

<b>Acoustic privacy</b>	a measure of sound insulation between apartments, between apartments and communal areas, and between external and internal spaces
<b>Accessible housing</b>	housing that is designed and built to accommodate the needs of occupants with mobility impairment (Australian Standard 1428: Design for Access & Mobility Series)
<b>Adaptable housing</b>	housing that is designed and built to accommodate future changes to suit occupants with mobility impairment or life cycle needs (Australian Standard 4299: Adaptable Housing)
<b>Adaptive reuse</b>	the conversion of an existing building from one use(s) to another or from one configuration to another
<b>Affordable Housing</b>	housing for low to moderate income households. Affordable housing is usually required to be financially viable based on a ratio of housing costs to income.
<b>Amenity</b>	the 'liveability' or quality of a place which makes it pleasant and agreeable to be in for individuals and the community. Amenity is important in both the public and private domain and includes the enjoyment of sunlight, views, privacy and quiet.
<b>Articulation zone</b>	the area of three dimensional modelling at the periphery of the building, including any changes in facade alignment, balconies, bay windows and sun shading devices
<b>AS 1428</b>	Australian Standard 1428: Design for Access and Mobility Series
<b>AS 4299</b>	Australian Standard 4299: Adaptable Housing
<b>BCA</b>	Building Code of Australia
<b>Brownfield Site</b>	an area which has been built on in the past, often for industrial uses and characterised by large blocks and lots
<b>Build to Line</b>	a front setback expressed as a required distance from the street edge of the building envelope. In urban areas the build to line often corresponds to a zero front setback, to establish a consistent streetscape.
<b>Building Line</b>	the line formed by the main external face of the building, excluding any balcony or bay window projections
<b>Building Sustainability Index</b>	(BASIX) a comprehensive menu of best practice sustainability measures based on their relative effectiveness (available from PlanningNSW end of 2002)
<b>Building zone</b>	the area within which a building can be built, usually represented in plan and section. Corresponds to a building envelope
<b>Core</b>	vertical circulation (eg lift, stairs)
<b>Cornice</b>	decorative horizontal moulding at the top of a building which 'crowns' or finishes the external facade
<b>Cross over apartments</b>	apartments with two opposite aspects and with a change in level between one side of the building and the other
<b>Cross through apartments</b>	apartments on one level with two opposite aspects

<b>Datum or datum line</b>	a significant point or line in space established by the existing or desired context, often defined as an Australian Height Datum. For example, the top of significant trees or the cornice of a heritage building
<b>Deck</b>	an external platform, usually elevated, located alongside and accessible from an interior space and often made of timber
<b>Double loaded corridor</b>	corridor with apartments off both sides, generally associated with single aspect apartments
<b>Dual aspect apartment</b>	apartments which have at least two major external walls facing in different directions, including corner, cross over and cross through apartments
<b>Facade</b>	the external face of a building
<b>Glass line</b>	inside face of windows on the external walls of a building
<b>Ground</b>	the existing ground level at the time of the development application
<b>Habitable room</b>	any room or area used for normal domestic activities, including living, dining, family, lounge, bedrooms, study, kitchen, sun room and play room
<b>Indigenous plants or animals</b>	a plant or animal species occurring at a place within its historically known natural range and forming part of the natural biological diversity of a place
<b>Internal Courtyard</b>	communal space at ground level or above a structure (eg. podium), formed by the building and enclosed on 3 or more sides (see Building Separation) and open to the sky
<b>Juliet balcony</b>	small projecting balcony, generally ornamental or only large enough for one person standing
<b>Lightwell</b>	a shaft for air or light, enclosed on all sides or which has the potential to be enclosed by future adjoining development, and either open to the sky or glazed
<b>Long life</b>	loose fit buildings which can accommodate a range of existing and future uses
<b>Maisonette apartment</b>	a two-storey apartment, where the storeys are vertically stacked
<b>Mezzanine</b>	the second storey of an apartment, fully or partially open to a void (double height) space shared by both storeys
<b>Non-habitable room</b>	spaces of a specialised nature not occupied frequently or for extended periods, including bathrooms, toilets, pantries, walk-in wardrobes, corridors, lobbies, photographic darkrooms and clothes drying rooms
<b>On-grade</b>	on ground level (not on a building structure)
<b>Open plan</b>	apartment layouts where spaces are not divided into discrete rooms, but are open and connected to allow flexibility of use (typically living, dining, kitchen and study areas)
<b>Operable screening device</b>	sliding, folding or retractable elements on a building designed to provide shade, privacy, and protection from natural elements

<b>Operable walls</b>	internal walls which can be moved, for example by sliding, folding, or pivoting, to allow for different room configurations
<b>Parapet</b>	a horizontal low wall or barrier at the edge of a balcony or roof. Often taken to refer to the decorative element which establishes the street wall height of heritage buildings (see Cornice)
<b>Perimeter block development</b>	where buildings are generally aligned to the street, enclosing or partially enclosing an area in the middle of the block
<b>Plan depth or width</b>	measured from inside face of wall to inside face of wall or from inside face of glass to inside face of glass
<b>Potable water</b>	water which conforms to Australian Standards for drinking quality
<b>Private Courtyard</b>	private open space which may be on a structure (eg. podium, parking deck) or at ground level
<b>SEPP</b>	State Environmental Planning Policy
<b>Silhouette</b>	a building outline viewed against the sky
<b>Stack ventilation / solar chimney</b>	air convection resulting from hot air being pushed up and out by colder denser air which is drawn in at a lower level
<b>Storey</b>	a level in a development. This includes attic spaces with habitable rooms. It does not include space used for car parking, laundries or storeroom if the ceiling above the space is not more than 1200mm (measured from the lowest point on the site) above ground level
<b>Terrace (outdoor area)</b>	an unroofed and usually paved area connected to an apartment and accessible from at least one room. May be on-grade or on a structure (podium)
<b>Underground</b>	below ground level or less than 1.2 metres above ground level
<b>Walk-up</b>	an apartment building limited in height due to the number of stair flights a person will reasonably climb without a lift. Buildings are generally 2-3 storeys, with a 4th storey permitted only as an upper level to a 3rd storey apartment unit.
<b>Yard</b>	on-grade private open space with deep soil

