Better Apartments
Draft Design Standards

The Victorian Government’s response to improving the liveability of apartments
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Why we need better apartments

The Victorian Government is committed to delivering affordable housing options that meet the long-term needs of the Victorian community. We want to protect and enhance Victoria’s reputation for liveability and good design, and ensure that as our cities grow sustainably, they leave positive legacies for future generations.

More and more Victorians are choosing an apartment as a preferred housing choice because it is affordable and offers lifestyle benefits. However, not all apartments being built are healthy places for people to live. Some have little or no access to natural light. Some are poorly ventilated and insulated, and are too noisy. Some have no room for storage. These are places that can affect peoples’ wellbeing.

The design standards will provide greater certainty to the community, councils and the development industry by creating better outcomes for apartments in Victoria. This requires a fair, effective and transparent development assessment process.

Taking action will ensure:
- Apartments provide safe and healthy living environments
- Apartments are a desirable and effective housing choice
- Apartment developments enhance the liveability and sustainability of the surrounding neighbourhood
- Apartment developments create a legacy of quality housing stock for future generations.
In May 2015, the Minister for Planning released Better Apartments – A Discussion Paper for public input and stated that the ‘right mechanisms must be put in place to promote high quality apartment living opportunities’.

The discussion paper started a community-wide conversation about the key issues affecting internal apartment amenity and received 145 written submissions and more than 1700 responses to an online community survey. Workshops and interviews were also conducted.

A Public Engagement report was released in December 2015 that summarised feedback from the community, local government, industry and other stakeholders.

Together with the Office of the Victorian Government Architect (OVGA), the Department of Environment, Land, Water and Planning (DELWP) identified options for implementing a consistent approach to the design and amenity of apartments.

A peak body reference group and a local government working group were also established to test a range of potential design standards and approaches. This work has resulted in the development of a number of draft design standards.

**PROJECT REFERENCE GROUP**

In February 2016, the Minister for Planning established a Reference Group of peak local government, consumer and industry bodies to provide a sounding board for DELWP and OVGA to test the most effective implementation measures and mechanisms for delivering the Better Apartments project. Reference Group members include:

- Australian Institute of Architects
- Building Designers Association of Victoria
- Housing Industry Association
- Master Builders Association of Victoria
- Municipal Association of Victoria
- Planning Institute of Australia
- Property Council of Australia
- Real Estate Institute of Victoria
- Urban Development Institute of Australia
- Victorian Planning & Environmental Law Association

**LOCAL GOVERNMENT WORKING GROUP**

In March 2016, the Municipal Association of Victoria assisted DELWP and OVGA in establishing a local government working group to help test potential implementation measures for the Better Apartments project. The group includes council officers with expertise in planning, urban design, heritage and environmentally sustainable development. The following councils from central, inner, middle, outer and regional areas of Victoria participated:

- Ballarat
- Baw Baw
- Kingston
- Manningham
- Maribyrnong
- Maroondah
- Melbourne
- Melton
- Moonee Valley
- Moreland
- Port Phillip
- Stonnington
- Whitehorse
- Wyndham
- Yarra
The process to date

Stage 1: Understanding the issues
May – Oct 2015

Stage 2: Identifying draft implementation options
Nov 2015 – March 2016

Stage 3: Testing draft design measures
April – June 2016

Stage 4: Confirming public consultation package
July 2016

Public engagement on Discussion Paper

Better Apartments Discussion Paper prepared

Technical assessment of apartment issues and potential solutions

Identification and testing of draft design measures and implementation approaches

Evaluation of draft measures

Identification and testing of implementation options for the Minister for Planning’s consideration

Draft measures tested with Reference Group and Local Government Working Group

Seek public feedback on draft standards

Public engagement

Technical work undertaken by DELWP and OVGA
The draft design standards developed to address the specific apartment design and amenity issues raised through public consultation are:

- Building setback
- Light wells
- Room depth
- Windows
- Storage
- Noise impacts
- Energy efficiency
- Solar access to communal open space
- Natural ventilation
- Private open space
- Communal open space
- Landscaping
- Accessibility
- Dwelling entry and internal circulation
- Waste
- Water management

While many of these draft design standards are new, some have been developed from existing Rescode standards to specifically address apartment design issues. The draft design standards are outlined in greater detail at pages 15 to 43.
Step 1 Better education and training
Training will be provided to local government planners and building design professionals on how to design, prepare applications and assess apartment applications to develop their capacity to implement the new provisions.

