

6.0 DESIGN GUIDELINES

GENERAL DESIGN GUIDELINES FOR DEVELOPMENT

High quality urban form and amenity are of paramount importance at Sydney Olympic Park. The purpose of these Guidelines is to clearly articulate the objectives for a range of design elements which supplement the broader planning framework of the Master Plan. The objectives are supported by guidelines which represent possible ways of achieving the objectives. The Authority is prepared to consider alternative solutions/design responses, provided it can be demonstrated that the objectives are satisfied.

6.1 PUBLIC DOMAIN

Sydney Olympic Park's unique and exceptionally high quality public domain needs to be maintained, respected and enhanced in any future development.

6.1.1 General Guidelines

Active Uses

- New buildings should provide direct contact or access between the street and the interior of the building.
- New buildings should where feasible provide pedestrian oriented activities at ground level contributing to the vitality of the public domain.
- Temporary uses associated with festivals, events, markets or carnivals are encouraged as they contribute to the vitality, attractiveness and liveliness of Sydney Olympic Park. These can include the erection of temporary buildings for short term merchandising and food and beverage outlets.

Amenity

- New buildings should provide shelter, such as, awnings or colonnades along street frontages (refer to *Figures 5.3.8 and 5.3.9*).
- The use of footpaths for outdoor seating and dining is encouraged where local conditions are favourable and high pedestrian amenity can be preserved.
- External lighting of buildings and the public domain at night should be of an appropriate level to encourage use and enjoyment of the public spaces, architectural appreciation and public safety.
- Downlighting and highlighting is encouraged; uplighting, floodlighting and bud-lighting is discouraged.
- Solar access to key parkland areas and other important public spaces should be optimised between 11.30am and 2.30pm on June 21. Shadow impact assessments are required by all new developments to demonstrate impacts on solar access in winter and shade in summer.



Public Domain Elements and Public Art

- All public domain furniture elements are to be designed in accordance with the *Urban Elements Design Manual (1998)*.
- All Parklands elements are to be designed in accordance with the *Parklands Elements Design Manual (1999)*.
- All proposed public art projects are to be developed in full consultation with the Authority.
- Any new public building project should allocate between 0.5% and 2.0% of total construction budget to public art.

Vehicle Access

- Vehicular access across footpaths should be minimised and designed to limit conflict with pedestrians and visual intrusion.
- Where practical, access to car parking and loading areas is to be located to the rear of buildings away from the main pedestrian thoroughfares.
- Vehicular entries should address the street and be as close as practical to the street alignment. Deeply recessed vehicle entries are discouraged.
- Parking is to be predominantly underground or concealed from public view and within development sites.

6.1.2 Building Line

Refers to the general alignment of the walls of a building that sets its relationship with the surrounding streets and public spaces and establishes the character of the area.

Objective

To achieve developments that align to site boundaries and provide high quality pedestrian amenity.

Guidelines

- New commercial buildings and mixed use buildings with commercial/retail street level uses should generally be built to street frontages (see *Figure 5.3.6*).
- New buildings should reinforce the major site axes and provide connections with surrounding local public domain and Parklands.
- The entrances of buildings are to be orientated to the principal pedestrian thoroughfares.



6.1.3 Street Address

The street address of a building defines a hierarchy between public, semi-public and private space and is one of the determining factors that establishes an urban character. Buildings that orient towards the street through building alignment, entry points, and generous windows and doors in the front façade result in more secure, pedestrian friendly streetscapes.

Objective

To achieve buildings that address the street and provide a high level of pedestrian amenity.

Guidelines

- Building alignment to reinforce the street edge.
- Pedestrian entry points to be clearly demarcated by the articulation of the façade and ground plane.
- Vehicular entry points to be accessed from minor, less trafficked thoroughfares.
- Vehicular crossings to be minimised at the kerb and footpath.
- Garage entries width to be minimised, the maximum width of a garage entry point should be 4m.

6.1.4 Through Block Connections

Objective

To achieve a development that pedestrians can easily and safely traverse.

