PROPOSED PLAN CHANGE NO. 30

Beachlands   Village New Avenues

DESIGN GUIDELINES

Plan Change 30

Beachlands New Avenues Design Guidelines

Bulk, Location and Orientation

What is meant by Bulk, Location and Orientation?

Bulk, location and orientation describe the way a building sits on its site and relates to its physical context. 'Bulk' refers to the overall massing of a building, 'location' means the position of the building on the site and 'orientation' describes the way internal spaces are directed to physical and environmental elements such as sun, views or the street.

Bulk, location and orientation can have a significant impact on the environmental qualities of both the public and private domain. Design issues to be resolved include the quality and quantity of open space provided for inhabitants; the access to daylight for residents, both within the development and in adjacent developments; and the overall quality of the public realm.

Basic Principles

> Make best use of solar access for dwellings both within the development and on neighbouring sites.

> Ensure the building mass, location and orientation enhance the quality of communal open space areas.

Design Guidelines

> Position and orient the building(s) to maximise north facing walls so as to optimise natural sunlight to living spaces.

> Consider building configurations such as 'L' shaped and courtyards, which respond to the streetscape while optimising solar access.

> Consider different building heights for different parts of the building to further aid solar access.

> Design and position the building on the site to provide larger areas of consolidated open space. 'Leftover' spaces should be minimised.

> Ensure buildings are separated with sufficient distance to allow solar access and prevent overshadowing.

> Maximise dual orientation opportunities.

> Single aspect units should have a northerly or easterly aspect and a reduced depth to allow for access of a natural light.

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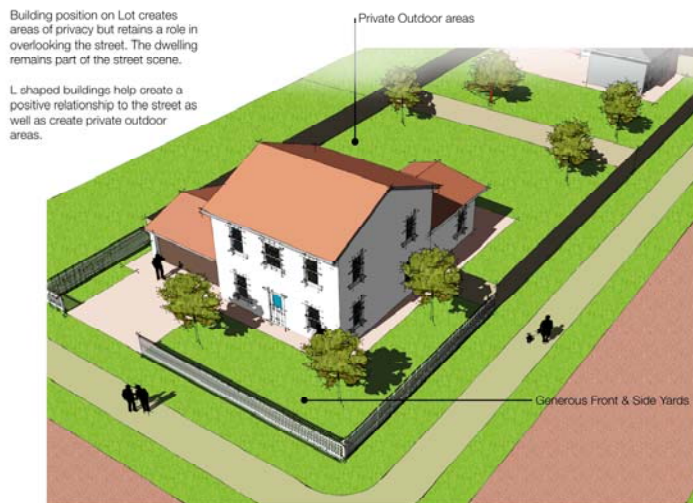
Building Envelopes

What are Building Envelopes?

A building envelope is the volume that defines the extent of a building in any direction. It describes the overall shape and mass of the building zone within which a future building can be built.

Building envelopes are defined by the length, depth and height of the building zone, measured in metres. Building envelopes should be at least 20-25% greater than their achievable floor area to allow for interesting and attractive façade treatments.

Design Guidelines

> Identify the building type most appropriate for the given building envelope.

> Maintain sufficient distances between windows and doors of opposing dwellings and minimise views from other dwellings into private back yards.

> Front all buildings onto the street or access way where possible.

> The majority of living rooms shall receive some sunlight.

30% Max Building Coverage

40% Max Impermeable Surface
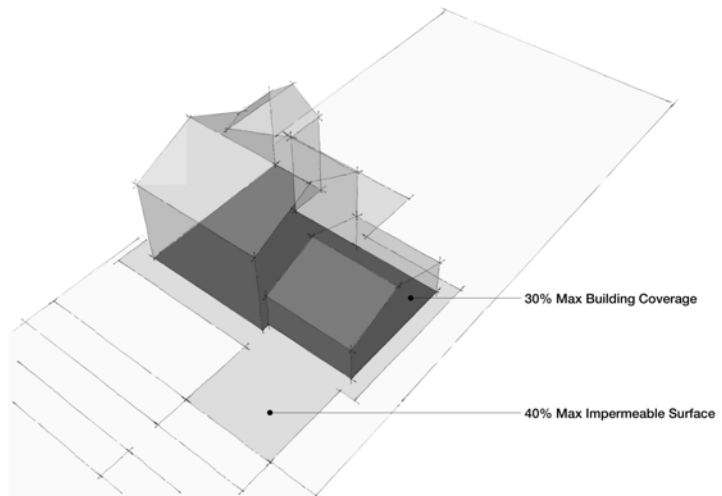
Basic Principles

> Building envelopes shape the three-dimensional form of an area by determining appropriate density for a site and its context.

> Building envelopes can be used to define the street hierarchy, points of difference, intersection hierarchy and open space.

> Building envelopes shape the relationship of dwelling units to each other, and influence both the privacy and amenity of residents. The size of the building envelope needs to ensure human scale, and take account of views and outlook as well as daylight and solar access for dwellings.

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What is Open Space?

Open space is designed space that provides core amenities to adjacent buildings, such as daylight and ventilation; outlook and views; and visual privacy. It can also provide the opportunity for recreation and social activities and water cycle management.

Open space can be public, private, or communal. The scale and design of the space will depend on the number of units provided and the context of the site.

