLE AND HAVE AN APPROPRIATE SIZE

- A** Good access from indoor to outdoor, with integration of ramps into the design where necessary
- B** Where possible link indoor indoor habitable spaces with outdoor space
- C** Practical dimensions that allow for recreation or seating



PHOTO 3 - COMMUNAL OUTDOOR SPACE (KUPE STREET HOUSES, AUCKLAND)

Outdoor living & (communal) open space

Outdoor open space is an important consideration when designing for medium density and comprehensive residential developments. Higher densities often result in a reduction in the amount of outdoor space available to residents, influencing the sense of privacy and level of individual amenity experienced. Outdoor space allows residents to be able to enjoy a range of activities, express personal and creative identity around their property and, in the case of communal open space, provide for casual social interactions.

10. Where possible, provide good direct access from indoor living to private or communal outdoor spaces. Ramps and lifts, where required, should be integrated into the building and landscape design.
11. Outdoor living space should be considered early on in the design process so it forms an integral part of the development .
12. Linking outdoor space with primary habitable living spaces (such as lounge or dining area) through direct physical access (or outlook in the case of upper floor apartments) adds to internal amenity and sense of space and encourages the use of available outdoor areas.
13. Consider using decks, balconies or rooftop terraces as outdoor living space where access to ground floor private open space is not possible.
14. Outdoor spaces should offer privacy to users, and be orientated to maximise sunlight access that enables a comfortable outdoor environment to be enjoyed throughout the year.
15. Allow the outdoor space to be optimally used by carefully considering the dimensions and location of the space. Wide or square spaces (e.g. that allow for the placement of outdoor furniture) are more efficient than long and narrow spaces.



PHOTO 4 - COURTYARD AS OUTDOOR OPEN SPACE FOR APARTMENT UNITS (BEAUMONT QUARTER, AUCKLAND)

16. Include screening devices and strategic landscaping to increase privacy, limit outlook into adjacent private properties or prevent the space from being directly overlooked by neighbouring properties.
17. The size of any communal space should correspond to the number of residents it is intended to serve, be equally accessible to use by all units and encourage opportunities for social interactions between the users by incorporating seating, barbecue, sporting or play equipment into the design.

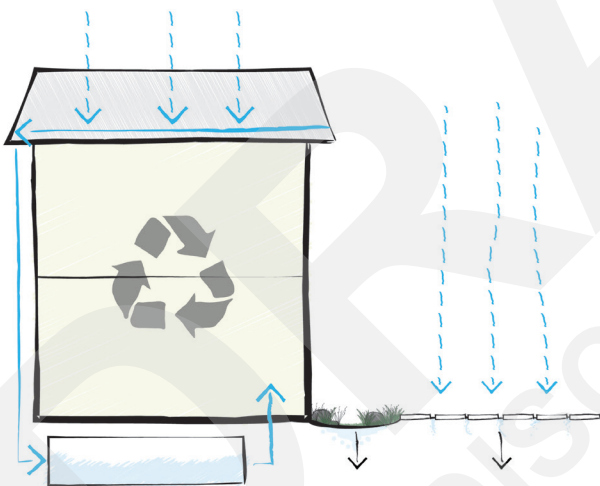


DIAGRAM 5 - INCORPORATING STORMWATER MANAGEMENT



PHOTO 5 - RAIN GARDEN (ROLLESTON)



PHOTO 6 - PERMEABLE PAVING (WELLINGTON)

Stormwater management

Stormwater is rain that runs off hard surfaces such as parking lots, driveways or rooftops and flows into stormwater drains or natural streams. Incorporating low impact stormwater measures into the design reduces the potential for rain runoff to be contaminated and reduces the pressure on Council owned stormwater infrastructure during peak stormwater discharges.

Best practice water management considers water sensitive urban design measures at all stages of the building process. Early consideration during the design phase can help to enhance their cost effectiveness.

In large scale subdivisions (e.g. greenfield) stormwater management is best dealt with at a catchment level.