## .References & Further Reading

Benson, Doug and Howell, Jocelyn. **Taken for Granted: the Bushland of Sydney and its Suburbs**, Sydney: Kangaroo Press, 1995.

Brown, G.Z. and DeKay, Mark. **Sun, Wind and Light: Architectural Design Strategies**, New York: John Wiley & Sons, 2001.

City West Development Corporation. **Pymont Point Master Plan**, Sydney: Department of Urban Affairs and Planning, 1994.

Commission for Architecture and the Built Environment. By Design: **Urban Design in the Planning System**, London: Department Environment Transport Regions, 2000.

Commonwealth Department of Housing and Development. **AMCORD: A National Resource Document for Residential Development**, Canberra: AGPS, 1995.

Fairley, A. and Moore, P. **Native Plants of the Sydney District: an Identification Guide**, Sydney: Kangaroo Press, 1989.

Herzog, Thomas. (editor) **Solar Energy in Architecture and Urban Planning**, Munich: Prestel, 1996.

Hollo, Nick. **Warm House Cool House, Sydney**: Choice Books, 1995.

Hitchmough, J.D. **Urban Landscape Management**, Sydney: Inkata Press, 1994.

Llewelyn-Davies in association with Urban Investment Metropolitan Transport Research Unit. **Sustainable Residential Quality: Exploring the Housing Potential of Large Sites**, London: London Planning Advisory Committee, 2000.

Llewelyn-Davies with Alan Baxter and Associates. **Urban Design Compendium**, London: English Partnership, 2000.

NSW Department of Urban Affairs and Planning and NSW Department of Public Works and Services, **Residential Flat Design Pattern Book**, Sydney: Department of Urban Affairs and Planning, 2001.

NSW Department of Urban Affairs and Planning and NSW Government Architect. **Better Urban Living: Guidelines for Urban Housing in NSW**, Sydney: Department of Urban Affairs and Planning, 1998.

NSW Department of Urban Affairs and Planning. **Mixed Use in Urban Centres: Guidelines for Mixed Use Development**, Sydney: Department of Urban Affairs and Planning, 2000.

NSW Department of Urban Affairs and Planning. **Neighbourhood Character: An Urban Design Approach for Identifying Neighbourhood Character**, Sydney: Department of Urban Affairs and Planning, 1998.

NSW Department of Urban Affairs and Planning. NSW Model Code: **A Model For Performance-Based Multi-Unit Housing Codes**, Sydney: Department of Urban Affairs and Planning, 1997.

NSW Department of Urban Affairs and Planning. Residential Densities: **A Handbook Illustrating the Urban Design Characteristics of Different Densities**, Sydney: Department of Urban Affairs and Planning, 1998.

Phillips, R.O. **Sunshine and Shade in Australasia**, Sydney: NSW National Building Technology Centre, 1987.

Polyzoides, Stefanos, Sherwood, Roger and Tice, James. **Courtyard Housing in Los Angeles**, New York: Princeton Architectural Press, 1992.

Rowe, Peter G. **Modernity and Housing**, Cambridge: MIT Press, 1995.

Royal Australian Institute of Architect in association with Department of Planning and Development, Smart Housing Choices: **A Directory of Medium-Density Housing in Victoria**, Victoria: Department of Planning and Development, 1992.

Schneider, F. (editor) **Floor Plan Atlas Housing**, Basel: Birkhäuser Verlag, 1994.

Sherwood, Roger. **Modern Housing Prototypes**, Cambridge: Harvard University Press, 1978.

Urhahn, G.B. and Bobic, M. A Pattern Image: **A Typological Tool for Quality Urban Planning**, Bussum: Thoth Publishers, 1994.

#### Websites:

National Solar Architecture Research Unit (SOLARCH), University of New South Wales.  
[www.fbe.unsw.edu.au/units/solarch](http://www.fbe.unsw.edu.au/units/solarch), 1999

Marsh, Andrew and Raines, Caroline of Square One research Pty Ltd and Welsh School of Architecture, Cardiff University.  
[www.squ1.com](http://www.squ1.com), 2002

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# .Residential Flat Design Code

Tools for improving the design of residential flat buildings

## A design code for improving the design quality of residential flat buildings.

The code provides information on defining design objectives and guidelines as part of a place based approach to plan making.

It shows how to establish and use design guidelines and development controls for residential flat buildings in relation to three different scales - the local context, the site, and the building.

Information sheets use text, drawings and photographs to clearly explain each design topic.



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### Part .01 Local Context

Defines and illustrates the use of primary development controls to deliver desired outcomes for the local area.

### Part .02 Site Design

Explains site analysis and design guidelines for improving site design.

### Part .03 Building Design

Explains design guidelines for improving building performance/functionality, form, sustainability, and residential amenity.

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