Guidelines

- Provide a clear sight line from one end of a block to the other for orientation, surveillance and accessibility.
- Through block connections should be designed as clear and legible extensions of the public domain.
- Provide lighting to achieve luminescence levels consistent with community safety and security and to the appropriate Australian Standards.
- See **Section 5**, *Figure 5.3.10*.

6.1.5 Safety and Security

Objectives

Ensure a high quality of security for pedestrians by activating street edges and providing a safe public environment.

Guidelines

- Provide well lit and defined pathways and entries to buildings at night.
- Provide a well lit and defined public domain.
- Allow casual surveillance of the street by inhabitants of the buildings.
- Promote lively public and semi-public areas through location and number of front entries or commercial uses on the ground floor.
- Activate street frontages through maximising public uses at street level.
- Encourage interaction between ground level building spaces and the street through fenestration at ground level.
- Landscaping should contribute to a high level of safety and security.

Residential

- Apartments on lower levels to have living spaces that face the street or shared private open space.
- Entries to apartments above ground level to be visible from the street with a strong semi-public character.
- Clearly define threshold areas by providing a hierarchy of spatial progression from public through to private space.
- Provide an appropriate system at the entry or in the lobby for visitors to communicate with residents.
- Prevent uncontrolled access to apartments from balconies, roofs and windows of neighbouring buildings.
- Access to car parks from common areas should be secured by lockable doors.
- Orient openings of living spaces such as: living rooms, dining rooms, and kitchens to face the street and/or rear courtyard to integrate indoor and outdoor spaces and encourage passive surveillance.



6.2 BUILDING FORM AND CHARACTER

Design of buildings is to be of a high standard with materials and design commensurate with the major elements already existing in Sydney Olympic Park, and consistent with the *Environmental Guidelines (September 1993)*.

6.2.1 Character

The character of a building is the result of its siting, use, height, depth, articulation, colours, textures and finishes.

Objective

To achieve development that establishes the highest design quality and environmental benchmarks for future development, that is compatible with the existing character of the built environment on the site and that follows design guidelines set in this document.

Guidelines

- New buildings are to apply the Ecologically Sustainable Development principles referred to in the *Environmental Guidelines for the Summer Olympic Games (September 1993)*.
- New buildings are to be designed, constructed and operated consistent with the environmental protection measures established in the Authority's Environment Policy and Environment Strategy.
- New buildings are to relate to the attributes of the Sydney Olympic Park setting, define local streets and reinforce the character of the public domain.



Figure 6.2.3 Use of sun and privacy screens, balconies, roof overhangs and colour give the building individuality.

Source: The Presidio, Newtown, Sydney

6.2.2 Building Height

Objective

To achieve a development that moderates the scale of the existing built fabric of the site and responds to the site context and its setting.

To achieve room heights that are proportional to their depth, to facilitate access to natural light within the building and natural ventilation.

Guidelines

- Developments should not generally exceed the number of storeys indicated on *Figure 3.4.1* excluding plant and architectural features.
- Generous floor to ceiling heights in all building types is encouraged. The range for typical floor to ceiling heights in commercial buildings is 3.6m-4.0m at the ground level and 2.7m-3.0m at other levels.
- The minimum typical floor to ceiling height in residential buildings is 2.7m.

6.2.3 Articulation

Building articulation can be generated through the expression of separate parts of a development: entries, access stairs, walkways, balconies and so and through design solutions to environmental conditions of orientation, noise, breezes and views etc.

Objective

To achieve buildings of a distinctive contemporary character articulated in response to the local and environmental context.

Guidelines

- Articulation of the building should be integrated with the building design and its massing.

Façade

- Composition of the façade should clearly define a base, middle and top with well balanced vertical and horizontal proportions.
- Building entries should be clearly articulated.
- Where the building line is along the street alignment, articulation of the building is encouraged above the colonnade or awning.
- Where the building line is setback from the street alignment, articulation may be built forward of the building line.