Design Guidelines

> Communal open space should be considered in terms of the urban context. The proximity of public parks, recreational facilities and other amenities will have a bearing on the scale and design.

> Consolidate open space in the site into well defined areas where communal ownership is clear.

> Locate public open space adjacent to public streets, and avoid backyards located adjacent to public open space. Public open space shall be ordered by public streets which are fronted by buildings.

> Locate public open space to include areas of significant natural features.

Basic Principles

> Provide core amenities as outlined above to residents.

> Ensure residents have ready access to passive and active recreational opportunities. This will depend on the size of the development.

> Provide areas on the site for landscaping and vegetative stormwater treatment and filtration.

> Enhance user safety in public open space by ensuring a high degree of surveillance of public open space.

> Protect significant natural features and maximise public accessibility to them.

> Protect privacy of dwellings from public use of open space.

Generous Lot size & open spaces complemented with planting will characterise Beachlands New Avenues

Buildings positioned to overlook public spaces but retain individual privacy.

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Visual Privacy

What is meant by Visual Privacy?

Visual privacy describes how private the interior and private exterior spaces of a dwelling are hidden from outside view. The degree of visual privacy provided will affect residents' ability to carry out private functions within the confines of their home and private open space.

Basic Principles

> Provide adequate levels of visual privacy both inside the dwelling and outside, in private open spaces.

> Optimise visual privacy without compromising views, outlook and ventilation.

Design Guidelines

> Create visual privacy between buildings both on site and on neighbouring properties by:

> Ensuring adequate building separation and setbacks

> Providing separation between windows and communal open space and through-site access routes

> Considering the orientation of buildings relative to neighbours.

> Using building design elements e.g. recessed balconies, screens, fences or landscape elements.

1.8m high fences create privacy for rear yards.

Planting can supplement front yard boundary to create additional privacy with a 'soft edge' characteristic of Beachlands

Boundary at front yards restricted to 1.2m to allow overlooking & relationship with the street.

Boundary Treatment

What is meant by Boundary Treatment?

Boundary treatments are a very important consideration in good site design. The way that boundaries are defined can impact on the understanding of private and public areas and can also convey differences in function or ownership of open space. The design of boundary treatments will affect residents' real and perceived privacy and security. Boundary design also provides an opportunity to reinforce the identity of developments in Beachlands. Front, side and rear boundaries may require different treatments depending on adjacent properties. Design of boundary treatments affects neighbourhood amenity, in particular the amenity of dwellings from interfacing activities.

Basic Principles

> Provide clear definition between different functions, different owners and between public and private space.

> Ensure privacy and security.

> Reinforce the identify of the development and enhance the street scene.

Design Guidelines

Boundary design should consider and respond to the associated contexts of street, side and rear locations. Considerations may include: height, position and openings and material selection.

> Design fences and walls which provide privacy and security while preserving outlook, light and air.

> Contribute to the amenity of the public domain by limiting the length and height of blank fences and retaining walls along street frontages.

> Use planting to complement scale and street scene.

> Select materials which are graffiti resistant and easily cleaned.

Rear yard boundary creates privacy & security for residents.

Front boundary treatment kept lower to encourage relationship with the street. Suitable materials may include traditional picket type fences or composed of dense planting.

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Landscape Design

What is Landscape Design?

Landscape design is the design of the site areas not covered by building. Landscape design is a critical part of development as it provides amenity to residents and can significantly enhance the adjacent public realm.

Basic Principles

> Provide privacy, outlook, views and a high level of amenity for residents.

> Minimise and control the impacts of stormwater runoff.

> Enhance environmental conditions within the development and provide a habitat for native plants and animals.

> Improve air quality within urban environments.

> Ensure that trees form part of the design.

Design Guidelines

> Enhance open spaces with landscape design that provides shade through trees and structures.

> Use landscape design to indicate entries and to differentiate private space from communal space.

> Use landscape design to screen cars.

> Design landscapes which respond to the street scene.

> Enhance the energy efficiency and solar efficiency of the dwellings through the appropriate type and placement of trees.

> Contribute to storm water management through the use of vegetative filtration techniques and choosing appropriate plant species.

> Ensure that appropriate soil conditions and irrigation; appropriate species; and ongoing maintenance are considered and integrated into the design.

> Conserve existing trees which contribute significantly to landscape amenity.

> Include tree planting within public open space (including streets) consistent with local landscape identity.

Landscaping front yards create a softer character of street scene & is characteristic of existing Beachlands

Street Frontage and Enclosure

What are street frontage and enclosure?

The relationship of buildings to the street can help create streets that are attractive and lively, encouraging pedestrian activity and safety. Safety is enhanced by a high degree of mutual surveillance, allowing residents to see what is happening on the street and creating a sense of local stewardship of public spaces. The sense of 'eyes on the street' helps improve the pedestrians sense of safety, as well as discouraging unwanted behaviours and improving household security. For streets to feel safe and comfortable, there also needs to be a degree of enclosure from buildings lining and addressing the street, providing a clearly-defined public space.

Basic Principles

> Maintain good mutual visual communication between the users of the street and buildings.

> Ensure that private open space which is not visible from the street is not readily accessed by intruders.