The government will fund and deliver training to all planning officers in Victoria and offer 1,000 free places to industry participants, and registered architects and registered building practitioners who wish to attend.

A more advanced training course will be offered to accredit individuals to assess the more technical aspects of the new provisions, and performance based design.

Step 2 New apartment design guidelines
New guidelines will be prepared to help facilitate well designed apartments across Victoria.

These guidelines will replace the existing Guidelines for Higher Density Residential Development currently referenced in the Victoria Planning Provisions and provide extensive best practice guidance on the application of the design standards.

The guidelines will be made available in conventional and an interactive web based format.

Step 3 New planning provisions
The design standards will be introduced through a new particular provision in the Victoria Planning Provisions. The provision will apply to all apartments and will adopt the same performance based approach currently used to assess residential development in the planning scheme.

The new provision will contain:
- Objectives
- Standards
- Decision guidelines

The objectives describe the desired outcomes to be achieved in the completed development. An apartment development must meet all of the objectives.

A standard contains the requirements to meet the objective. A standard should normally be met. However, if the responsible authority is satisfied that an application for an alternative design solution meets the objective, the alternative design solution may be considered.

The decision guidelines set out the matters that the responsible authority must consider before deciding if an application meets the objectives. In developing an alternative design solution that meets the relevant objective, the effect of the design solution on other objectives should be considered.
Step 4 Keeping designs on track at building approval (design verification)

To maintain design quality in apartment developments after the planning stage, it is proposed to introduce a checkpoint at the building permit stage where a registered architect or a registered building designer (who has completed the advanced training course) can verify that all relevant apartment design matters have been met.

Step 5 Developing consumer awareness

DELWP will develop a range of tools to inform consumers which apartments satisfy the design standards. Consumers will be able to make informed decisions about apartments they are considering purchasing or renting.
A new planning provision will be developed to apply the draft design standards to all apartments. Along with existing residential standards the new design standards will form the new planning provision.

**Apartments of five or more storeys**

Applications of five or more storeys will continue to be assessed against the broader urban context as required by Clause 52.35 - Urban context report and design response for residential development of five or more storeys.

A permit application for an apartment development must be accompanied by an urban context report, a site description and a design response. These documents form the basis for applying and assessing the design standards.

Overlays will continue to operate to respond to specific built form issues such as heritage, environment, and other local design objectives.

Where an overlay specifies a requirement that is different from a requirement set out in the new planning provision, the requirements of the overlay must be met.

**Apartments below five storeys**

Applications for apartment developments below five storeys will continue to be assessed against the existing neighbourhood context.

Developments below five storeys will be subject to existing siting standards relevant to this scale of development compared to development greater than five storeys.

Overlays will continue to operate to respond to specific built form issues such as heritage, environment, and other local design objectives.

**Managing transition**

Once the standards have been finalised a minimum of three months notice will be provided before they come into operation. Transitional provisions will be included to ensure that existing permit applications lodged before the new standards come into operation continue to be assessed under the existing provisions in the planning scheme applying at that time.
## Applying the standards to all apartments

### TWO OR MORE DWELLINGS (APARTMENTS UP TO 4 STOREYS)
- B1 Neighbourhood character
- B2 Residential policy
- B3 Dwelling diversity
- B4 Infrastructure
- B5 Integration with street
- B6 Street setback
- B7 Building height
- B8 Site coverage
- B9 Permeability
  - Energy efficiency
    - Solar access to communal outdoor open space
- B12 Safety
  - Landscaping
- B14 Access
- B15 Parking location
  - Room depth
  - Light wells
  - Windows
- B17 Side and rear setbacks
- B18 Walls on boundaries
- B19 Daylight to existing windows
- B20 North facing windows
- B21 Overshadowing open space
- B22 Overlooking
- B23 Internal views
  - Noise impacts
  - Accessibility
  - Dwelling entry and internal circulation
  - Natural ventilation
  - Private open space
- B29 Solar access to open space
- Storage
- B31 Design detail
- B32 Front fence
- B33 Common property
- B34 Site services
  - Communal open space
  - Waste
  - Water management