Roof Level

- The roof level of buildings may be used as communal open space or to be articulated with differentiated roof forms that do not visually compete with the Vernon Buildings in the Town Centre precinct.
- The top level of buildings including plant should be integrated with the overall design of the building. Mechanical exhaust/plant located on roof tops should be within the building fabric or concealed behind a parapet.
- Use low glare roof materials.
- Roof tops are encouraged to be landscaped to provide increased thermal performance to spaces directly below.



Awnings and Colonnades

- Provide continuous awning, or colonnade to street frontage containing ground floor commercial, retail or entertainment uses as shown in *Figures 5.3.8 and 5.3.9*.
- Awning height should be a minimum of 3.6m from ground floor level.
- Awning width should be set back a minimum of 800mm from the face of the kerb, a greater setback is permitted to allow for street trees and lightpoles, cutouts for these street elements are not permitted.
- The minimum width of awnings is 2.0m. Awnings are to provide protection from the sun and the rain.
- Provide lighting under the awning, or wall mounted lighting on the building to achieve luminescence levels consistent with the Australian Standards.
- Colonnades should be a minimum of 5.0m wide and two storeys in height.

6.2.4 Building Material, Colours and Finishes

The materials, colours and finishes of a building contribute to the character and visual scale of a building.

Objective

Encourage building materials that are compatible with the character of the site, and support environmental sustainability. Achieve developments that use colour and finishes that express the character of the building and enhance the built form.

Guidelines

- Materials selection to be consistent with the *Environmental Guidelines for the Summer Olympic Games (September 1993)* and the Authority's *Environment Policy and Environment Strategy*.
- Achieve developments that use finishes that are of high quality and have long life.
- The material selection of the existing buildings within Sydney Olympic Park display the use of materials current to the best practice of the time, new buildings should continue this built character in the material selection.
- Building materials selected should display a combination of the following Ecologically Sustainable Development qualities: a low embodied energy, durability, recycled or able to be recycled, non-polluting in manufacture, use and disposal, contribute to a healthy indoor air quality through minimised toxic fume emission and out-gassing from paints, carpets, glues and pest control practices.
- Use building materials and interior design that minimises the need for chemical pest control and maximises opportunities for integrated pest management.
- The principles and properties of thermal mass, glazing and insulation are to be incorporated into the design of new buildings to reduce the need to artificially heat or cool these buildings. *Refer to the relevant Australian Standards.*

- Use appropriate combinations of bulk and reflective insulation in walls, ceilings and roofs to improve thermal performance.
- Use of timber should not result in the destruction of old growth forests, native or foreign rainforest. A chain of custody is required for any timber selected as building material that indicates this timber is from a sustainable source.
- Visible light reflectivity from building materials used on the façades of new buildings should not exceed 20%.
- All glass should be clear and untinted unless otherwise approved by the Authority.

Residential

- Residential buildings should not have transparent balustrades to terraces or courtyards. Opaque materials or coloured translucent or opaque glass are preferred for balustrades to terraces and courtyards.

6.2.5 Building Depth

Objective

To achieve a development that promotes sustainable design and improves the internal amenity of buildings by providing living and working environments minimising reliance on artificial heating, cooling and lighting.

Guidelines

- Achieve cross ventilation and daylighting through atria, light wells and courtyards.
- Provide operable window openings in walls facing different and opposite directions where possible.
- Avoid or minimise use of air conditioning or mechanical ventilation.
- To achieve good daylight and optimal energy performance the depth of residential building should be preferably a maximum of 18m including balconies.
- For residential towers (ie above 6 storeys), the maximum depth may exceed 18m providing that at least 60% of the apartments have dual aspect.
- The maximum footprint for residential towers should not exceed 900m².
- The maximum depth of a habitable room from a window providing light and air should be 10m.
- To achieve good daylight and optimal energy performance the depth of commercial buildings should, where functional and design requirements permit, be a maximum of 20m (see *Figure 6.2.5*).

