

This part of the *Plan* sets out the assessment criteria for *medium density housing*. The criteria are designed to give designers and builders flexibility and to provide opportunities for *site responsive designs*, while ensuring that *medium density housing developments* provide a positive contribution to the character and *amenity* of residential areas.

The criteria are grouped into the following Design Elements:

Neighbourhood Character

Relationship of the *development* to the surrounding neighbourhood and streetscape.

Site Layout

Overall *design*, character and *landscape treatment*, including such things as orientation, *site* access, location and function of *outdoor spaces*, topography and **views**.

Building Location

relationship to adjacent *buildings*, *site boundaries* and *height* of the proposed *development* to ensure satisfactory *amenity* is maintained.

Visual and Acoustic Privacy

Layout, and *screening* to enable **privacy** from overlooking or unwanted noise.

Carparking and Vehicle Access

Design and layout of *driveways* for resident and visitor *car parking* to achieve convenient, safe and attractive vehicle access.

On-site Outdoor Space

Relationship of *outdoor space* to houses to enable appropriate levels of **privacy**, outlook, sunlight and *landscape treatment*, while also considering maintenance, management, and security.

Entries to Buildings

Design and layout to achieve identity and visibility, shelter, security and potential for disabled persons access.

Site Facilities

Appropriate location and *design* of shared facilities for rubbish collection, service *connection* points, storage and the like.

Landscape Treatment

Potential for landscape *design* to enhance and integrate the *development* into the surrounding neighbourhood, and create a quality living *environment*.

For each element an introductory statement discusses the desired approach and issues to be considered. The criteria are intended to guide *development* rather than prescribe the exact *design* and layout of *developments*. However, in some cases, such as *height* and *outdoor space*, an indication has been given of an acceptable outcome. This is to give developers certainty over elements which have an important bearing on the overall *design* of *developments*.



NEIGHBOURHOOD CHARACTER

Integrating new multi-house *development* into existing lower density areas can be achieved by careful attention to the relationship with neighbouring properties and streetscape.

Important aspects to consider include:

- the character of the *road* and *adjacent sites* including *buildings* and *fencing*
- how new *development* can use *building* form, detailing and *landscape treatment* to enhance that character.

Whilst meeting urban consolidation objectives, it is still important for sympathetic new *development* to enhance existing areas. Consideration of detail should include: avoidance of large blank walls or fences facing the *road*, articulation of the facade to break up long straight frontages, and careful location of garages to avoid car-domination of pedestrian areas, houses facing the *road* to contribute to the pedestrian *environment* and to provide a sense of **safety**.

The relationship of new *development* to existing *buildings* should be considered to avoid erosion of **privacy** and a reasonable transition in scale.

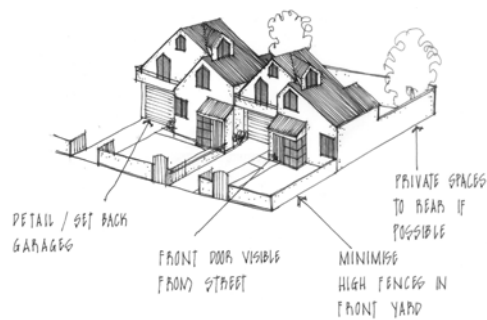
Landscape treatment and *fencing* should complement existing *development* and contribute significantly to integrating infill *development*.

Retaining existing trees or picking up on similar planting themes in front gardens should be considered. Solid high *fences* can often significantly change the character of the *road* and reduce *amenity* for pedestrians.

Developments in new areas will create their own streetscape and **landscape character**, but articulating frontages to provide visual interest should be considered. Avoiding domination of garages or high solid fences facing the *road* will contribute to pedestrian *amenity* and **safety**.

DESIGN ELEMENT A

DESIGN AND LOCATION OF STRUCTURE



ASSESSMENT CRITERIA

A1

Design of new *development* has appropriate residential character and detailing to enhance the existing streetscape. Each residential unit should have a sense of address, either fronting the street, or having its front door visible from the street.