Buildings at corners perform an important role in defining the entrance to streets

Design Guidelines

> Ensure majority of dwellings front onto streets.

> Position a kitchen, living room or workroom fronting the street.

> At least one front room of each dwelling shall have a view to the street or access way.

> Use the form of the building or other devices to enhance the occupiers' visual contact with street.

Buildings organised to provide a definite 'edge' to areas of public open space

> Building entries shall have a transitional space that is easily visible form the street.

> Visitors may be seen from within the dwelling without opening the door.

> Contribute to the amenity of the pubic domain by limiting the length and height of blank fences and retaining walls along street frontages.

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Pedestrian Access

What is meant by Pedestrian Access?

Pedestrian access describes the walkable areas in and around development. Pedestrian access to development should deliver safe, high quality and pleasant, walkable environments which prioritise people. The design should ensure access for the able and mobility-impaired alike. Well designed pedestrian areas will ensure residents and visitors can easily access dwellings and communal space and will facilitate connections with the public realm. Pedestrian access to dwellings should be easily understood by visitors and take priority over vehicle access and manoeuvring.

Basic Principles

> Provide well designed pedestrian areas which facilitate connections with the public realm.

> Ensure all residents and visitors (able bodied, mobility or sensory-impaired) are able to readily access dwellings and communal areas. Consider people who use prams and wheelchairs, people with bicycles and the elderly, and design minimum grade ramps, paths, access ways and lifts to accommodate their needs.

> Separate pedestrian access from vehicle movements and give priority to people moving from the street to the entrance of the dwelling.

Design Guidelines

> Consider site layout, context and topography in terms of developing a scheme which maximises accessibility.

> Ensure high quality accessible design to all pedestrian routes. Consider providing public and semi-public access through the site as appropriate to enhance connections to the public realm.

> Ensure equitable access from the street and carparking areas. Incorporate accessible elements such as ramps into the overall landscape design.

> Ensure access ways are an appropriate width to enable two people to pass comfortably.

> Differentiate pedestrian and vehicular access ways.

> Provide direct street access to as many dwellings as possible, to maximise activity on the ground floor and create a sense of address and arrival for individual dwellings.

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Building Entry

Why is Building Entry important?

The entry to a building provides an interface between public and private spaces. As such, it has the potential to contribute to both building identify and the quality of street scene.

Basic Principles

> Provide an obvious entry point for the building.

> Ensure the entrance is suitable for able bodied and mobility impaired people.

> Ensure letterboxes are designed and located to complement the building and provide easy access.

Design Guidelines

> Improve building appearance and contribute to the street quality by ensuring entrances are integrated yet identifiable elements within the street. Co-ordinate entrances with existing street elements such as street planning and pedestrian routes.

> Use separate entries for different functions such as pedestrian and vehicle access, and different activities. Multiple entry points will help to animate and activate the street.

> Ensure entrances are accessible to the able and mobility or sensory-impaired alike.

> Ensure entrances are well lit, highly visible spaces that provide shelter from the elements but avoid ambiguous publicly accessible blind areas. Position letter boxes for convenient access by residents and posties. The mail slot should be between 600mm and 1600mm from the ground.

> Ensure the design and location of letter boxes does not detract from the appearance of the building.

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Vehicles and Parking

Why is the design of Vehicles and Parking important?

Parking requirements and vehicle access can have significant impacts on site layout, building design, landscaping and stormwater management. These will affect the quality of our environments in Manukau and should therefore be considered early on in the design process.

Vehicle entry points should ideally integrate access for car parking and should be designed to avoid conflicts with existing traffic patterns and pedestrian movement. Access should be designed as an integral part of the site layout, building façade and streetscape. Vehicle entries should be consolidated to retain a sense of enclosure to the street and minimise interruption to pedestrian movement along the footpath. Garages should be located and designed to minimise visual dominance of the street, and to reinforce pedestrian entries and movement. Good surveillance from surrounding houses increases security for surface parking, but needs to be mitigated with landscape and paving treatments to improve the outlook from dwellings.

Basic Principles

> Provide sufficient car parking for residents and visitors allowing for the size and type of development proposed; its proximity to recreational and retail services and facilities; and access to public transport.

Garages should be positioned & designed to be subservient in built form to the house. It is important garages do not become a dominant element to the dwelling design & the appearance of the street scene generally.

> Ensure car parking and vehicle access are integrated into the overall planning and design of the site, streetscape and building form.

> Ensure vehicle access does not impede the active use of street frontages or quality street design.

> Ensure streets provide safe and convenient vehicle access to dwellings.

> Minimise detrimental effects of vehicle access and garages on amenity of the neighbourhood and of the development.

> Dwellings provide good surveillance of driveways and parking areas.

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Safety

How can residential design deal with Safety?

The design and layout of buildings can contribute to real and perceived levels of safety and security for residents and building users. The principles of secure design include casual surveillance, clear definitions of territory, controlled access and management of spaces.

Basic Principles

> Ensure developments are designed to be safe and secure for residents and visitors.

> Minimise opportunities for crime and contribute to the safety of the public realm.

Design Guidelines

> Clearly define the boundaries between private and public space.

> Provide visible, functional and safer building entrances by ensuring entrances address the street and establish clear sight lines from the foyer through the entrance to the street.