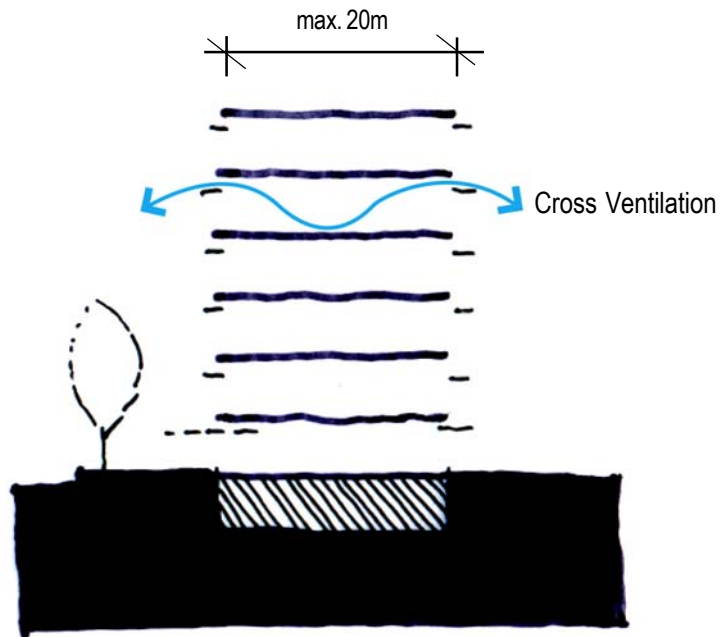


Figure 6.2.5 Cross ventilation diagram for commercial development

6.2.6 Passive Solar Design

Objective

To achieve buildings that optimise passive solar design opportunities.

Guidelines

- While optimum solar access is desirable, building orientation to the street pattern should be respected.
- New buildings are to maintain solar access to residential buildings and open spaces.
- Use devices such as overhangs, projecting blade walls, vertical screens, heat absorptive and reflective glass curtains and external blinds to control solar access in summer.
- Locate glazed areas to optimise sun access in winter and daylight access in general.
- The most used rooms and private open space should be located to maximise solar access and energy gain in winter months between the equinoxes.

Residential

- Design buildings to ensure there is daylight access to habitable rooms.
- Residential buildings including towers should be designed to predominantly accommodate dual aspect apartments (see also Section 6.4.1 Natural Light).

6.2.7 Ventilation

Ventilation is required for cooling a building and dispelling stale air.

Objective

To achieve a development of high quality energy efficient living and working environments.

Guidelines

- Natural cross ventilation should be maximised in all new developments as far as possible.
- This can be achieved by having operable openings on walls facing two different, preferably opposite directions.
- The total opening size should be greater than 5% of the floor area of the room to be ventilated.
- Apartments that are not cross ventilated should have higher floor to ceilings and demonstrate how they are designed to assist ventilation.
- Mechanical ventilation may be incorporated as a supplementary measure in high noise or pollution situations, or where site constraints prohibit apartment layouts that facilitate natural ventilation.
- If chemical refrigerants are required for permanent or temporary cooling and/or refrigeration systems, priority should be given to non-ozone depleting, non-greenhouse gas warming refrigerants. *Refer to the Environmental Guidelines for the Summer Olympic Games (September 1993).*

6.2.8 Flexible Design

The life span of a building is increased if the original design provides for a flexibility in terms of changing use and needs. An increase in the life span of a building directly results in a more ecologically sustainable development.

Objective

To provide buildings that apply sustainable design practices by encouraging the development of adaptable and flexible buildings. To provide buildings that apply sustainable design practices by encouraging the development of adaptable and flexible buildings.

Guidelines

- Design service areas and service risers to be accessible and capable of additional capacity in the future.
- Concentrate service cores to allow for the maximum flexibility of floor layouts.

Residential

- Provide a variety of apartment types, sizes and layouts in each development, such as maisonettes, open plan living areas etc.
- Allow for maximum non load bearing internal walls to provide for a degree of future flexibility.



6.2.9 Information and Communication Technologies (ICT)

Embraces consumer electronics, computing and telecommunications. ICT concerns both the processing of information and the transference of data by electronic means.