### TWO OR MORE DWELLINGS (APARTMENTS 5+ STOREYS)
- Local context
- B2 Residential policy
- B3 Dwelling diversity
- B4 Infrastructure
- B5 Integration with street
  - Building setback
  - Energy efficiency
    - Solar access to communal outdoor open space
- B12 Safety
  - Landscaping
- B14 Access
- B15 Parking location
  - Room depth
  - Light wells
  - Windows
- B18 Walls on boundaries
- B23 Internal views
  - Noise impacts
  - Accessibility
  - Dwelling entry and internal circulation
  - Natural ventilation
  - Private open space
- B29 Solar access to open space
- Storage
- B33 Common property
- B34 Site services
  - Communal open space
  - Waste
  - Water management
The draft design standards
The standard seeks to ensure that new apartment buildings are setback an appropriate distance from side and rear boundaries to receive an adequate amount of daylight and privacy.

**Standard**

A habitable room window or a balcony should be setback from a side or rear boundary at least the distance specified in Table 1.

A habitable room window or a balcony should be setback from another building within the site at least the distance specified in Table 1.

The setback is measured from the external surface of the habitable room window or the open side of the balcony, which ever is the lesser.

**TABLE 1: BUILDING SETBACK**

<table>
<thead>
<tr>
<th>BUILDING HEIGHT</th>
<th>MINIMUM SETBACK FROM SIDE AND REAR BOUNDARIES</th>
<th>MINIMUM SETBACK FROM BUILDINGS WITHIN THE SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 13.5 metres</td>
<td>6 metres</td>
<td>12 metres</td>
</tr>
<tr>
<td>13.5 to 25 metres</td>
<td>9 metres</td>
<td>18 metres</td>
</tr>
<tr>
<td>Over 25 metres</td>
<td>12 metres</td>
<td>24 metres</td>
</tr>
</tbody>
</table>

Note: The building setback requirements only apply to new apartment buildings of five or more storeys in height. Clause 55.04-1 Side and rear setbacks objective and Standard B17 will continue to apply to an application to construct two or more dwellings on a lot in a development up to four storeys (excluding a basement).

**Applying the standard**

Setbacks are measured from side and rear boundaries and become greater as the height of a building increases.
The standard also provides minimum setbacks that apply between two or more buildings on a site. Setbacks are measured between buildings.

The setback is measured from glazing line to glazing line or the open edge of a balcony.

The main building structure (including walls, balconies and other building appurtenances) should not encroach within the setback.
Light wells

The standard seeks to ensure that the size and design of light wells allow adequate daylight access to an apartment.

Standard

Living areas of a dwelling should not rely on a light well as the primary source of daylight.

Where a light well is provided, the light well should:

- Meet the minimum requirements specified in Table 1.
- Be clear to the sky and the minimum requirements should not include land on an abutting lot.
- Be painted in a light reflective colour.
- Ensure bedroom windows in separate dwellings are staggered to avoid direct views.

**TABLE 1: LIGHT WELLS**

<table>
<thead>
<tr>
<th>BUILDING HEIGHT</th>
<th>MINIMUM AREA</th>
<th>MINIMUM DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 13.5 metres</td>
<td>9 square metres</td>
<td>3 metres</td>
</tr>
<tr>
<td>Up to 25 metres</td>
<td>29 square metres</td>
<td>4.5 metres</td>
</tr>
<tr>
<td>25 metres to 36 metres</td>
<td>51 square metres</td>
<td>6 metres</td>
</tr>
<tr>
<td>36 metres and above</td>
<td>Should not include a light well</td>
<td></td>
</tr>
</tbody>
</table>

Applying the standard

Land on an adjoining lot should not be included in calculating the minimum area and dimension of the light well.
The minimum area and dimension should be achieved for the entire depth of the light well. Staggering of windows to limit direct views.

