

Part E: Environmental design criteria

1. Site planning

- 1.1 Site analysis
- 1.2 Site layout
- 1.3 Public open space
- 1.4 Private open space
- 1.5 Landscaping
- 1.6 Parking, access and servicing
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repealed by City of Sydney Contaminated Land DCP 2004, adopted 7 June 2004

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repealed by City of Sydney Signage and Advertising Structures DCP 2005, adopted 21 February 2005

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repealed by City of Sydney Heritage DCP 2006, adopted 11 December 2006

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both repealed by City of Sydney Access DCP 2004, adopted 7 June 2004

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1. SITE PLANNING

Site planning is a design process integrating a range of factors. It involves getting to know the context and character of the site and its surrounds to ensure development that:

- is compatible with the desired character of the locality, and considers the amenity of neighbours;
- takes advantage of the sites best attributes and recognises its constraints;
- satisfies reasonable needs for privacy, security and other justifiable user needs;
- makes good use of outdoor spaces;
- is environmentally sensitive;
- is attractive and functions effectively; and
- adds something new and positive to the streetscape and neighbourhood.

The elements in this section refer to Step 4 of the design and development process (*See Part A – Introduction*).

This section addresses nine elements:

- 1.1 Site analysis
- 1.2 Site layout
- 1.3 Public open space
- 1.4 Private open space
- 1.5 Landscaping
- 1.6 On-site parking, access and servicing
- 1.7 Stormwater drainage
- 1.8 Site contamination
- 1.9 Site facilities

1.1 Site analysis

Objectives

To ensure proper consideration of the characteristics of a site and its context to achieve compatible development that is well designed and makes a positive contribution to its surroundings.

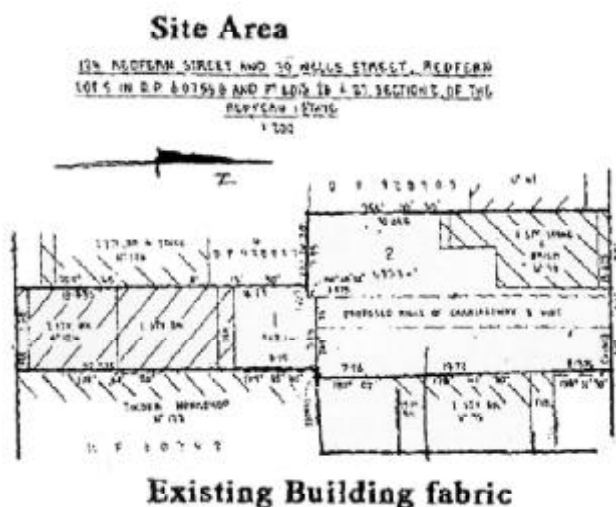
Performance criteria

The site analysis examines and records the significant characteristics of the site's broad and local context, including:

- climatic factors such as temperature range, relative humidity, prevailing winds, and solar access, which directly affect thermal comfort and the energy efficiency of buildings,
- site orientation,
- existing vegetation,
- form, height, scale and type of surrounding and existing buildings,
- environmental constraints such as overshadowing of existing buildings and noise effects; and
- nearby heritage items and/or conservation areas,
- new development in the locality;
- street and block patterns,
- pedestrian linkages from surrounding areas,
- open space networks,
- significant view corridors,
- surrounding Public Domain and opportunities for its enhancement.

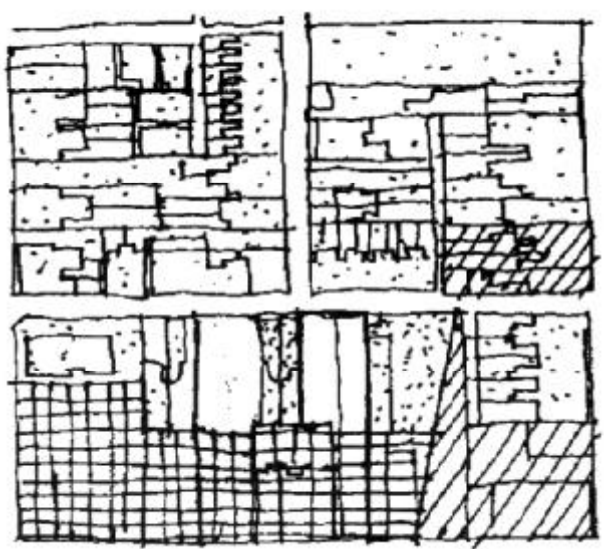


The site (location)