Objective

To create smart developments that have the capacity to adapt to new communications technologies with an emphasis on:

- Maximum quality and speed information retrieval;
- Minimum cost of the technology to the end user; and
- Acceptance by information and service providers of this as a practical communications system.

Guidelines

- Development should have the capacity to be hardwired to allow future inclusion of affordable services.
- Consideration should be given to incorporating common trenching and duct sharing (in the public and private domain).
- All services and strategies should comply with best practice guidelines.

6.2.10 Access

It is important that people of all types and degrees of disability are able to access all parts of the building. Building configuration, access and internal circulation have a fundamental impact on the orientation and quality of the internal environment.

Objective

To achieve a development with an appropriate and efficient circulation system that facilitates buildings with good orientation and that all people can use and enjoy the full range of facilities offered.

Guidelines

- All new development is required to comply with the Authority's *Access Guidelines (2002)*.
- All new developments are required to prepare an 'Access Strategy' to the satisfaction of the Authority and the consent authority which shall satisfy AS 4299 as a minimum.
- Ensure that barrier free access is provided to common areas of all buildings, and not less than 20% of apartments in each development.

Residential

- 30% of total apartments and ground floor apartments in each development to be visitable (AS 4299).
- Provide frequent vertical access points to avoid long internal corridors.
- Locate lift lobbies on external walls with glazing to allow views out and daylight access, where possible.
- Where developments provide ground floor dwellings, separate and individual direct street access is to be provided.
- The objectives, intent and principles of AS 4299 "Adaptable Housing" are to be met.

Commercial

- At least one main entry shall be provided with barrier free access.

6.3 ENVIRONMENTAL CONSIDERATIONS

6.3.1 Waste Management and Minimisation

Sydney Olympic Park bases its waste management and minimisation practices on the "Reduce, Reuse, Recycle" philosophy. The Authority's waste management strategy specifies that the creation of waste is best avoided or reduced at the point of generation; remaining waste should be re-used or recycled when possible; and disposal to landfill should be minimised as far practicable.

Objective

To achieve a development that minimises the generation of waste during its design, the construction and throughout the operational lifetime of a building.

Guidelines

- A Waste Management Strategy is required to be submitted with all development applications to the satisfaction of the Sydney Olympic Park Authority and the consent authority. The strategy should address the potential for composting and recycling facilities within the development.
- Refer to the *Environmental Guidelines for the Summer Olympic Games (September 1993)*, *The Homebush Bay Environment Strategy (1995)* and the principles of ESD as defined in the Local Government Act 1993.
- Designate areas on site for the storage and recycling of waste. These areas are to be located so as not to cause offence to public areas, adjoining properties or occupants with regard to smell, visual appearance or noise disturbance.
- Bin holding rooms and garbage rooms should be wholly within building basements and should be able to be entered and exited by garbage trucks in a forward direction.

Construction and Maintenance

- Minimise waste during the design of a building by coordinating building dimensions to the standard size of building materials, utilising component parts that can be easily replaced.
- Building materials should be ordered with minimal or no external packaging.
- Prioritise the procurement of sustainable building materials (based on life cycle assessments).
- Provide source separation facilities on building sites so that different types of waste can be separated during the construction and the demolition to reuse and recycle materials.
- Where demolition is proposed, maximise materials to be recycled and dispose of materials in an environmentally sustainable manner.



6.3.2 Biological Diversity and Significant Natural and Cultural Environments

Sydney Olympic Park contains areas of diverse and ecologically significant habitat and is home to a variety of unique flora and fauna. The Authority's parkland management strategies and ecological monitoring programs ensure that the biodiversity of the site remains a priority.

Objectives

- The importance of the diverse flora and fauna within the natural ecosystems and unique cultural elements with Sydney Olympic Park is recognised, enhanced and protected.
- Future development is designed, constructed and operated in a manner which protects biodiversity and complements natural and cultural environments.