MINIMUM AREA
51 SQUARE METRES

MINIMUM DIMENSION
6 METRES

UP TO 36 METRES
BUILDING HEIGHT

ENSURE BEDROOM WINDOWS IN SEPARATE DWELLINGS ARE STAGGERED TO AVOID DIRECT VIEWS.
This standard seeks to ensure that each apartment is able to receive an adequate amount of daylight, including south facing single aspect apartments.

**Standard**

A habitable room should not exceed:
- A room depth to ceiling height ratio of 2:1 for a south facing, single aspect dwelling, or
- A room depth to ceiling height ratio of 2.5:1 for all other dwellings.

The depth of a habitable room with an open plan layout that includes the living, dining and kitchen areas may be increased to 8 metres where the following requirements are met:
- The kitchen area is located furthest from the window.
- The ceiling height is at least 2.7 metres (measured from finished floor level to finished ceiling level).
- The dwelling is not a south facing, single aspect dwelling.
- The ceiling height of the kitchen can be reduced to accommodate services.

**Applying the standard**

The depth and ceiling height of an apartment are important factors in determining the amount and quality of daylight received by a habitable room. Dwelling orientation and whether the apartment is single or dual aspect also have a significant bearing on daylight access.

South facing, single aspect apartments have a higher ratio of 2:1 to offset the lower daylight they naturally receive. For all other apartments, a greater room depth of 2.5 times the ceiling height (a ratio of 2.5:1) is permissible.
Except for south facing, single aspect dwellings, where a habitable room is designed with an open plan layout and achieves the minimum standard ceiling height of 2.7 metres, the depth of a habitable room may be extended to no more than 8 metres. An open plan layout dwelling includes the living, dining and kitchen areas combined and not separated by a partition or wall.

The ceiling height of the kitchen area can be reduced to accommodate building services, such as exhausts, electrical and plumbing fittings.
The standard seeks to ensure that all habitable rooms have direct access to daylight by requiring a window to be directly visible from any point in the room.

**Standard**

A habitable room should have a window in an external wall of the building that is visible from any point in the room.

**Applying the standard**

A habitable room is a bedroom, living room, dining room, kitchen area and study. It does not include a bathroom, laundry, toilet, pantry, walk-in wardrobe, corridor, stair, lobby, or any other space of a specialised nature.

Habitable rooms that rely on borrowed light arrangements or daylight from a ‘snorkel’ bedroom (access to light from an adjacent room) will not meet the standard.

Dwelling entrances and other non-habitable rooms are not expected to meet the standard.

Main living areas and bedrooms have an external window that provides direct daylight access.
The standard seeks to ensure that each apartment has a reasonable amount of storage space to allow people to live comfortably and provide for different space requirements of different households.

Standard

Each dwelling should have convenient access to usable and secure storage space (excluding kitchen, bathroom, bedroom and other utility storage).

The total minimum storage space should meet the requirements specified in Table 1.

<table>
<thead>
<tr>
<th>DWELLING TYPE</th>
<th>TOTAL MINIMUM STORAGE VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio and 1 bedroom dwelling</td>
<td>6 cubic metres</td>
</tr>
<tr>
<td>2 bedroom dwelling</td>
<td>8 cubic metres</td>
</tr>
<tr>
<td>3 or more bedroom dwelling</td>
<td>10 cubic metres</td>
</tr>
</tbody>
</table>

Applying the standard

The storage space must be provided in addition to storage space that would normally and reasonably be expected to be provided in a kitchen, bathroom, bedroom and other utility storage spaces such as a pantry, built-in robe, broom cupboard or linen press.

The storage space should be conveniently accessible and secure and may be provided internally or externally to an apartment, either wholly or in part.

Storage spaces provided externally to an apartment can be in a basement, lower level car parking area, or provided in a common area space near or next to the apartment.

External storage spaces in car parking areas can be prone to theft, and this can be prevented through appropriate design of the storage structure.
Storage is clearly distinct from typical forms of bedroom, bathroom, kitchen and other utility storage. The required volume is not completely provided internally and will need to be supplemented with additional storage space in a car parking area or other secure common area.