A2

To complement the scale of residential *roads*, changes of *building heights* between existing houses and of new *development* should be not more than one storey.

A3

Large *building* facades which are highly visible from the *road* should be adequately articulated and detailed for visual interest.

A4

Fences should permit outlook from units to the *road* to ensure **safety**, visual contact and surveillance.

A5

Solid *fences* should be minimised and used only where the main *outdoor space* is located in front of the unit and some visual contact from windows can be maintained.

A6

Garages and carports should be sited and detailed to ensure they do not dominate the *road* frontage.

A7

Facilities in front yards such as gates, letter boxes, rubbish bin enclosures, housing for service meters and kerb cross-overs should be compatible in *design* with the *fences* and character of the *development*.

A8

Landscape treatment should complement the existing neighbourhood and allow for retention of existing trees if appropriate.

SITE LAYOUT

Successful *design* of multi-housing *development* is based on a thorough analysis of the *site*, as well as its surrounding neighbourhood. This process of analysis should enable new *development* to be well integrated into existing neighbourhoods, as well as attaining an economically efficient use of the *site* which achieves an optimum solution in terms of climatic effects to create a pleasant, manageable living *environment*.

Before embarking on a layout plan for the *site* time should be spent *on-site*, preferably at different times of the day to observe the following:

- *road* network, and pedestrian paths in the vicinity of the *site*
- *site boundaries* and type of existing boundary *fences*
- existing trees and *vegetation*
- sun position at different times of the day
- **view** to and from the *site*
- amount and direction of slope of the *site*
- direction of prevailing winds
- position of services (water, electricity, sewerage, stormwater)
- adjacent *buildings* and properties - is the *site* overlooked?
- location of neighbours' windows and *building* frontages
- sources of noise
- location of adjacent *outdoor space*
- location of local amenities, eg public parks, local shops, schools, etc.

This *site* analysis is an important first step, prior to the *design* and layout of the *development*. It will greatly assist in the overall *design* character and *landscape treatment* of the *development* in relation to its surroundings.

Careful consideration should be given to the orientation of houses and *outdoor space* to achieve an appropriate relationship with the *road* or *driveways*, and so that the best advantage is taken of **views** and sunlight.

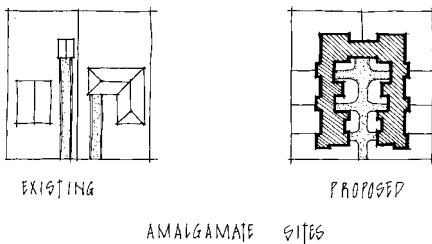
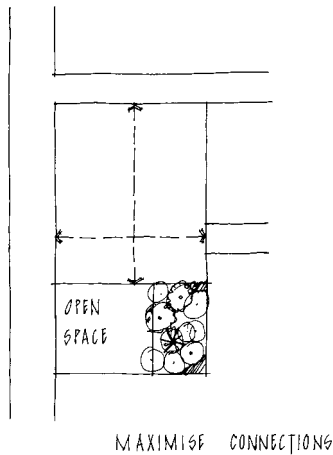
Working through this *site* check list will also help to ensure that *outdoor space* is sunny and sheltered from predominant winds, and that adequate **privacy** is achieved both within the *site*, and with regard to neighbouring properties.

Other important considerations include location of physical and visual connections to ensure convenience as well as personal safety and security.

Identification of existing *vegetation* and trees may highlight an opportunity to incorporate them into the *development* to give it an 'instant' established appearance and character.

DESIGN ELEMENT B

SITE LAYOUT



ASSESSMENT CRITERIA

B1

Ensure the *development* is well connected into the neighbourhood with adequate vehicle and pedestrian links.

B2

Houses should front existing or proposed *roads* or *driveways* wherever possible.

B3

Minimise main *outdoor space* at the front to avoid high solid *fences* onto the *road*, or consider 'permeable' treatments such as *planting*, or lattices to give **privacy** without creating a solid barrier.

B4

Vary alignment of *driveways* to avoid a tunnel effect.