Guidelines

- Ensure all development is designed, constructed and operated in a manner which protects biodiversity and conserves areas of heritage conservation and significant natural and cultural environments.
- Refer to the *Environmental Guidelines for the Summer Olympic Games (September 1993)*.
- Where relevant ensure compliance with all State and Commonwealth legislation (environmental and cultural) and compliance with all relevant international biodiversity agreements.
- Where relevant, ensure compliance with the Plan of Management for Millennium Parklands.
- Where relevant, ensure compliance with the Authority's *Frog Management Plan (2001)*.
- Encourage the use of integrated pest management practices and biorational use of natural organisms and predator control.
- Minimise the use of pesticides and if required, select the least toxic to minimise environmental impact.
- New development to consider the impact of lightspill in parkland areas.

6.3.3 Water Conservation

Efficient water management and its conservation are important ESD components and are evident in the planning, development and operation of Sydney Olympic Park. Examples include Australia's first large scale Water Recycling and Management System (WRAMS), rooftop rainwater collection systems and the use of water saving landscaping practices such as engineered soils, permeable pavers, porous gravel, low volume irrigation systems and drought tolerant native plants.

Objective

To achieve developments that maximise the efficient use of water as a resource and conserve water using environmentally innovative technologies.

Guidelines

- A Site Stormwater Management Plan is required to be submitted with all development applications to the satisfaction of the Sydney Olympic Park Authority and the consent authority.
- Refer to the *Environmental Guidelines for the Summer Olympic Games (September 1993)*, *The Homebush Bay Environment Strategy (1995)* and the principles of ESD as defined in the Local Government Act 1993.
- Maximise opportunities for ground water recharge and water conservation for reuse by providing on-site detention.
- Water efficient shower heads, flow regulators, to basins sinks and dual flush toilets should be installed.
- Landscape design that decreases water requirements with emphasis on selection of plants appropriate to climate and region.
- All new development is required to be connected to the Water Reclamation and Management Scheme (WRAMS) at Sydney Olympic Park.

6.3.4 Energy Conservation

Improving energy efficiency and reducing consumption of fossil fuels represent important goals for ecologically sustainable development and are achievable via energy conservation practices and maximising the use of renewable energy sources. Sydney Olympic Park showcases a broad array of energy efficient designs and technologies and demonstrates how energy conservation can be realised in terms of supply, management and use.

Objective

To achieve developments that maximise the use of renewable energy sources and conserve energy using environmentally innovative technologies.



Guidelines

- Refer to the *Environmental Guidelines for the Summer Olympic Games (September 1993)*, *The Homebush Bay Environment Strategy (1995)* and the principles of ESD as defined in the Local Government Act 1993.
- Incorporate passive solar design principles in building design to minimise reliance on additional heating and cooling (refer *Figure 6.4.1*).
- Minimise greenhouse gas emissions through the use of renewable energy sources.
- Energy efficient building services should be installed, including but not limited to low energy heating and cooling systems and low energy lighting.
- Gas or solar hot water heating should be provided.
- Commercial and Residential buildings are to have a minimum 4.5 star rating.
- Household appliances should have a minimum 3 star rating.

6.3.5 Wind Standards

Objective

To lower overall levels of wind and its impacts that will contribute to people's enjoyment of the public domain and residential amenity.

Guidelines

- A wind impact statement is to be submitted with all development applications for buildings over 25m in height and shall address any amelioration measures required to protect the amenity of the public domain.
- Building design should minimise adverse wind effects on recreation facilities and on open terraces/balconies.

6.4 ADDITIONAL RESIDENTIAL GUIDELINES

6.4.1 Natural Light

Objective

To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of urban housing development. To use direct solar access and shading to reduce the running costs of the building.

Guidelines

- Where site and building lines permit, living room windows shall have a northerly aspect.
- All living rooms should achieve at least 3 hours of direct sun penetration between 9am and 3pm at the winter solstice (22 June), where possible.
- Provide sun protection to glazing. North facing glazing should allow winter sun and exclude summer sun penetration. Eastern and western glazing should be protected from direct sunlight during the summer months (refer to *Figure 6.4.1*).