Storage spaces can be located in a common area adjacent to a services core. This makes efficient use of floor area located centrally that might otherwise be less usable or have poor access to daylight.
Separate secure storage areas within a car parking area.
Noise impacts

The standard seeks to ensure that new apartments achieve a reasonable standard of acoustic performance in relation to noise transmission.

Standard

Noise sources, such as mechanical plant, should not be located near bedrooms of immediately adjacent existing dwellings.

The layout of new dwellings and buildings should minimise noise transmission within the site. The location of noise sensitive rooms (such as living areas and bedrooms) should take account of:

- The layout of adjoining dwellings, and
- The location of mechanical plants, building services, non-residential uses, car parking, and communal areas.

New dwellings should be designed and constructed to include acoustic attenuation measures to reduce noise levels from any off-site noise sources to:

- Below 35dB(A) for bedrooms, assessed as an LAeq over 8 hours (from 10pm to 6am).
- Below 40dB(A) for living areas, assessed LAeq over 16 hours (from 6am to 10pm).

Noise levels should be measured in unfurnished and uncarpeted rooms with the windows closed.

Applying the standard

Careful consideration should be given to the land use and development context of the site.

Potential noise sources within a development should be addressed through design, location and siting techniques.

Using bathrooms, laundries and kitchen spaces as a buffer to noise-sensitive spaces (such as bedrooms or living rooms) from noise sources is encouraged.

Noise transfer between apartments (above, below, and adjoining) can be mitigated by configuring bedrooms and living rooms back-to-back respectively.

Off-site noise sources that may have the potential to impact on the amenity of a new apartment should also be considered. Development sites that are located in mixed use and / or commercial areas, activity centres, or close to transport infrastructure are likely to be exposed to higher levels of noise than established residential areas.
Bedrooms and living areas are arranged away from building services core and common area passageways. Bedrooms and living rooms are configured back-to-back.

External noise sources are required to be addressed by acoustic attenuation measures.
The standard seeks to ensure that new apartments are energy efficient.

**Standard**

Buildings should be:

- Oriented to make appropriate use of solar energy.
- Sited and designed to ensure that the energy efficiency of existing dwellings on adjoining lots is not unreasonably reduced.

Living areas and private open space should be located on the north side of the development, if practicable.

Developments should be designed so that solar access to north-facing windows is maximised.

Each dwelling should not exceed the maximum cooling load specified in Table 1.

**TABLE 1: COOLING LOAD**

<table>
<thead>
<tr>
<th>NatHERS CLIMATE ZONE</th>
<th>MAXIMUM COOLING LOAD MJ/M² PER ANNUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melbourne Central (Climate Zone 21 Melbourne)</td>
<td>30</td>
</tr>
<tr>
<td>Melbourne North and West (Climate Zone 60 – Tullamarine)</td>
<td>22</td>
</tr>
<tr>
<td>Melbourne South and East (Climate Zone 62 – Moorabbin)</td>
<td>21</td>
</tr>
</tbody>
</table>

**Note:** Maximum cooling load levels are currently being prepared for all Victorian climate zones.

**Applying the standard**

The standard specifies a maximum cooling load that is applied as part of a NatHERS assessment, to help ensure more consistent energy performance for an apartment, particularly over the warmer period of the year.
Solar access to communal outdoor open space

The standard seeks to ensure that any communal outdoor open space provided on-site for residents achieves a specific amount of direct sunlight through good orientation.

Standard

The communal outdoor open space should be located on the north side of a building, if appropriate.

At least 50 per cent of the communal outdoor open space area should receive direct sunlight for a minimum of two hours between 9am and 3pm on 21 June.

Applying the standard

Siting of open space areas on the northern side of the building will optimise solar access.

Opportunities for the optimal siting and design of communal outdoor open space areas should be identified early in the design development process.

A minimum of two continuous hours of direct sunlight should be achieved between 9am and 3pm on 21 June. The shape and location of the outdoor open space area will also influence the amount of solar access achieved. A roof top or podium outdoor area will have different solar access opportunities than a ground level outdoor space.

Achieving the minimum amount of direct solar access will also be dependent on the existing built form context of adjoining sites.