18. Minimise the use of impermeable surfaces to manage and dispose of on-site stormwater. The use of permeable paving is encouraged, for example for parking spaces.
19. Where possible, consider the use of swales, green roofs or rain gardens to collect, treat or reduce stormwater.

E

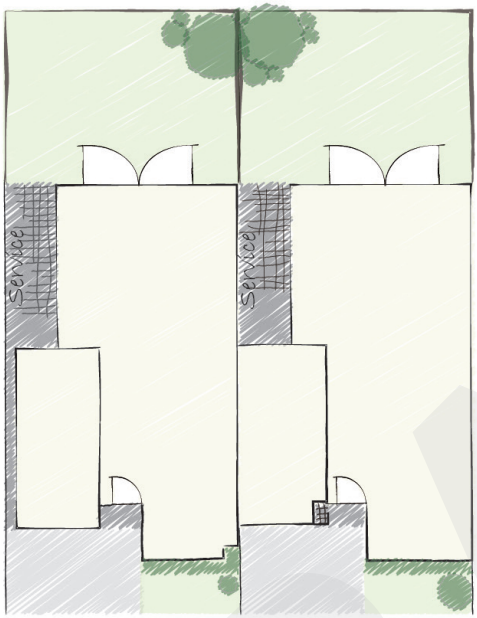


DIAGRAM 6 - INCLUDE SERVICE AREAS IN THE DESIGN

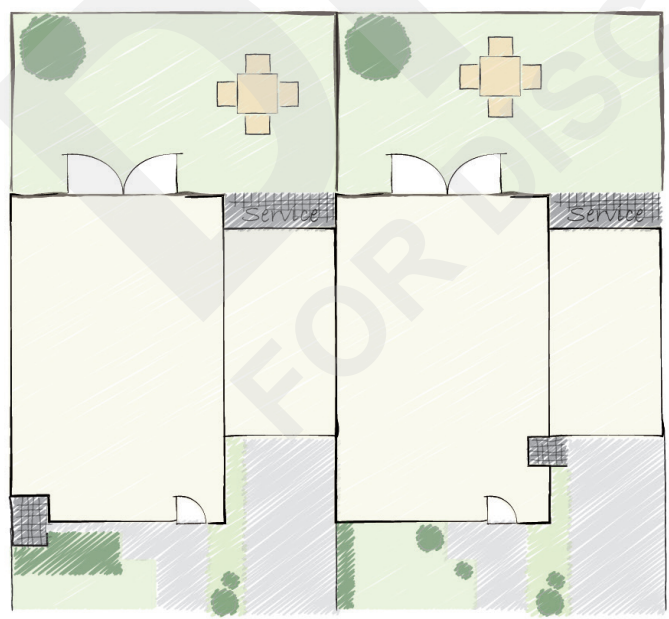


DIAGRAM 7 - INCLUDE SERVICE AREAS IN THE DESIGN

Storage, waste & service areas

Integrating storage, waste and service areas into the overall site design can have a beneficial effect on the amenity and quality of a development. Considering how waste is managed, stored and collected, as well as the location of storage and service areas, helps to minimise visible clutter that could create lower standards of amenity and poorer impressions of an area.

- 20. Outdoor storage space should be provided that is proportionate to the size of the dwelling. Providing opportunities for outdoor storage of recreational and maintenance equipment and/or other large household items can increase the efficiency and utilisation of indoor storage space.
- 21. Ensure that the location and size of storage, waste and service areas does not restrict onsite pedestrian movement or create potential health and/or safety risks.
- 22. Position storage and service areas in locations that are obscured from public view. Also, storage in any areas set aside for car manoeuvring should be discouraged.
- 23. Areas set aside for wheelie bins or rubbish storage and collection should be integrated into the development in a way that is visually discrete and be located away from commonly used areas to prevent the impact of odour or leakage. On sites where access to the side or rear of a dwelling is limited, locating the rubbish storage area to the front of the site can provide a useful alternative provided that visibility from the street is mitigated by appropriate landscaping or screening.
- 24. Communal storage spaces should be accessible from common circulation spaces such as a hallway or laundry room.