> Ensure all entrances and access routes are well lit (e.g. from parking areas, to individual units, etc).

> Encourage casual surveillance by orienting living areas towards views over communal or public spaces.

> Avoid blind corners or dark alcoves which might conceal intruders near entrances, lifts, stairwells, indoor car parks and walkways.

Buildings organised to have a clear relationship to one another & the street.
Living spaces are organised for privacy but still allow casual overlooking of the street.

> Provide appropriate levels of illumination throughout the development.

Building Form

What is Building Form?

Building Form is the basic relationship of built elements to one another and how they combine to characterise the streets they form part of.

Basic Principles

> Encourage a best practice architectural response in residential building design in Beachlands.

> Encourage an attractive relationship between public and private realms that facilitates outlook and social interaction whilst balancing the need for privacy.

> Contribute to the character and definition of the public realm.

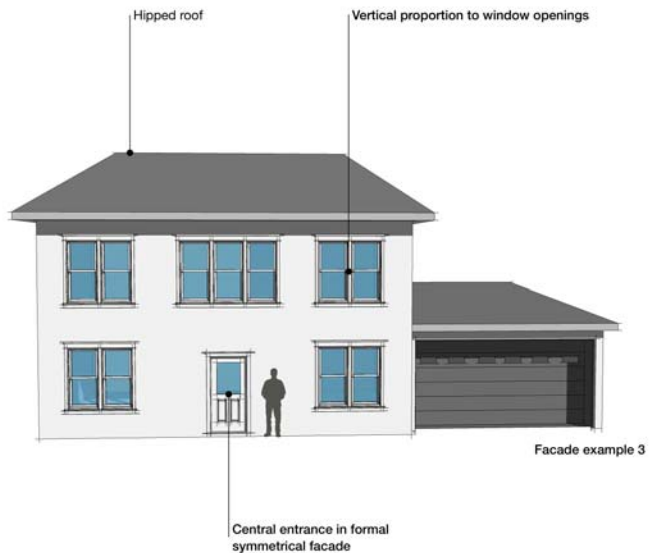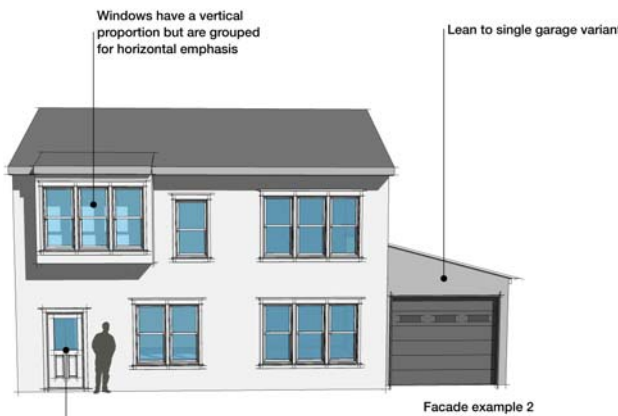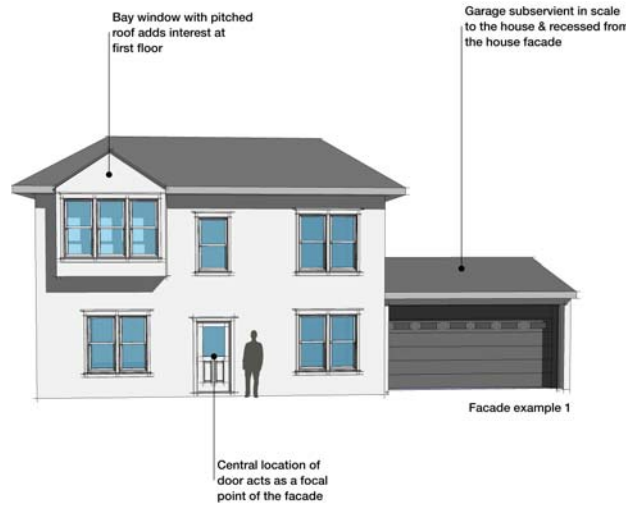> Contribute buildings that have appropriate scale and proportion.
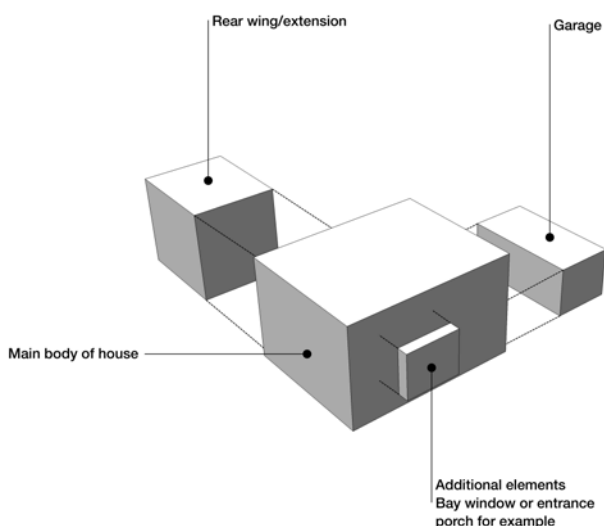
Design Guidelines