While the minimum two hour window of direct sunlight is to be continuous, the two continuous hours could be achieved in the morning or the afternoon.

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The diagram illustrates the solar access to communal outdoor open space from 9am to 3pm on 21 June. The shaded area indicates the minimum 50% solar access required.
The standard seeks to ensure that a significant proportion of apartments in a new development have adequate natural ventilation.

**Standard**

At least 60 per cent of dwellings with a finished floor level less than 35 metres height should be naturally cross ventilated. The length of the breeze path through the dwelling should be a maximum of 15 metres (as measured between openable windows and doors).

All habitable rooms less than 80 metres height should be provided with openable windows or doors in an external wall of the building.

**Applying the standard**

For dwellings up to 35 metres above natural ground level, 60% of apartments should be naturally cross ventilated.

The standard can be met by the provision of a dual aspect apartment provided the length of the breeze path does not exceed 15 metres.
Floor plan showing a breeze path through a two bedroom apartment. The breeze path carries through the two bedrooms and the living area, and also has potential to carry through the open plan kitchen and living area.
Private open space

The standard seeks to ensure that each apartment is provided with an area of private open space that will meet the reasonable recreation and service needs of residents.

Standard

A dwelling should have private open space consisting of:

- An area of 25 square metres, with a minimum dimension of 3 metres at natural ground floor level and convenient access from a living room, or
- An area of 15 square metres, with a minimum dimension of 3 metres at a podium or other similar base and convenient access from a living room, or
- A balcony with a minimum area and dimension specified in Table 1 and convenient access from a living room. This only applies to a dwelling with a finished floor level less than 35 metres height (measured from natural ground level), or
- A roof-top area of 10 square metres with a minimum dimension of 2 metres and convenient access from a living room.

If an air conditioning/heating unit is located within the private open space, the area occupied by the unit should not be included in the calculation of the required minimum area.

TABLE 1: PRIVATE OPEN SPACE

<table>
<thead>
<tr>
<th>DWELLING TYPE</th>
<th>MINIMUM AREA</th>
<th>MINIMUM DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio and 1 bedroom dwelling</td>
<td>8 square metres</td>
<td>2 metres</td>
</tr>
<tr>
<td>2 bedroom dwelling</td>
<td>10 square metres</td>
<td>2 metres</td>
</tr>
<tr>
<td>3 or more bedroom dwelling</td>
<td>12 square metres</td>
<td>2 metres</td>
</tr>
</tbody>
</table>

Applying the standard

Private open space can be provided:

- At natural ground floor level, or
- On a podium or similar base. (A semi-basement level is considered a similar base structure for the purposes of providing open space to a podium), or
- On a balcony, or
- On a roof top.

Both the minimum area and minimum dimension should be met.

When considering the application of the standard the development context should be considered. For example in a landscaped suburban setting, the side and rear setbacks can be used to provide private open space at the natural ground floor level.

In more highly urbanised areas private open space may not be desirable at the natural ground floor level and should be provided at podium and upper levels depending on relevant built form outcomes.
8 SQUARE METRES
MINIMUM AREA

2 METRES
MINIMUM DIMENSION

1 BEDROOM DWELLING

10 SQUARE METRES
MINIMUM AREA

2 METRES
MINIMUM DIMENSION

2 BEDROOM DWELLING

12 SQUARE METRES
MINIMUM AREA

2 METRES
MINIMUM DIMENSION

3 BEDROOM DWELLING
The standard seeks to ensure that an area of communal open space is included in new apartment buildings for the benefit of residents.

**Standard**

Developments with 20 or more dwellings should provide a minimum area of communal open space of 2.5 square metres per dwelling or 100 square metres, whichever is lesser.

Communal open space should:
- Be substantially fronted by dwellings, where appropriate.
- Provide outlook for as many dwellings as practicable.
- Be designed to protect any natural features on the site.
- Be accessible and useable.

**Applying the standard**

Communal open space can be provided in different ways and be used for social and recreational purposes. There are opportunities to use spaces such as front, rear and side building setbacks for landscaped outdoor communal areas, and podiums and rooftops as social spaces.