6.2 BUILT FORM & CHARACTER

R A E



DIAGRAM 8 - BUILDING HEIGHT AND ROOFTYPES



PHOTO 8 - BREAKING DOWN MASS BY FAÇADE AND ROOF ARTICULATION (WALLACEVILLE, UPPER HUTT)

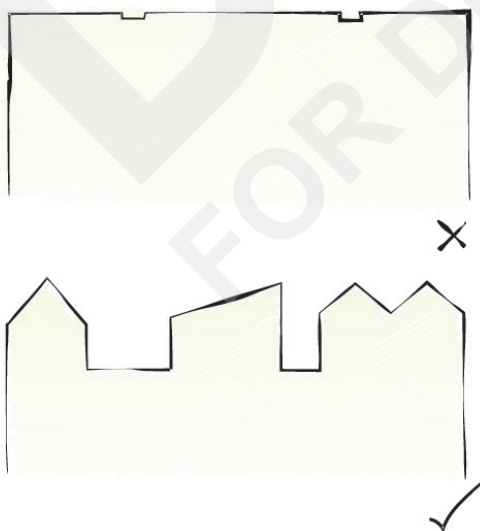


DIAGRAM 9 - REDUCE BULK BY ADDING VARIETY TO THE ROOFLINE

Building mass, height & recession plane

Building height is an important consideration in medium density and comprehensive residential developments as it can enable more effective utilisation of a site while maintaining a low ecological footprint. A visually attractive design can help to mitigate any potential adverse effects arising as a result of building height and/or bulk.

In Upper Hutt a pattern of single dwellings on individual sites predominate. In light of this it is important that any new, larger scale development respects this existing character and that the layout and form relates to its context.

Two storey developments are appropriate in the city, with potential to build up to three storey if it suits the context, for example close to a transport node or retail centre.

Building height and recession planes work together with setbacks to ensure good daylight access to indoor and outdoor spaces as well as create a sense of enclosure or intimacy at street level.

25. Building mass/bulk and height should be designed to create visual interest, and to minimise physical dominance or potential shading or privacy effects on neighbouring properties.

26. Minimise the potential impact of building bulk by reducing the floor area of upper levels or stepping them back from the street. Building mass can also be visually reduced by introducing variation in façade treatment (for example, balconies, shading devices or porches) or the effective use of landscaping.

27. Avoid long linear or blank walls without windows or associated design features to break the visual monotony. Long continuous roof ridgelines should also be discouraged.

28. Breaking the roof area up into a number of smaller roof elements can help reduce the bulk and visual impact of a building.

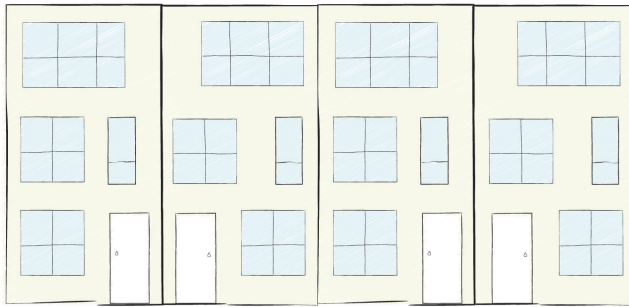


DIAGRAM 10 - LEGIBLE ENTRANCE AND BALCONIES CONTRIBUTE TO ATTRACTIVE BUILDING DESIGN



PHOTO 9 - A CLEAR ENTRANCE AND BALCONY FRONTING THE STREET (NORTHWOOD, CHRISTCHURCH)

29. Increasing the height of a dwelling on a corner site emphasises the corner and creates a focal point, providing visual interest that supports legibility and wayfinding without unduly affecting adjacent buildings.

A F

Building entrances & balconies

The entrance to a building makes an important contribution to the way that a building is experienced. Balconies and entrances provide visual interest by breaking up a façade; they also provide a human scale to multi-unit and comprehensive residential developments and when well designed can positively contribute to the overall appearance of a building. Visible activity on the ground floor and street facing façade enhances public safety through natural surveillance and creates opportunities for social interaction.