> Organise the building in to a series of basic shapes

> Ensure there is a logic to the interrelationship and that they 'fit' together in a natural way
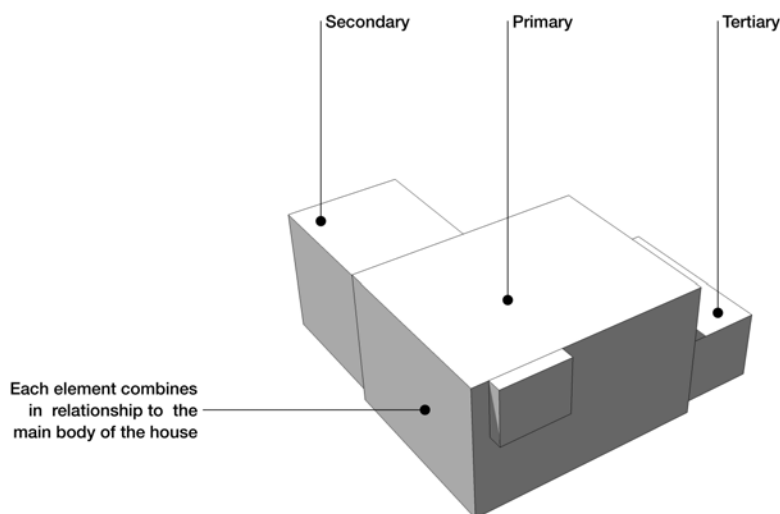
Façade Design

Façade design can influence the apparent scale and appearance of a building. Rhythms and patterns created by the proportions of the facade, the modulation of external walls and the regular repetition of façade elements can improve the legibility of the building, balance the right to outlook with the need for privacy, and provide visual interest to Manukau's streets and neighbourhoods. The façade design of the buildings should reflect the neighbourhood context in form, modulation and materials, without needing to mimic the existing buildings. That allows new development to reinforce the local sense of place, while the neighbourhood is changing and evolving. Even at a larger scale building, the building design can reflect a human scale with the interplay of elements on the façade, and reinforce that it is occupied and alive.

Bay window with pitched roof adds interest at first floor

Garage subservient in scale to the house & recessed from the house facade

Facade example 1

Central location of door acts as a focal point of the facade

Windows have a vertical proportion but are grouped for horizontal emphasis

Lean to single garage variant

Facade example 2

Door positioned to one side creates an asymetrical elevation

Hipped roof

Vertical proportion to window openings

Facade example 3

Central entrance in formal symmetrical facade

first floor

Facade example 1

Central location of door acts as a focal point of the facade

Flat roof behind parapet

Facade example 4

Projected two storey bay

Vertically proportioned windows

Auckland Unitary Plan Operative in part

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Balconies and Outdoor Space

Why are Balconies important?

Balconies provide outdoor space and increase amenity and lifestyle options for residents of multi-unit developments. They extend the living area of a unit, provide private open space and offer opportunities for outlook and to enjoy being outside. Balconies also operate as important architectural components and can provide a means of organising and articulating the facade design.

Basic Principles

> To ensure all dwellings have access to private open space.

> To ensure the design of balconies is functional and considered in terms of the local context and climate.

> To ensure balconies are designed as an integral part of the building's architectural form and detail.

Balcony over garage

> To contribute to animated, active streets by providing opportunities for passive (watching) or active engagement (conversation) with passers-by.

> Enhance the amenity value for residents by providing outdoor areas which are private, secure and sunny, in the form of back yards or balconies.

> Back yards shall not be visible from the street and shall not easily accessed by intruders without detection.
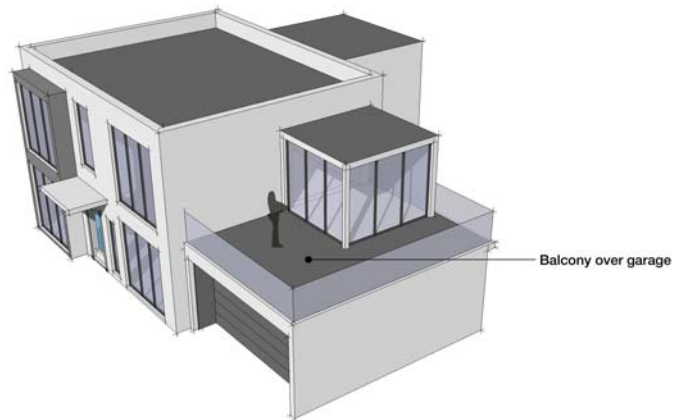
Design Guidelines

> Ensure all dwellings have at least one primary balcony when no other private open space is provided.

Primary balconies should:

> Accessed off a primary living area.

> Be of sufficient size and shape to accommodate outdoor furniture i.e. table and chairs and thereby encourage indoor/outdoor living. Minimum 2.5m depth.

'Juliet' balcony to front elevation

> Consider balcony design in terms of the local context and climate.

> Be orientated to the north, east or west to maximise opportunities for solar access.

> Use environmental controls such as canopies, pergolas, adjustable louvres and shutters to regulate sun and wind exposure.

> Utilise innovative solutions such as operable screens and Juliet balconies in locations where noise or wind prevent other options.