B5

Amalgamate two or more *sites* for redevelopment so that a central *road* or *driveway* can be created, and houses can face other houses where they cannot relate directly to a *road*.

B6

Arrange the *development* to minimise overlooking of *outdoor space*, both within the *site* and the *adjoining sites*.

B7

In areas with significant *off-site* noise, arrange houses to limit exposure to high noise levels.

B8

Minimise exposure of living spaces and principle *outdoor space* to predominant (winter) winds.

B9

Maximise exposure to winter sunshine.

B10

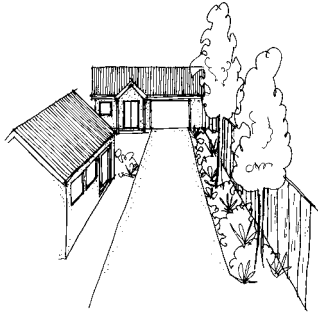
Manipulate the impact of sun and wind by considering the effect of overhangs, eaves, verandahs, pergolas and planting.

B11

Capitalise on **views** from the *site*, whilst also considering **privacy** both within the *development* and of *adjoining sites*.

DESIGN ELEMENT B

SITE LAYOUT



AVOID TUNNEL EFFECT

B12

Where possible retain existing trees and *vegetation*, which can be major assets, and help achieve an 'instant' maturing, provide shade and shelter, and help stabilise the soil.

BUILDING LOCATION

Controls on *building* location and *height* need to be considered to provide for the *amenity* of residents and neighbours, while still achieving a greater density in new *developments*. Aspects to be considered include:

SITE COVERAGE

- *Building coverage* limits may be necessary to limit stormwater load on existing drainage systems, and also to encourage multi-level *developments* which enhance thermal efficiency, *outdoor space* provision and sunlight entry.

BUILDING HEIGHT AND SETBACKS

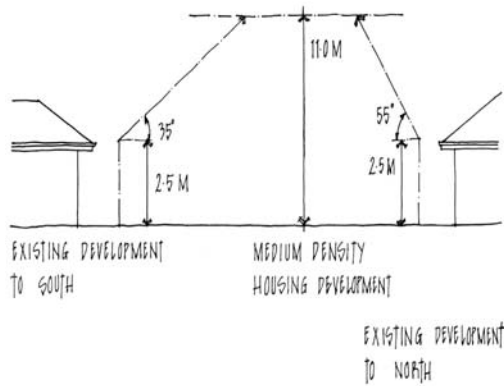
- Controls on *building height* are intended to limit impacts on **privacy** and sunlight entry to *adjoining sites*.
- *Setback* requirements are minimised to allow efficient use of *sites* and increased density, however, some control is necessary to protect **privacy** and sunlight to *adjoining sites*, and to achieve appropriate integration with existing streetscape character.

DAYLIGHT AND SUNLIGHT

- Arrangement and design of houses should permit appropriate levels of daylight and sunlight to internal spaces, as well as *outdoor* space.
- New *buildings* should not significantly reduce sunlight to *outdoor spaces*, or main rooms of *adjoining sites*.

DESIGN ELEMENT C

BUILDING LOCATION



ASSESSMENT CRITERIA

C1

The *setback* of houses from *road* frontage should be appropriate to the efficient use of the *site*, comfort of residents, and the streetspace.

C2

Buildings should be *designed* and located to ensure no significant loss of *amenity* to *adjoining sites* which are not part of the *medium density housing development*. Overlooking of these properties should be avoided and the *height* in relation to boundary controls set out in rule 5.1(ii) of the *Living Environment* should be complied with to ensure **reasonable sunlight and daylight access**. The maximum *height* of *buildings* should not exceed 11.0 metres.

C3

Houses are encouraged to be linked to allow efficient use of *sites*.

C4

Building form and *site layout* is *designed* to minimise *impermeable surfaces* and allow efficient stormwater management. *Impermeable surfaces* should not exceed 65% of the *net site area*.

C5

Habitable rooms should be located to receive adequate daylight.

C6

Daylight to adjacent *habitable rooms* and *outdoor space* should not be significantly reduced.