Balconies also offer a good way of providing outdoor open space on a street facing façade and contribute to reducing the bulk effect of a building.

30. Where there are multiple dwellings on a site consider subtle variation to entrances (e.g. colour, design), or enable occupants to personalise in order to provide differentiation between the units and increase legibility.

31. Entrances should be clear and visible from the street to ensure that they are easy to locate.

32. Entrances should be designed to provide all weather shelter and incorporate suitable lighting into the design.

33. Use recessed balconies wherever possible as they offer better privacy and weather protection while still contributing to natural surveillance.

34. Where balconies of adjoining units are located close together screening should be provided to increase privacy.

R A

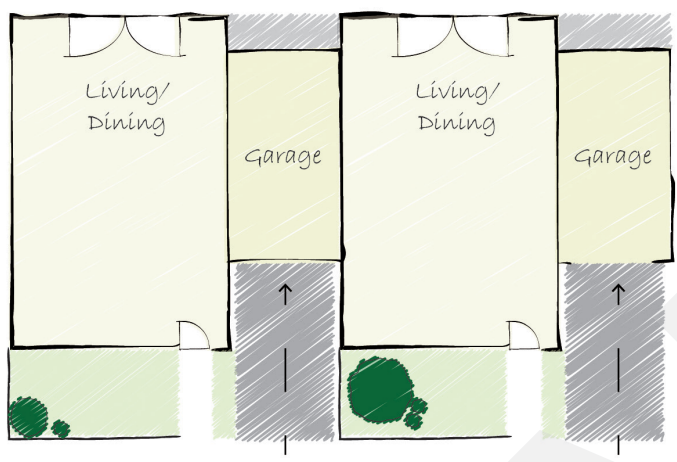


DIAGRAM 11 - GARAGE SET BACK FROM THE BUILDING FRONT

Garages

Garages should be sensitively integrated into any development as they can have a significant impact on its overall layout and design as well as the associated streetscape.

- 35. Any garaging forming part of an overall development should be designed in a style that is consistent with the dwelling(s).
- 36. Garages and carports should be set back from the front façade of any dwelling to minimise visual dominance and provide safety to pedestrians. Also, designing garaging that is narrow and visually recessive can help to reduce the extent to which it dominates the associated dwelling.
- 37. Where possible, new driveways should not be co-located immediately adjacent to a neighbouring driveway as this can disrupt the rhythm and consistency of a street frontage. Instead, consolidate vehicle entries to achieve a sense of enclosure from the street and minimise interruption to pedestrian movement along footpaths.



PHOTO 10 - CONSISTENT PATTERN OF GARAGES WITHOUT DISRUPTING PEDESTRIAN MOVEMENT ALONG THE FOOTPATH (HOBSONVILLE, AUCKLAND)

A P F

Building design & materials

Building design and use of materials make an important contribution to the effective integration of medium density and comprehensive residential development into an existing street environment.

The main factors that influence the appearance of a building are scale, modulation and the articulation of its form and façade. The choice of materials used can also affect the appearance of a development and how well it performs and endures over time, along with its ongoing sustainability and resilience.



PHOTO 11 - VARIATION IN COLOUR (KAIRANGI, WELLINGTON)



PHOTO 12 - CHOICE OF MATERIALS AS AN INTEGRAL PART OF THE DESIGN (WHITEMANS VALLEY, UPPER HUTT)



PHOTO 13 - VARIATION IN COLOUR, ROOF TYPES AND MATERIALS (HOBSONVILLE, AUCKLAND)

38. The design, type and location of the building on a site, as well as the choice of materials used, should reflect and complement the existing character of the surrounding area. In particular, consideration should be given to:

- setback from the street;
- building age and style;
- scale and bulk;
- roofline;
- materials and colours;
- planting; and
- presence of distinct character or heritage.