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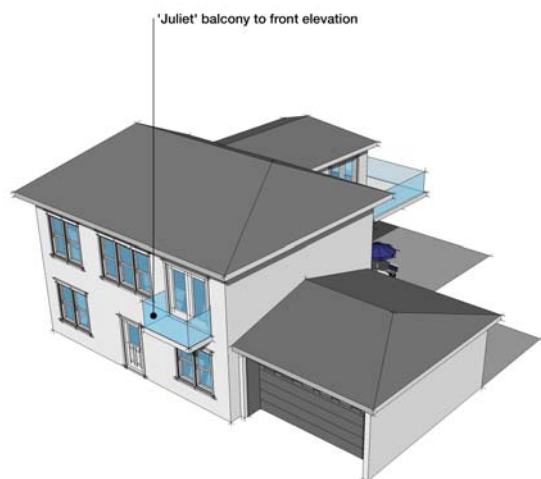
> Choose balcony typology – cantilevered, recessed or semi-recessed – in response to daylight, wind acoustic and visual privacy.

> Ensure balcony size and proportion does not prevent solar access to adjacent apartments or below.

> Ensure balcony design prevents direct sightlines into the apartment from the street and neighbouring residences.

> Balustrade design should facilitate outlook and casual surveillance of the street while ensuring safety and privacy for residents.

Generous rear balcony area overlooking rear deck area

> Consider materials and detailing to provide a portion of solid to transparent material which will prevent direct sightlines from the street.

> Consider the proportions of the screening provided. It should be designed to conceal a person seated looking at the view, clothes drying, or storage of bicycles.
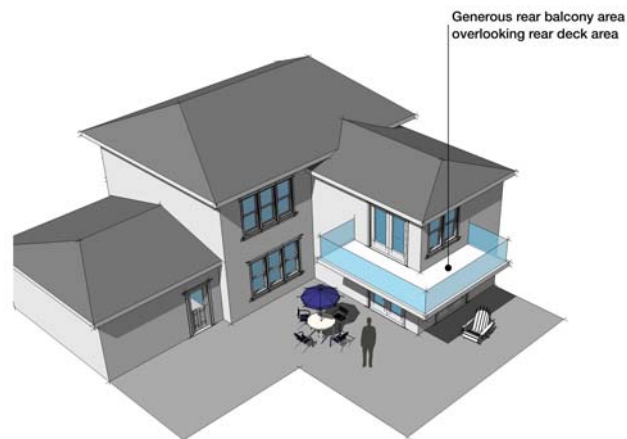
Materials

Why is the choice of Materials an important consideration in residential development?

The choice of materials used both internally and externally will affect the appearance of the development and how well it performs and endures over time. Robust materials that are easy to maintain will help to ensure communal spaces and areas prone to wear retain their appearance for many years.

Basic Principles

> To promote quality buildings that maintain their appearance over time.

> To encourage the use of materials that are appropriate for purpose, climate and conditions.

> To encourage the use of local materials that express a sense of place.

Design Guidelines

> Choose enduring materials that are easy to maintain and retain their appearance over time.

> Choose materials that are fit for purpose e.g. exterior tiles that are exposed to the elements should be non-slip.

> Consider the local environment and choose materials that are appropriate for the conditions e.g. many materials are not appropriate for coastal environments.

> Consider the use of local materials that reflect the local environment and character.

> Consider the use of different materials to break down the scale of large buildings. Materials should be used to express different building elements rather than applied in a paint by numbers fashion.

> When using a combination of materials, consider how one will affect another and detail appropriately to avoid unsightly reactions e.g. plaster staining around copper overflows.
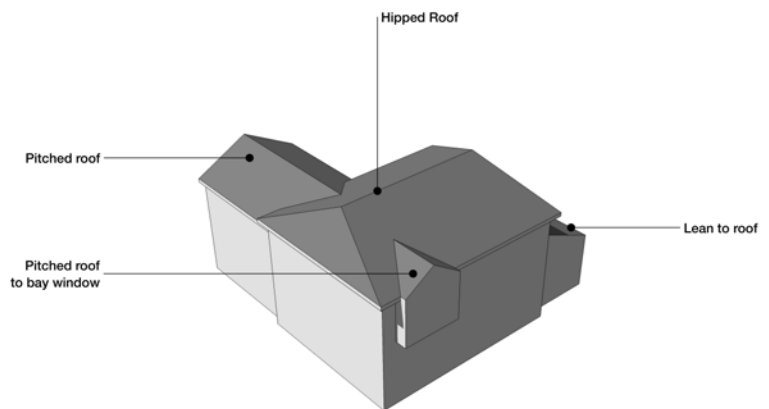
Roof Design

Why is Roof Design important?

Roof design plays an important role in the architectural composition and expression of a building. The shape and form of a roof should also be considered in terms of the local environment and context. Good roof design takes into account its visibility from different vantage points within the local context. These might include views from adjacent taller buildings, or the outline when viewed from street level, and may even extend to its place within a larger skyline, when viewed from different points within the Manukau region.

Basic Principles

> To ensure roof design which reflects the layout and composition of the building, whilst contributing positively to both its expression and performance.

> To ensure roof design which responds to the local environment and context.

> To facilitate building health and longevity through good weather tightness practice.

Roof example 1

Design Guidelines

Roof design should reflect the desired built form. Issues to consider include:

> Minimising the appearance of large buildings by breaking down the massing to minimise apparent bulk or to relate to existing finer grained context. For example, the use of saw tooth roofs in warehouse style buildings.