C7

Sunlight is to be provided to *outdoor spaces*.

C8

Houses should be oriented to obtain winter sun in main living spaces.

VISUAL AND ACOUSTIC PRIVACY

Visual and acoustic **privacy** are very important considerations in order to achieve a satisfactory living environment in *developments* where density is increased. These *developments* can accommodate a range of household types, and are likely to impact on *adjoining sites* to a greater extent, so care must be taken.

Perceived loss of **privacy** in *outdoor space* areas caused by overlooking by upper level windows or balconies can be a problem, both for new *development* and for neighbours. Direct views from windows in new *developments* into neighbours' windows should be limited.

Acoustic **privacy** between houses in new *developments* is also very important. Lack of it can be a major cause of frustration, and cause loss of control over one's own environment.

The New Zealand Building Code requires that building elements which are common between occupancies are constructed to prevent undue noise transmission to the habitable spaces of household units.

Consideration should also be given to the impact of noise from the surrounding *environment* such as busy *roads*, railway or industry.

DESIGN ELEMENT D	VISUAL AND ACOUSTIC PRIVACY
	<p data-bbox="831 344 1171 378">ASSESSMENT CRITERIA</p> <p data-bbox="831 405 1339 562">D1 <i>Outdoor space</i> and living rooms of adjacent houses should be protected from direct overlooking by house layout, <i>screening</i> devices, separation distance or <i>landscape treatment</i>.</p> <p data-bbox="831 582 1339 736">D2 Windows of one house should not face directly into those of another, unless direct views are restricted with <i>screening</i> or <i>planting</i> or the windows are offset or sufficiently distant.</p> <p data-bbox="831 757 1339 1070">D3 Transmission of noise between houses should be minimised by such means as:</p> <ul data-bbox="831 853 1339 1070" style="list-style-type: none">• not abutting living rooms or garages of one house to bedrooms of another house• separately locating and containing plumbing for each house• use of appropriate noise-resistant wall, ceiling and floor materials and <i>construction</i> details. <p data-bbox="831 1090 1339 1182">D4 Active recreation facilities should be located away from bedrooms.</p> <p data-bbox="831 1202 1339 1328">D5 <i>Driveways</i> and <i>car parking</i> areas should be located away from <i>bedroom</i> windows of adjacent houses, or acoustically screened.</p> <p data-bbox="831 1348 1339 1503">D6 Noise sensitive areas such as sleeping spaces should be located away from <i>major roads</i>, railway lines etc and protected by noise shielding devices if necessary.</p>

CARPARKING AND VEHICLE ACCESS

Car parking and *driveways* to *medium density housing developments* require careful *design* to ensure efficient use of the *site*, convenience and **safety** for residents and users, and a satisfactory approach in terms of the streetscape and surrounding neighbourhood.

The provision of resident and visitor parking will be affected by the number and size of houses proposed and the location of the *site* in terms of the surrounding Roading Hierarchy.

On-site visitor parking is often difficult to provide where density is increased, and the management and use of shared visitor spaces can be problematic.

In general, the minimum requirement for *medium density housing developments* will be for one *car parking* space per residential unit, however on some *sites* additional provision for visitors or additional residents' cars will be necessary, for example due to location on main arterial routes.

The *design* and location of garages and carports are very important to the success of the *development* in terms of convenience and **safety** as well as integration into the surrounding streetscape and neighbourhood. They should not dominate the *road* frontage.

Surface treatment of *driveways* should be considered to minimise the extent of *impermeable surfaces*, and enable *on-site* filtration of stormwater.

STREETS AND ACCESS WAYS

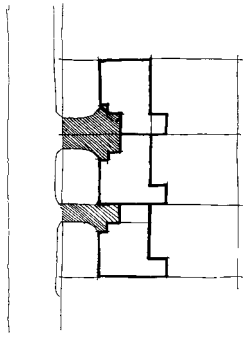
The need for internal *roads* as opposed to *driveways* will be dependent on the size of the *development* and the number of houses provided. Consideration needs to be given to the management and maintenance of these areas, which could range from the provision of a *road* under control of the Council, to a private *shared driveway* managed and maintained by a body-corporate.