Existing Building fabric

Urban context (existing building heights)



Existing land uses

LEGEND

- 14-18 M. FOUR STOREYS & OVER
- 9-14 M. THREE STOREYS
- 6-7.5 M. TWO STOREYS
- 3-4.5 M. ONE STOREY



EXISTING BUILDING HEIGHTS

The Design Process

Controls

Site analysis drawings are required to accompany Development Applications involving work that requires consideration of its immediate context. The site analysis drawing must address aspects listed under the above performance criteria, and must include the following minimum information:

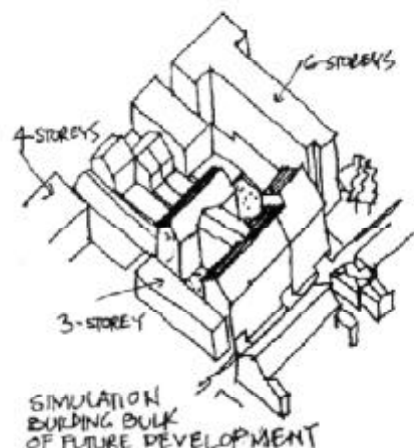
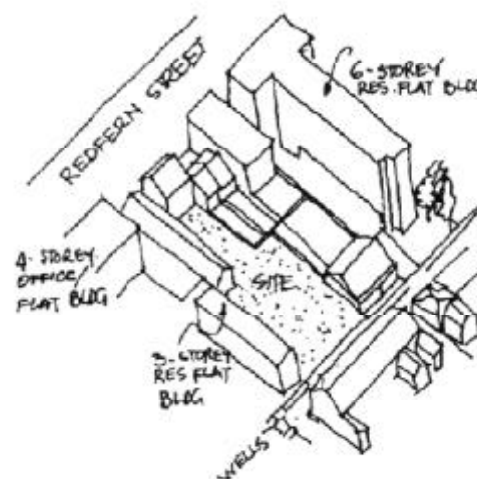
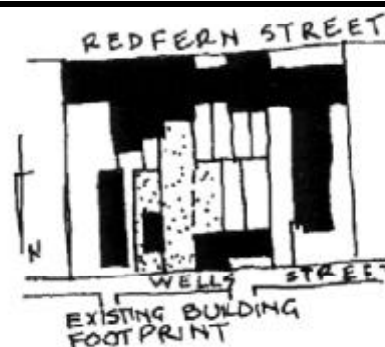
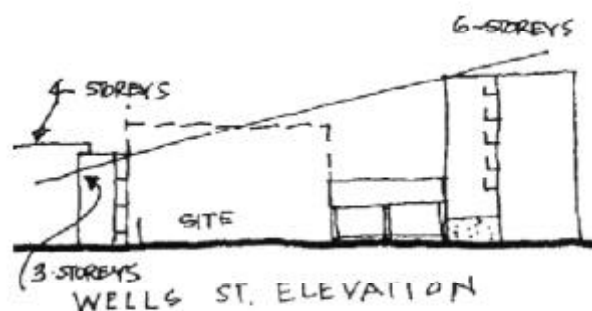
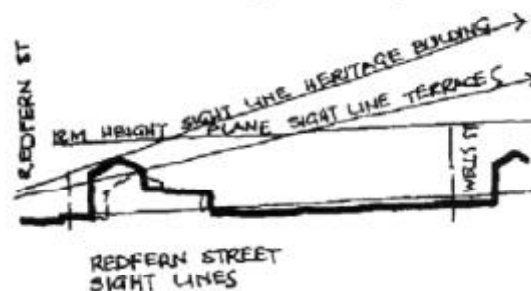
- **North point.** The orientation of true north.
- **Topography.** Any fall of the land, using relative levels or contours at 0.5m. intervals, related to a nearby benchmark; and drainage lines across the site.
- **Trees.** The location, size and type of trees on or affecting the site.
- **Microclimate.** Sun and shade characteristics, and prevailing winds.
- **Site Location.** Height, footprint, status and uses of adjacent buildings or structures affecting the site. Window openings in the walls of adjacent buildings which face the boundary. Adjacent or nearby heritage buildings.
- **Shadow Diagrams and Analysis.** Shadow of existing buildings. Use the winter solstice (21 June) and equinox (21 March/September) to assess solar access for 9.00 am, 12.00 noon, and 3.00 p.m., or more detail, at the discretion of Council. The written analysis indicates extent of overshadowing.
- **Public Domain.** Elements that make up public spaces surrounding the site (e.g. trees, streets, buildings) and opportunities for enhancement.
- **Photographic information** that demonstrates the character of the area.