39. Building features and elements should be integrated and considered as part of a single, coherent design. This includes elements such as roofline, articulation of the façade (including balconies and frequency of windows and doors), maintenance systems and service spaces.

40. Consideration should be given to increasing the visual prominence of buildings on corner sites through the use of different materials, colours, roofline or increased height.

41. Use robust materials that are easy to maintain and retain their long term appearance. This is particularly important for areas that are prone to increased wear such as communal spaces.

42. Rooflines can have a significant impact on the composition of a building and can provide variety and a sense of identity when applied to a row of dwellings. The roof form (pitched, flat or a combination) should complement the existing or desired character of the surrounding area.

Building diversity

Providing diversity of dwelling type and size offers increased accommodation choice catering to a variety of needs ranging from income level and household size through to demographic and cultural requirements. Units that appeal to a broad range of ages and stages are also more likely to withstand significant changes in the market.

Additionally, diversity provides improved opportunities for existing residents to move within their local community as and when their housing needs and requirements change.

43. Dwelling and unit sizes should be carefully considered and suit the context. Where possible, a range of dwelling or unit sizes should be considered (providing a variety in number of rooms or housing typologies) to cater for a range of financial, demographic or accommodation needs.

44. The development of apartments or multi-unit housing can be an effective way of achieving higher density while retaining sufficient space for outdoor use, particularly on sites with size constraints.

45. Consider developing buildings that are adaptable and enable flexible use without the need for major change; this includes, for example, the ability to cater for different lifestyle or cultural requirements or working from home.



DIAGRAM 12 - VARIETY IN BUILDING SIZES AND TYPES



PHOTO 14 - ONE RESIDENTIAL SUBDIVISION PROVIDING A RANGE IN BUILDING SIZES AND TYPES ALLOWING FOR DIFFERENT LIFESTYLES (DELAMAIN, CHRISTCHURCH)

6.3 AMENITY & SUSTAINABILITY

P F E



DIAGRAM 13 - LANDSCAPING USED TO SOFTEN HARD EDGES AND IMPROVE OUTLOOK

Landscape treatment

Landscape design can greatly improve the amenity, experience and integration of medium density and comprehensive residential development into a street or neighbourhood. The implementation of carefully considered landscape design can help to enhance different design elements, such as the screening or softening of hardstanding areas (driveways, parking, services areas), mitigate the effects of building bulk and offer amenity and environmental benefits.

46. Many areas in Upper Hutt already have a well established landscape character; where possible, retain and integrate existing mature and healthy vegetation into the site development.
47. Coordinate landscaping early in the building and site design process; this can increase opportunities to more effectively integrate landscape treatment into outdoor open space, traffic circulation routes, service locations and the interface between the public and private domain.
48. Use planting to improve the outlook from dwellings and the street and to soften hard surface areas such as car parks, service areas or along internal site boundaries and driveways/shared accessways.
49. Use hedges or climbing plants where space is constrained and larger vegetation where sufficient space and access to rainwater is available.
50. Choose plants that are appropriate to the climatic conditions and character of the area; planting species that require low maintenance and attract local bird life is also encouraged.
51. Use of hard landscape elements such as low walls, kerbs or raised beds is encouraged as these can provide protection to plants and, where integrated into the site design, can add to the visual amenity of outdoor spaces.



PHOTO 15 - APPROPRIATE LANDSCAPING CAN MITIGATE NEGATIVE EFFECTS OF FENCING OR BLANK WALLS (REGENT PARK WELLINGTON)