Appropriate traffic calming measures such as bends, *landscape treatment* and overall *road design* to ensure safe operating speeds, gradients and visibility will be necessary. For larger *developments* a traffic engineer should be consulted.

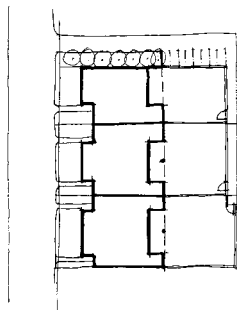
Refer to Rule 12 of the *Living Environment* for provisions relating to parking bays, manoeuvring space, *driveway* width requirements, gradients and *vehicle crossings*.

DESIGN ELEMENT E

CAR PARKING AND VEHICLE ACCESS



LIMIT AMOUNT OF LAND
TAKEN UP BY VEHICLE ACCESS



CAR PARKS CAN BE GROUPED

699

ASSESSMENT CRITERIA

E1

Sufficient *car parking* should be provided to meet the projected needs of residents, including visitors. In general the minimum requirement is one parking space per residential unit. Visitor parking may also be necessary in large *developments*, or when the potential for *off-site* visitor parking is limited.

E2

Car parking facilities should:

- be close and convenient to houses
- be secure, or allow visual contact from houses
- be well ventilated if enclosed
- be well-lit and have well-lit pedestrian links to houses
- clearly identify any visitor parking
- be separate from *bedroom* windows to minimise noise and fumes.

E3

Car parking areas and garages may be grouped to make efficient use of land, including the use of parking bays on *roads* and *driveways* internal to the *medium density housing* area.

E4

Car parking and *driveways* should:

- allow safe and efficient vehicle movements
- minimise access points, where abutting arterial routes, and ensure vehicle egress in forwards direction
- not dominate the **view** of the *development* from the *road*
- be surfaced and graded to ensure efficient stormwater disposal
- be *planted* with shade trees and *screening vegetation* where practicable.

E5

A Traffic Engineer should be consulted for the design of *shared driveways* for larger *developments*.

OUTDOOR SPACE

Depending on the scale of a multi-house *development* there are a range of options for the provision of *outdoor space*, including private areas, communal *outdoor space* which is only available to the residents, and communal space that may be open to the public.

PRIVATE AND COMMUNAL OPEN SPACE

Consideration needs to be given to the quality of space provided and also to the household types the *development* is aimed at, both now and in the future. For example elderly people may prefer smaller *outdoor spaces*, while houses for families with children may require larger, ground level, private, or communal play areas. The management of *outdoor space* also needs to be considered to achieve maximum usability and minimum ongoing expense.

Private Outdoor Space

Outdoor Space is exclusively owned and looked after by the residents of an individual *dwelling*. It could include ground level outdoor areas, courtyards or balconies at upper levels.

Communal Outdoor Space

Communal *outdoor space* or recreation facilities can be provided for shared use by residents within a *development*. It may be appropriate to provide reduced areas of private *outdoor space* where easy and direct access to communal *outdoor space* or shared facilities is available. *Dwellings* should face towards communal outdoor space to ensure good visual contact and ease of access. At least one edge of a communal *outdoor space* should open onto a *road* or *vehicle driveway*. On-going maintenance and management will need to be organised as part of body-corporate responsibilities.

In general, communal *outdoor space* should be limited and clearly defined as it can often become underused, expensive or difficult to manage.

Communal areas for *driveways*, *landscape treatment*, paths, rubbish bin areas or letter boxes

should be kept to a minimum, to reduce costs of management and maintenance.

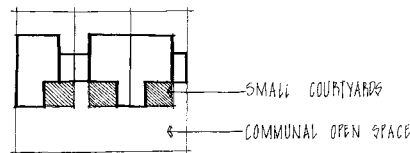
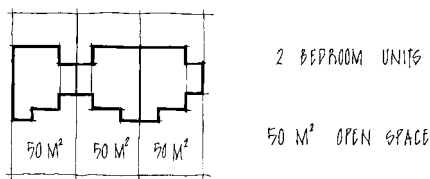
Layout and *design* of the *development* need to consider the quality of the *outdoor space* provided, including such aspects as outlook, sunlight, relationship to house, size, **privacy**, *fencing*, *landscape treatment* and management.