For small sites and alterations to existing dwellings, only a scaled drawing, showing key characteristics and relationships to adjacent buildings and streets is necessary. Minimum information to be shown in the drawing includes:

- boundaries of the allotment;
- footprint of adjacent buildings;
- front and rear elevations showing adjoining buildings;
- position of windows;
- trees affecting the development;
- street verge including footpath.

A site analysis may not be required for minor work that requires a development application such as minor alterations and additions to a dwelling or change of use.

The heritage building



1.2 Site layout

The arrangement of building and spaces on a site will have an important influence on the quality and accessibility of the residential environment. Key components to be considered are:

- site features (including heritage)
- allotment size and shape;
- building footprint and site coverage;
- building scale and bulk;
- defining the massing of buildings and the enclosure of open spaces;
- building form and the external appearance of buildings;
- building design and orientation for energy efficiency;
- the need for visual and acoustic privacy;
- provision of open space and landscaping including retention of landscape features;
- parking, access and servicing;
- the layout of pedestrian linkages and routes;
- on-site drainage; and
- site services and facilities

Objectives

To achieve a site layout that considers the opportunities and constraints of the site to provide a safe, convenient and attractive environment that meets the diverse and changing needs of the community.

For Master Plan sites, to provide council and stakeholders with a planning framework for the most appropriate form of development for the site.

Performance criteria

The site layout:

- Takes into account the site analysis.
- Ensures the attributes of a site eg views, substantial trees, solar access etc are maximised while establishing a good fit and relationship between buildings on the site and with neighbouring properties and buildings.
- Maintains similar lot sizes, subdivision and built form patterns to reinforce the existing urban fabric
- Includes lot sizes, shape and orientation that:
 - reflect the intended land use, density and intensity of adjacent development;
 - avoid the creation of battle-axe lots and long and narrow blocks at right angles to street frontages; where allotments have irregular shapes, such as battle-axe lots, development is restricted to the principal area of the lot that has adequate dimensions for the siting of buildings;
 - make adequate provision for parking, vehicular access, service facilities and useable outdoor space;
 - protect environmental features and recognise site constraints and opportunities; and
 - enable microclimate management and energy conservation.
- Incorporates existing buildings of conservation or heritage value and retains vegetation and natural site features.
- Fits into the surrounding environment and pattern of development by recognising:
 - existing urban fabric,
 - site topography and landscape,
 - surrounding neighbourhood character and streetscape including buildings;
 - potential view corridors, and
 - potential pedestrian linkages.
- Maximises solar access to all parts of the development.
- Provides open space that:
 - clearly delineates private and public areas;
 - enhances the Public Domain;
 - provides for a range of uses and activities;
 - is cost-effective to maintain; and
 - contributes to stormwater management.
- Integrates ecological processes such as on-site stormwater absorption, soil conservation, grey water recycling, renewable energy harvesting and natural habitat restoration.
- Provides a mix of building types and sizes.
- Maintains the environmental amenity of adjacent development and the locality.
- Is designed to minimise environmental hazards such as noise and air pollution.
- Takes into consideration parking, access and servicing requirements.
- Enhances personal safety and minimises potential for crime and vandalism.