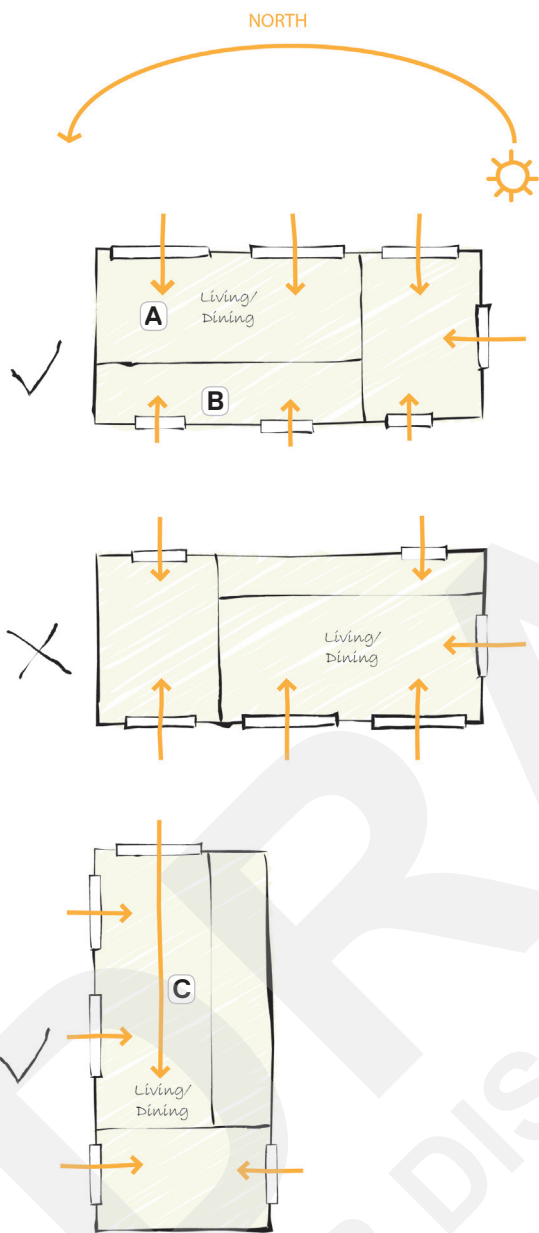


DIAGRAM 14 - ORIENTATION TO MAXIMISE SUNLIGHT ACCESS

- A** Ideal orientation along a east-west axis with living areas facing north
- B** Small and/or high level windows in service or storage spaces, ideally facing south
- C** Narrow buildings benefit from tall windows in north facing façades for optimal sunlight penetration

Sunlight access

Adequate access to natural light is an important consideration in designing the layout of a site, particularly any opportunities to capitalise on a northern aspect.

It is also a key consideration in siting and designing the internal layout of associated dwellings. Besides providing a warm and pleasant internal living environment, maximising sunlight access offers natural ventilation and increased energy efficiency.

52. Design dwellings with habitable spaces facing north, west or east to maximise sunlight access into active areas and ensure that available sunlight optimally contributes to indoor comfort.

53. Buildings that are relatively deep and narrow, or that have limited north facing frontage, benefit from larger floor-to-ceiling heights. Where this occurs consider the use of taller windows to ensure deeper sunlight penetration.

54. Use skylights, atriums or light wells to provide sunlight access to internal spaces with no external walls.

55. In order to maintain sunlight access, high level windows should be considered where privacy is an issue or to restrict views of service or storage areas; however, their use should be minimised in façades that face the street or public areas.

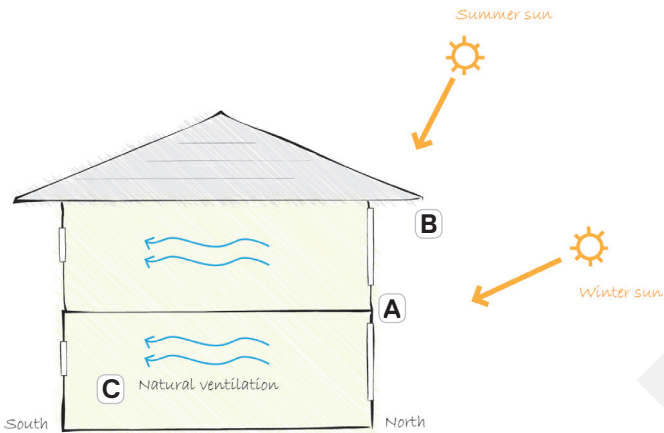


DIAGRAM 15 - SUNLIGHT ACCESS, EAVES AND INTERNAL VENTILATION

- A** Large windows on the sunny side, smaller windows on the side that gets the least sun hours
- B** Eaves blocking sunlight in the summer while allowing sunlight access in winter months
- C** Windows in opposite sides of the building allow for natural ventilation



PHOTO 16 - OVERHANGING BALCONIES PROVIDING SHADING IN SUMMER (CLEARWATER GOLD RESORT, CHRISTCHURCH)

Energy efficiency

An energy efficient home promotes sustainable living, limits the impact on the environment by relying on sustainable energy sources and can produce long term cost savings to residents.