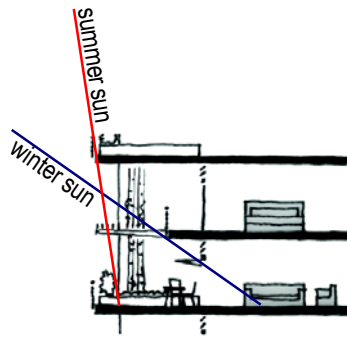


Figure 6.4.1 Sunlight entry to building: screen summer sun, admit winter sun to internal spaces.

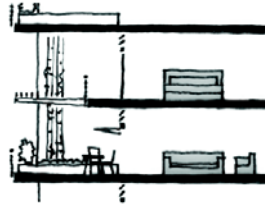


Figure 6.4.2 Relationship between internal and external residential spaces: Above ground private open space as extensions of living spaces.



Figure 6.4.3 Shared Private Open Space
Source: New Housing in Vienna, Vienna: Verlag, 1991



6.4.2 Private Open Space

Courtyards, terraces, balconies and the like can contribute to the character of the public domain and provide amenity to the residents.

Objective

To achieve a development in which all dwellings have access to private comfortable and useable private open spaces. Private spaces directly adjoining the public domain are to positively contribute to the quality of the public domain.

Guidelines

- Ground floor apartments should have private garden space, directly accessible from living spaces.
- Each dwelling is to have at least one private outdoor space, directly accessible from a living or dining room with a minimum dimension of 2.5m.
- The minimum private open space for each apartment should be 20% of its functional area.

Above Ground Open Space (Balconies, Terraces, etc)

- To be designed to allow privacy, security and solar access.
- To be designed as extensions of interior living spaces by being immediately adjacent and accessed from living spaces, having floor and/or ceiling planes continuous with the interior space, and using large sliding or folding glazed doors (refer to *Figure 6.4.2*).

Front Gardens

- Garden structures such as gazebos, clothes lines, play equipment, swimming pools and spa baths are not permitted in front gardens or on any street frontage.

6.4.3 Shared Private Open Space

Objective

To provide greater residential amenity through well designed shared open space.

Guidelines

- The development application is required to include landscape plans prepared by a qualified landscape architect.
- Courtyards should be spatially defined with preferably three substantially or fully built edges.
- Courtyards are to be pleasant outdoor living spaces well considered in regards to sunlight, winds, height to width to depth ratio, landscaping and deep planting areas (see *Figure 6.4.3*).
- Locate car parking under the building footprint where possible to maximise deep soil landscape.

- Landscaping above car parking is to create optimum conditions for the establishment and long term viability of planted garden area including, a minimum of 600mm of soil for planting, drainage and irrigation to planters over structure, planting is to be accessible for maintenance.
- Deep soil landscape is to provide some capacity for storage and infiltration of stormwater falling within the total development.
- Communal private space is to be designed to enhance the safety and security of residents, consider the impact of noise on the amenity of residents within the development and on the likely future amenity of nearby and adjoining development.
- Consolidate areas of activity both within the site and with adjoining sites.
- Light weight pergolas, sunscreens, privacy screens and planters are permitted on roof terraces, provided they do not increase the bulk of the building as seen from the street. These elements should not affect the views and the privacy of neighbouring properties.
- Courtyards should operate as biosinks allowing the filtration and dispersion of a component of stormwater not able to be reused.

Rooftop and Podium Areas

- Rooftop areas and the top of podium levels are to be designed for recreational facilities where practicable.
- The design of rooftop areas should address issues of visual and acoustic privacy, safety, security, and wind effects.

6.4.4 Visual Privacy

Objective

To achieve a development of high quality living environments that maximises the visual and acoustic privacy of the occupants and neighbouring properties, through siting, building planning, location of openings and building materials.

Guidelines

- Direct overlooking of rooms and private outdoor space on site and on neighbouring properties is to be minimised through building layout, location and design of windows and balconies, incorporating appropriate external screening devices and landscaping.
- Minimum distances between opposite openings where the view is unrestricted by screening and planting are: 6m between non-habitable rooms; 9m between non-habitable and habitable rooms; and 12m between habitable rooms.