Controls

Master Plans

A Development Application involving a site zoned 5 – Special Uses under South Sydney LEP 1998, a large development site over 5,000 sq.m., or a smaller site which Council considers may have significant impact on the locality (as determined at a pre-DA meeting) must be consistent with the Master Plan prepared for that site.

The Master Plan takes into consideration the site analysis and illustrates a number of options that show how the development satisfies all requirements. The Master Plan address the following:

- *design principles adopted to achieve desired outcomes;*
- *conceptual vertical and horizontal distribution of land uses;*
- *site densities and coverage;*
- *arrangement, footprint and envelopes of buildings, and their relationship to site features, adjoining development, streets and open spaces;*
- *the mix of unit types or building type for residential development;*
- *ways by which site conditions are maximised to achieve energy efficiency;*
- *a Conservation Plan where Heritage Items are involved (refer to Part E Heritage and Conservation);*
- *improvements or enhancement to the Public Domain adjacent to the site (refer to Part C: Public Domain);*
- *the provision of private open space and the need to dedicate open space for public use or access;*
- *streets and accessways/paths and their role in providing connections for public access within and beyond the site;*
- *parking and servicing arrangements;*
- *stormwater management outlined in a local drainage management plan (refer to Part E Stormwater drainage);*
- *any measures proposed to deal with potential discharge of pollutants from the site;*
- *staging of development.*

For sites which involve institutions that provide services and facilities for a large number of people (such as schools, universities, hospitals, sporting grounds, etc.), the Master Plan indicates in addition to the relevant information detailed above, the long term planning framework for the site and staging of proposals.

For large development sites, the Master Plan incorporates the principles of neighbourhood

design as set out in AMCORD 1995 Element 1.1 Neighbourhood Design (see References).

Midblock connections

Midblock connections are provided on large redevelopment sites (over 5000 sq.m.) and on sites with street frontages greater than 100 m.

The Master Plan is to be lodged before or, at the discretion of Council, with a Development Application and will be exhibited to invite public comment for a minimum period of 14 days.

Refer to:

- *Clause 47 and the definition of a Master Plan in South Sydney LEP 1997*
- *Part B – Urban Design Principles*
- *Other elements in Part E – General Controls*
- *Relevant Part F – Design Criteria for Specific Development Types*
- *AMCORD 1995 Element 1.1 Neighbourhood Design.*

1.3 Public open space

To ensure urban consolidation provides material public benefit for the community Council will require the dedication of public open space on large development sites and other sites where dedicated land is required to link open space corridors and to provide a variety of open space networks. Council will achieve open space dedication either through s94 land dedication in lieu of a monetary contribution, or through FSR bonuses.

Refer: PART C : Public Domain and PART E FSR.

Public open space needs to be designed according to its function to ensure that it serves a useable community purpose. Public open space provides opportunities for:

- public access
- active and passive recreation
- conservation of natural features and cultural sites
- improving amenity by greening the urban environment and giving a spatial setting for development
- stormwater management
- pedestrian linkages
- providing a setting for public activities and social interaction
- creation of buffer zones

Refer to the Public Domain Improvement Plan.

Objectives

To expand the City's public open space systems, including pedestrian networks and linkages to existing urban spaces

To provide public open space to reinforce the city's urban structure and where appropriate for vegetation/habitat protection and for multiple use with drainage systems.

Performance criteria

Public open space is provided at a rate, size and shape appropriate to the size of the development and the needs of the community it will serve.

Public open space is designed to:

- provide a focus for activities and additional places for community interaction;
- take advantage of opportunities to link open spaces (private open space and public open space) into a legible network;
- plan for attractive pathway/cycleway links between activity nodes.
- clearly define physical relationships between open space and surrounding uses;
- provide relief to built up areas and spaces to appreciate important urban features;
- adequately address issues of safety, security and surveillance;
- protect any significant natural features of the site;
- enhance the amenity of the development and surrounding areas.