PUBLIC USE OF OPEN SPACE

In some instances it may be appropriate to provide a combination of smaller private *outdoor space*, together with a large *outdoor space* such as a park which is able to be used by residents and the public in general. This may be the case, for example where a *site* has access to a stream which may be used and enjoyed by the wider community. In such cases it may be appropriate for the Council to manage or own the space as *open space*, but this would have to be negotiated on a case-by-case basis.

DESIGN ELEMENT F

OPEN SPACE



ASSESSMENT CRITERIA

F1

Location of *outdoor space* should take advantage of **views** from the *site*, or create a pleasant outlook from living spaces through *landscape treatment* of the space itself.

F2

Outdoor space should be located in relation to adjacent *buildings* to ensure adequate admission of sunlight. In particular, *outdoor space* should be adjacent to main living spaces and be positioned to maximise sun admissions.

F3

Internal layout should be considered together with location of *outdoor space* to achieve an appropriate relationship with main living spaces.

F4

Outdoor space should be located and *designed* to achieve an adequate level of visual **privacy**. Overlooking by neighbours should be minimised. Where unavoidable, appropriate screening or landscaped devices should be utilised.

F5

Fencing and *Landscape Treatment* should assist with ensuring **privacy** and security, and creating an attractive living environment. Where *outdoor space* abuts a *road*, there should be careful *design* to achieve a good visual connection between the house and the *road*, while achieving **privacy**, without the need for high walls or solid *fences*.

F6

Size of *outdoor space* should be adequate for the numbers of people living within the house and for the *development* as a whole.

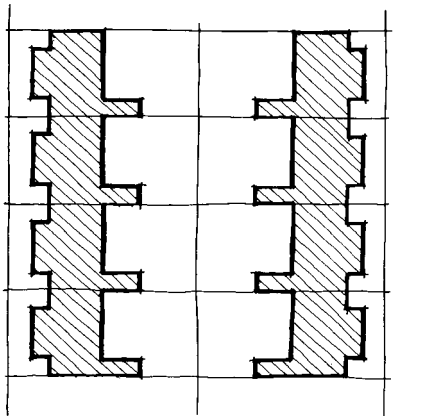
F7

Private *Outdoor Space*:

- suggested minimum size for *outdoor space* for one bedroom units: 25m² either at ground level, or a combination of ground level *outdoor space* and balconies. For units at upper levels with balconies, a smaller area may be satisfactory;

DESIGN ELEMENT F

OPEN SPACE



OPEN SPACE TO REAR IF POSSIBLE
BACK TO BACK INCREASES PRIVACY

ASSESSMENT CRITERIA

- suggested minimum size for two or more *bedroom units*: 50m² either at ground level, or a combination of ground level *outdoor space* and balconies.

Communal *Outdoor Space*

- where communal *outdoor space* or facilities are to be provided as part of the overall *development*, the area of private *outdoor space* allocated to each house can be reduced, as long as each unit has easy and direct access to the communal area.

In this instance:

- houses at ground floor level should include small, outdoor courts with a minimum area of 16m², and a minimum dimension of 3.0 metres;
- houses at first floor level or above should include a balcony or balconies with a minimum total area of 4m²;
- communal *outdoor space* or shared recreational facilities should be provided on the basis of 100m² for every five houses.

F8

Appropriate management and maintenance systems should be in place for communal *outdoor space* dependent on the scale of *development* and the extent of communal access.

Communal *outdoor space* should be faced by *dwellings* to ensure good visual contact for **safety** and ease of access by all residents.

DWELLING ENTRY

Within more intensive housing developments it is important to ensure that each unit achieves an individual sense of address, and that house entries are easily accessed and secure.

ASSESSMENT CRITERIA

G1

House entries should be located where they are clearly visible from the *road* or *shared driveways* so that visitors can easily identify a particular house.