> Relating the proposed roof to the existing context in urban areas, through the choice of materials or chosen pitch. However, direct replication of single family dwellings should be avoided, as their scale and details is often inappropriate for larger buildings.

> Minimising the detail and impact of the roof in situations where it is desirable to express a strong horizontal datum. This may be in response to the existing adjacent context.

Roof example 2

> The size, shape and scale of the building, its overall form (in three dimensions) and the design of the elevations. This will extend to the design of parapets and other junctions with elevations and also to the selection of roofing materials.

> Consider the roof design in terms of the orientation and micro-climate of the site. For example, extended eaves may provide sun shading to north-facing walls while roof design may provide additional weathering protection around openings in exposed or coastal locations.

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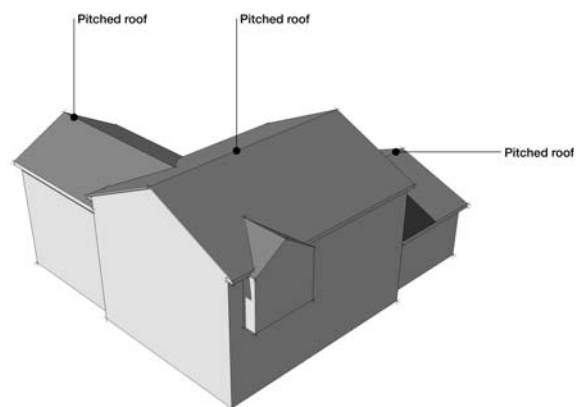
Design Guidelines

> Consider incorporating service elements into the roof design to minimise their visual impact. These may include: lift over-runs, service plants, chimneys, telecommunications aerials, vent stacks, signage, down pipes and gutters.

Provide for the present or future use of the roof for sustainable purposes such as:

> Water collection and storage in rainwater tanks.

> Photovoltaic applications. This will require appropriately oriented and angled roof surfaces.

Roof example 3

> Sustainable design features. For example green roofs and water features.

> Consider the provision of habitable space within the roof structure. This will depend on the shape and size of the roof space but might take the form of attic space or penthouse apartments.

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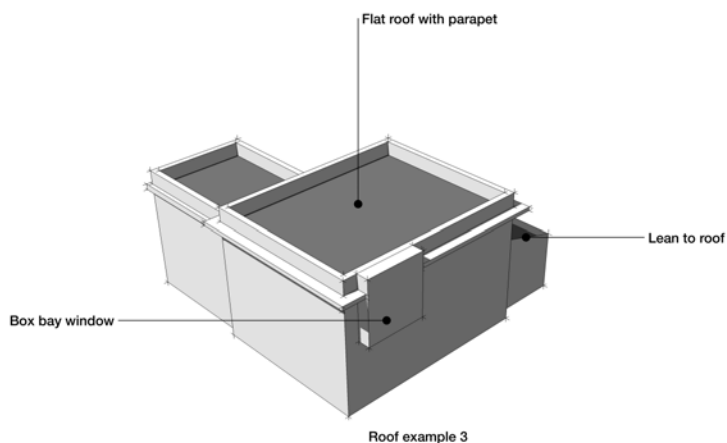
Water Management

Why is Water Management an important issue for the residential building design?

Water management is an important issue when addressing sustainable building practice. It needs to be approached in two different ways. Firstly, in terms of reducing demand form the water mains and secondly, in terms of the catchment and management of stormwater, in order to prevent erosion and the pollution of our waterways and encourage reuse for grey water activities.

Basic Principles

> To minimise the consumption of mains supply potable water.

> To minimise the volumes of urban stormwater run-off.

Design Guidelines

> Encourage use of water efficient AAA rated appliances.

> Use dual-flush toilet cisterns and specify low-flow taps.

> Promote stormwater catchment in rainwater tanks for reuse as grey water.

> Reuse grey water collected for uses such as washing the car, watering the garden etc.

> Specify native indigenous species in landscape design.

> Consider natural stormwater filtration and absorption schemes which employ engineered, landscaping devices such as swales, rain gardens and infiltration ponds.

> Consider collection of roof water for use on public gardens.

Energy Efficiency

Why is Energy Efficiency important in residential design?

Building design which optimises thermal performance and comfort and access to daylight will have a positive effect on: the energy efficiency of the building; the level of amenity for occupants; and the running cost of the building. In doing so, it will promote sustainable building practice and reduce greenhouse gas emissions over the life cycle of the development.

Basic Principles

> To reduce or eliminate reliance on mechanical heating and cooling systems.

> To reduce or eliminate reliance on fossil fuels.

> To reduce or eliminate greenhouse gas emissions.

> To support and promote sustainable building practices and renewable energy initiatives.

Design Guidelines

Employ passive solar design principles to maximise heat storage in winter and facilitate convective cooling in summer. This can be achieved by:

> Providing thermal mass in floors and walls particularly on the northern side of the building.

> Using materials with heat storage capacity such as polished concrete, tile or timber, as opposed to carpet which has an isolative effect.

> Minimising the number of south-facing apartments. These should represent no more than 10% of the total number of dwellings.