6.4.5 Acoustic Privacy

Sydney Olympic Park is a major sporting and entertainment precinct generating large crowds and an often noisy environment. Residential development should be located and designed to mitigate adverse, noise impacts and achieve acceptable standards of residential amenity.

Objective

To achieve a development of high quality living environments which maximise the visual and acoustic privacy of the occupants and neighbouring properties, through siting, building planning, location of openings and building materials.

Guidelines

- New buildings must address noise impacts from both the existing and proposed venues and infrastructure in Sydney Olympic Park on the development once completed through appropriate acoustic design.
- Minimise noise transmission between neighbours by siting of buildings and design of internal room layouts, openings and private outdoor space.
- Achieve primary acoustic privacy between adjacent dwellings. This may be improved by using service areas such as corridors, storage areas, kitchens and laundries back to back to create a noise buffer.
- Use screens, blade walls and material choice to minimise noise transmission.
- Design commercial areas to diminish the impact of noise associated with late night operation on nearby residents.
- Minimum Field Sound Transmission Classes (FSTC) between walls and floors:
 - FSTC 50 Between sole occupancy units, sole occupancy units and plantrooms, units and internal communal space: corridors, hallways, stairways etc.
 - FSTC 55 Between adjoining units where the wall or floor separates habitable room from bathroom, sanitary compartment, laundry or kitchen.
- Minimum Impact Isolation Classes (ICC):
 - ICC 50 Floor between sole occupancy units, sole occupancy units and plantrooms, units and internal communal space: corridors, hallways, stairways etc.
 - BCA Walls to comply with standards specified in the BCA.

6.4.6 Storage

Objective

To provide accessible and adequate storage facilities for residents.

Guidelines

- The following rates are provided as a guide:

1 bed apartments	8m ²
2 bed apartments	10m ²
3+ bed apartment	12m ²

- At least 50% of this storage area should be provided within the apartment (as part of the required unit area) and accessible from either the hall or living areas. Where the remaining 50% of the storage is located in the basement of the building it will be linked to each dwelling unit through the provisions of the relevant Strata Plan.

6.4.7 Size of Apartments within a Residential Development

Objective

To achieve high quality living environments by providing adequate internal spaces that maximises amenity for the occupants.

Guidelines

- All units within residential developments should comply with the following minimum unit sizes:

1 bed apartments	55m ²
2 bed apartments	80m ²
3+ bed apartments	100m ²

- Calculation of the unit size is a net area and is to be exclusive of balconies and excessive internal circulation within the units. The 50% storage area required in the section above can be included as part of this calculation.



6.4.8 Apartment Mix and Affordable Housing

Objective

The provision of a range of apartment sizes and types in each development to ensure a good social mix in the Greater Homebush region.

Guidelines

- Each development to provide a range of apartment mix to the satisfaction of the Authority and consent authority.
- Refer to **Section 7.3 Affordable Housing**.

6.4.9 Apartment Amenity in Common Areas

Objective

To provide optimal amenity to common areas of apartment buildings through appropriate dimensions and access to ventilation and sunlight.

Guidelines

- Corridors within common areas should be a minimum of 1500mm wide to facilitate ease of movement.
- The width of the corridor must be proportional to the length of the corridor eg the longer the corridor, the wider the corridor.
- The maximum length of a continuous corridor is 30m.
- Corridors must have a minimum floor to ceiling height of 2.4m.
- The maximum preferred number of entries to apartments from a common lobby area is ten.
- Access to natural ventilation and daylight is encouraged in corridors.

6.4.10 Bicycle Parking

Objective

To encourage the use of bicycles for commuting and recreation by the provision of on-site parking.

Guidelines

- Bicycle facilities should be provided at the following rates:
 - 1 space per 3 residential apartments.
 - 1 space per 500 m² gross floor area for office/ commercial development.
- Bicycle parking needs to be a combination of secure parking for workers generally located in the car park and short-term parking for visitors.
- Showers and lockers to be provided close to secure bicycle parking facilities.