G2

House entries should provide a sense of personal address, shelter and transitional space around the entry.

G3

Entries at ground floor level should be accessible to disabled people.

G4

House entries in multi-level developments should be designed to minimise large numbers of entries off long corridors.

G5

House entries should be well-lit.

SITE FACILITIES

More intensive housing developments often include facilities which are shared between residents, such as rubbish collection areas, mail boxes, service meters and so on.

These elements need to be carefully *designed* and located to be convenient for residents and the relevant service authority, as well as to ensure that they complement the overall *design* of the *development*.

In some developments access will be required for service or emergency vehicles, and *driveways* will need to be adequately *designed* to accommodate these.

Other aspects which need consideration include external storage for lawn mowers, bicycles and the like, and clothes drying facilities.

Storage facilities can often be provided as a part of garaging or *outdoor space* areas, but can also be formed as a separate area.

ASSESSMENT CRITERIA

H1

Garbage bin enclosures are to be sized to accommodate the garbage receptacles as required by Council, and to provide for recycling collection.

H3

Combined garbage bin enclosures are to be located adjacent to the *road* for ease of collection, or where internal to the *site*, allowing for adequate access and turning by garbage collection vehicles.

H4

Combined garbage bin enclosures are to include a tap and sump for the cleaning and washing down of the area.

H5

Mail boxes are to be located adjacent to the footpath, in accordance with requirements of NZ Post.

H6

Meter boxes are to be located in accordance with requirements of the relevant authority.

H7

Each house should be provided with a lockable external store of waterproof and durable construction. As a guide it should have a minimum volume of 6m³ and may be part of the garage, or locker in a carport.

H8

Open air clothes drying should be provided where possible, in areas screened from the street.

H9

In large scale *developments* with internal, *shared driveways*, requirements for emergency vehicles such as fire and ambulance should be designed and provided for in accordance with the requirements of the relevant authority.

LANDSCAPE TREATMENT

Landscape treatment is vital to the integration of multi-unit developments into the surrounding neighbourhood, as well as to the creation of a quality living environment for residents. Issues to be considered include:

- location of *landscape treatment* in public areas, communal areas and private areas
- *planting* types appropriate to the *site* and locale, to assist with achieving **privacy**, and creating an attractive environment, while not requiring unduly high maintenance
- paving and surface finishes to *drivenways, roads* and paths. Semi-permeable surfaces will assist with rain water drainage and reduce the pressure on stormwater systems. Large areas of impermeable surfaces should be avoided
- *fencing* types should contribute to the surrounding streetscape, and the *development* as a whole
- existing *vegetation* can be a major asset and provide an ‘instant’ established appearance. Where practicable it should be incorporated at the *site* planning stage
- maintenance is an important consideration. Whether a private, communal or public responsibility, maintenance requirements should reflect the household types the *development* is aimed at.



I1

Private *outdoor space* should generally be allocated to individual units for ease of management. Where communal *outdoor space* is proposed, then a body-corporate should be considered to maintain these areas.

I2

Major existing trees should be retained and protected from damage where possible.

I3

Landscape treatment should assist with blending new *developments* in with the surrounding streetscape.

I4

Landscape treatment should not affect the structure of proposed *buildings*.

I5

Paving to paths, *drivenways* and near entries should be selected for convenience and **safety**, whilst recognising the desirability of limiting *impermeable surfaces*.

I6

Large areas of *impermeable surfaces* should be avoided to minimise loading of the *stormwater disposal system*.

I7

Landscape treatment should enhance energy efficiency by, for example, providing shade in summer to west-facing windows, and allowing penetration of winter sun and shelter from winter winds.

I8

Landscape treatment should improve **privacy** between houses.

I9

Landscape treatment should minimise risk of damage to overhead and underground services.

I10

Fencing types should enhance the *development* and streetscape. large blank walls facing the road should be avoided.

I11

Selection of *planting* types should consider their relationship to living spaces or *outdoor space*, relationship to the road, and ongoing maintenance requirements.