Integrating efficient passive design into a building can help to lower energy usage, increase the thermal stability, reduce indoor condensation and promote natural ventilation, contributing to a more comfortable indoor environment.

- 56. Consider energy efficiency during all phases of development, from planning and design (e.g. internal layout and building systems) to construction (e.g. minimising waste) and long term maintenance (e.g. using durable materials).
- 57. Where possible, long buildings should be sited along an east-west axis, with living areas orientated to the north to optimise solar access.
- 58. Consider locating opening windows on opposite sides of a dwelling to enable natural cross ventilation. Also, limit the total window surface on south facing façades to prevent heat loss in winter.
- 59. Use of eaves is encouraged as they can help limit the duration of sunlight penetration in summer, preventing indoor spaces from becoming too warm, particularly on the northern side of dwellings.
- 60. Consider incorporating substantial wall, ceiling and floor insulation along with double glazing into the building design. Where possible, use alternative sources of energy such as solar hot water or photovoltaics.
- 61. When designing large scale developments, consider providing a communal (solar) hot water heating facility as it has the potential to offer greater efficiencies compared to installation of individual heating sources in each unit.



PHOTO 17 - AMBERLEY GARDENS, SILVERSTREAM

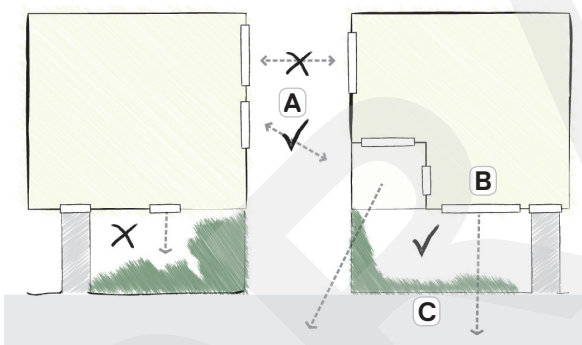


DIAGRAM 16 - BALANCE PRIVACY AND NATURAL SURVEILLANCE

- A** Prevent placing windows immediately opposite windows in a neighbouring property
- B** Living areas with large windows in the front of the building to provide for natural surveillance
- C** Soft landscaping or porous fencing to create natural surveillance while retaining privacy

Privacy and safety

The orientation of dwellings and their interface with public and communal open spaces are important safety and privacy considerations. In designing for safety and privacy, adequate account needs to be taken of the relationship of new and adjoining buildings to ensure a successful balance is achieved between protecting private amenity and providing opportunities for natural surveillance.

- 65. Where possible, locate habitable spaces (e.g. kitchen, dining or lounge) on the ground floor facing the street or an adjoining open space as this will enable natural surveillance of these areas. Also, avoid blank walls facing onto any public space.
- 66. Where possible, orientate windows to public spaces to provide for natural surveillance. Privacy between dwellings can be maintained by screening upper level windows or balconies as this will limit opportunities for residents to directly overlook adjacent properties.
- 67. Use soft landscape elements and visually permeable materials to achieve an appropriate balance between maintaining privacy and enabling natural surveillance.
- 68. Clearly delineate boundaries between private, communal and public spaces as this increases user perceptions of safety and helps to identify intruders.
- 69. Use lighting, planting and fencing to enhance the safety of residents and visitors and incorporate these elements as part of the design process. To minimise the risk of light sources becoming obscured by landscape elements consider the use of low level planting or trees with higher canopies around sensitive areas.