> Providing insulation over and above the code requirements. Consider using R2.6 or higher in ceilings; R2.2 or higher in walls and R2.0 in floors.

> Consider photovoltaic panels for generation of electricity for public areas.

Maximise the efficiency of mechanical space heating and cooling by:

> Targeting areas which require heating or cooling rather than the whole apartment.

> Providing an 'air lock' in the form of an entrance lobby or vestibule which is separated from living rooms by doors.

> Consider externally environmental controls such as awnings and screens to prevent heat from entering the apartment.

Ensure building design supports the present or future installation of photovoltaic panels by:

> Considering the pitch and design of the roof in terms of optimum angle and orientation of photovoltaic panels.

> Ensuring landscaping and in particular tree placement does not overshadow existing or planned panels.

Maximise the efficiency of hot water systems by:

> Using systems with a greenhouse score of 3.5 or higher that are appropriate for the development and insulating the chosen system to further improve efficiency.

> Installing water-saving devices such as low-flow taps and dual-flush toilets.

Reduce dependence on artificial lighting by:

> Utilising a range of different lighting fittings to allow for a variety of activities to be carried out in different rooms.

> Providing different lighting options within a room e.g. low level background lighting supplemented by task lighting for use as required.

> Providing separate switching for special purpose lighting.

> Using energy saving forms of lighting for common areas e.g. compact fluorescents and solar lighting for open spaces and public areas.

> Making use of motion detectors for common areas such as entrances, outdoor security areas and garages.

> Ensuring optimum energy efficiency from household appliances.

> Choosing renewable energy sources, or those which minimise greenhouse emissions.

Daylight Access

Why is Natural Daylight important?

Natural daylight is an important aspect of residential design because it reduces the need for artificial light, thereby increasing energy efficiency and amenity. Daylight comprises both skylight (diffuse light from the sky), and sunlight (direct beam radiation from the sun). It is constantly changing according to the time of day, time of year and the weather and it is this variability that provides interest to interiors and helps to create satisfying places in which to work and live.

Basic Principles

> To ensure that all habitable rooms have access to natural daylight. Where possible, this should be extended to service rooms (such as kitchens and bathrooms).

> To ensure sufficient day lighting in order to reduce the reliance on artificial lighting during daylight hours.

> To promote environmental controls which allow residents to regulate the quantity of daylight as required.

Design Guidelines

> Consider the siting, shape and orientation of the building, in terms of optimising the number of dwellings with northern aspect.

> Ensure communal open space receives direct daylight during winter months and provides adequate shading during the summer season.

> Ensure the optimum number of units receive direct daylight access to habitable rooms and private open space.

> Utilise skylights, clerestory windows and fanlights to supplement daylight access through regular windows.

> Promote double height spaces in areas where daylight access is limited, to assist daylight penetration into living areas and private open spaces.

> Restrict the depth of single aspect units.

> Ensure single storey, single aspect units are oriented to the north or east.

> Ensure the unit layout positions living areas to the north and service areas to the south.

> Minimise the number of south-facing units. Where unavoidable, increase the area of glazing.

> Make use of light shelves to reflect light into deep units.

Manage glare and provide shading during summer months through the use of:

> Environmental controls such as eaves, canopies, balconies, louvered screens and planting.

> Ensure external glare is minimised by avoiding reflective films and other high glare finishes.

> The use of light wells as a primary source of daylight should be restricted to non-habitable rooms only.

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> No more than 10% of units within a development should be single aspect and south-facing.

> These criteria may be reviewed if a project can demonstrate how site constraints and orientation prevent the achievement of these standards. Such a scheme would be expected to achieve optimal performance within these constraints.

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Service Design

Why is Service Design important?

All residential development requires site facilities for such services as rubbish, storage, laundry drying, and mail delivery. Such services need to be functional but should be sited where they are unobtrusive and safe, accessible to residents but secure from intruders.

Basic Principles

> Design services to minimise any acoustic transmission.

> Ensure electrical and telecommunication sockets are sufficient in number and conveniently located in rooms when furnished.

> Design services to ensure they do not compromise visual amenity or presentation of the building.

> Provide site services which meet the needs and provide convenience for residents.

> Ensure facilities are unobtrusive, practical and easily maintained.

Design Guidelines

> Insulate pipes for acoustic privacy.

> Locate wastewater stacks adjacent to non-habitable rooms to further reduce the impact of any pipe noises.

> Ensure socket locations are off set both between rooms and between adjacent units. This limits noise transmission through sockets.

> Ensure electrical and telecommunication sockets are co-ordinated and sufficient in number. Consider the location and requirements of appliances and additional lamps once the apartment is furnished.

> Plumbing and waste pipes should be located within the building rather than exposed on the exterior walls.

> The design and location of down pipes and rainwater heads should be incorporated into the façade design.

> Ensure overflows and down pipes from balconies are designed to contribute to the visual amenity and presentation of the building.

> Site facilities provided should be an adequate size to service the number of units, located and/or screened in a way that reduces visual clutter but is secure for residents to use.

> Facilities need to be adequately screened and ventilated (particularly rubbish storage) and easily cleaned and maintained.

> In developments with over 10 unites, consideration should be given to providing an on-site bulk rubbish service rather than individual wheelie bins for each unit that create clutter and block streets on rubbish collection days.