The minimum area of communal open space is to be provided in addition to the private open space requirements for individual dwellings.

Communal open spaces are not necessarily required to be located outdoors. Where they are provided outdoors, they should also meet the *Solar access to communal outdoor open space standard*. 
The standard seeks to ensure that new development is responsive to its landscape context, retains significant vegetation, maintains habitat and provides for canopy trees.

**Standard**

The landscape layout and design should:

- Protect any predominant landscape features of the neighbourhood.
- Take into account the soil type and drainage patterns of the site and integrate planting and water management to reduce urban heat island effect.
- Allow for intended vegetation growth and structural protection of buildings.
- In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals.
- Provide a safe, attractive and functional environment for residents.
- Maximise opportunities for deep soil planting to allow for planting of canopy trees.
- Consider alternative landscaping opportunities such as green walls and rooftop gardens to reduce heat absorption and improve stormwater management.

Development should provide for the retention or planting of trees, where these are part of the character of the neighbourhood.

Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made.

The landscape design should specify landscape themes, vegetation (location and species), paving and lighting.

A development should achieve the minimum deep soil areas specified in Table 1.

If the development cannot meet the deep soil areas, alternative forms of landscape should be provided which can include canopy trees or climbers (over a pergola) with tree pits sized appropriately for the mature tree soil volume requirements for the selected species based on the Cornell Formula (Crown Projection × 0.6 = Soil Volume (m³). Crown Projection (CP) = \( \pi r^2 \), \( \pi = 3.142 \), except where specific requirements are provided by the responsible authority.

The soil quality of the deep soil areas (or tree pits) should comply with Australian Standard AS4419-2003, *Soils for Landscaping and Garden Use*.
### TABLE 1: DEEP SOIL AREAS

<table>
<thead>
<tr>
<th>SITE AREA (SQUARE METRES)</th>
<th>750-1000</th>
<th>1001-1500</th>
<th>1501-2500</th>
<th>&gt;2500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep soil areas (% of site area)</td>
<td>5% minimum dimension of 4 metres any one side</td>
<td>75% minimum dimension of 5 metres any one side</td>
<td>10% minimum dimension of 6 metres any one side</td>
<td>15% minimum dimension of 6 metres any one side</td>
</tr>
<tr>
<td>Tree provision (number and size of trees per area of deep soil)</td>
<td>1 small tree per 30 square metres deep soil</td>
<td>1 medium tree per 50 square metres deep soil</td>
<td>1 large tree per 90 square metres deep soil</td>
<td>1 large tree per 90 square metres deep soil or 2 medium trees per 90 square metres deep soil</td>
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Note: There is no requirement for deep soil areas for a site area less than 750 square metres.

### Applying the standard

Deep soil areas will more readily support canopy trees that add value to a landscape character and the public realm, or contribute to the amenity of residents, as well as reduce the urban heat island effect.

Where the number of trees to be provided is not a whole number, the fraction should still be provided through the use of small or medium size trees to meet the standard.

For example, a 2,400 square metre site would need to provide 240 square metres of deep soil area which can accommodate two large trees or four medium trees (ie: 180 square metres), with a residual deep soil area of 60 square metres. This residual area should be used to accommodate two small trees or one medium tree (ie: 60 or 50 square metres, respectively).

The standard provides some flexibility where the deep soil area requirements cannot be met, or in certain circumstances where the deep soil area might not be appropriate. In such cases alternate forms of greening including green roofs or walls should be provided.
4 METRES MINIMUM
5 METRES MINIMUM
6 METRES MINIMUM
6 METRES MINIMUM

DEEP SOIL AREA

750-1000 SQUARE METRES SITE AREA
1001-1500 SQUARE METRES SITE AREA
1501-2500 SQUARE METRES SITE AREA
>2500 SQUARE METRES SITE AREA

5%
7.5%
10%
15%

750-1000 SQUARE METRES SITE AREA
1001-1500 SQUARE METRES SITE AREA
1501-2500 SQUARE METRES SITE AREA
>2500 SQUARE METRES SITE AREA
The standard seeks to ensure that apartment developments cater to the needs of people with limited mobility by introducing minimum dimensions and design requirements for entrances, corridors, doorways, bedroom and bathroom spaces.

**Standard**

All dwellings (except for 25% of all two bedroom dwellings) should comply with the following requirements:

- The dwelling entrance should have a doorway with a clear opening width of at least 850mm.
- At least one adaptable bedroom and one adaptable bathroom. An adaptable bedroom and an adaptable bathroom should have a doorway with a clear opening width of at least 850mm.
- Any corridor connecting the dwelling entrance to the adaptable bedroom, the adaptable bathroom or the living area should have a minimum width of 1.2 metres.

Adaptable bedrooms should have minimum dimensions (excluding built-in robes) of 3 metres by 3.4 metres.

Adaptable bathrooms should have:

- A toilet in a corner of the room with a clear space in front measuring 12 metres by 12 metres, clear of the door swing. A removable shower screen may encroach into this space.
- A hobless (step-free) shower with a clear space in front of the shower measuring 12 metres by 12 metres, clear of the door swing. This space can overlap with the clear space in front of the toilet.

**Applying the standard**

Open plan living areas tend to be free of corridors and other permanent walls and obstructions, and should meet the standard when the minimum dimensions for entrances, doorways, and internal rooms are met.

With good design these features can be introduced with no increase in the apartment size.
Rooms and doorways that meet the standard.

Adaptable bathrooms that meet the standard.
The standard seeks to ensure that entries and internal common spaces are designed to provide high quality spaces that contribute to the overall amenity and functionality of the building.

**Standard**

Entries to dwellings and buildings should:
- Be visible and easily identifiable.
- Provide shelter, a sense of personal address and a transitional space around the entry.

The layout and design of buildings should:
- Clearly distinguish entrances to residential and non-residential areas.
- Provide windows to building entrances, lift lobbies and stairwells.
- Provide common areas and corridors that:
  - Include at least one source of natural light and natural ventilation.
  - Avoid intrusion from building services.
  - Maintain clear sight lines.

**Applying the standard**

Distinguishing entrances to residential and non-residential areas.
Floorplan showing access to natural ventilation and daylight in common areas and corridors.
The standard seeks to ensure that waste management facilities are well designed, and enable residents to manage their own waste easily.

Standard
The development should include dedicated areas for:

- Bin and recycling enclosures that are adequate in size, durable, waterproof and blend in with the development.
- Bin and recycling enclosures that are located for convenient access by residents.
- Collection, separation and storage of general waste and recyclables, including where appropriate opportunities for on-site management of food waste through composting.
- Collection, storage and reuse of garden waste, including where appropriate opportunities for on-site treatment.
- Adequate circulation area for waste collection vehicles.
- Adequate internal storage space within each dwelling to enable the separation of recyclables, residual waste and where appropriate food waste.

Waste management systems and facilities should:

- Protect public health and amenity of occupants and adjoining premises from the impacts of odour, noise and waste collection vehicle movements.
- Be maintained in accordance with a Waste Management Plan approved by the responsible authority.

Applying the standard
Apartment buildings should provide dedicated areas for bin and recycling enclosures, and areas for collection, separation and storage of waste. This includes providing adequate spaces within an apartment for separated storage of waste, recyclables and food waste.

Providing spaces and facilities for composting of appropriate types of food and garden waste is also encouraged, although this will partly be influenced by whether the composted material can be used on-site.

Waste management issues will be resolved between the permit applicant and the responsible authority through the preparation of a waste management plan.
Providing areas for waste management.
The standard seeks to ensure that opportunities to collect and reuse rainwater and greywater are identified and implemented in new development.

**Standard**

Buildings should collect rainwater (with appropriate plumbed connections to suitable fittings) for non-drinking purposes such as flushing toilets, laundry and garden use.

Buildings should connect to a non-potable dual pipe reticulated water supply, where available from the water authority.

The stormwater management system should be:

- Designed to meet the current best practice performance objectives for stormwater quality as contained in the *Urban Stormwater – Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee 1999) as amended.

- Designed to maximise infiltration of stormwater, water and drainage of residual flows into permeable surfaces and treatment areas.
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