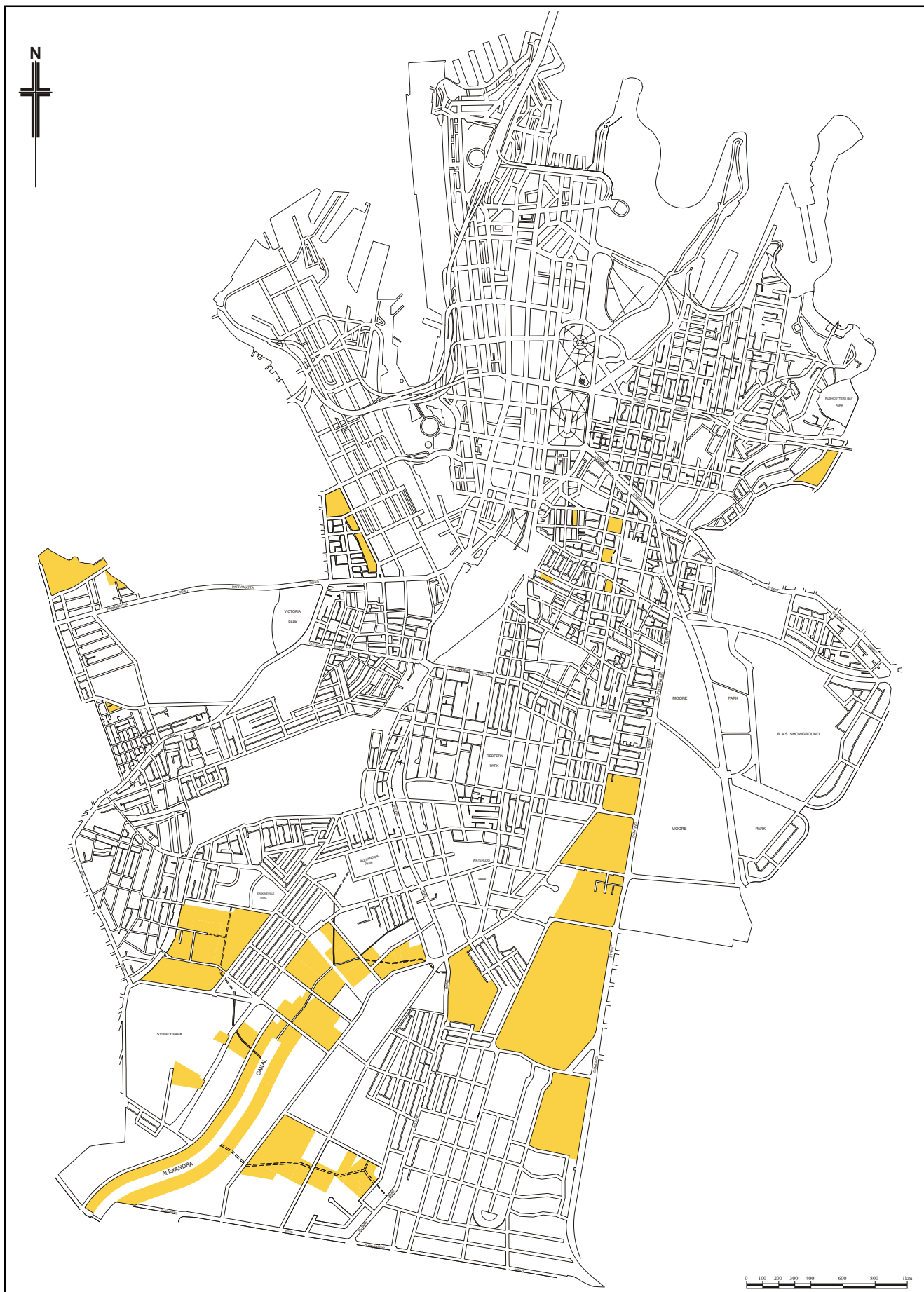
Controls


The provision and design of public open space responds to the Urban Design Principles in this DCP and the Public Domain Improvement Plan.

On large development sites as identified in Map 5 – "Open space dedication" and the Public Domain Plan, public open space is provided on the site at the rate of 6-10% for medium to large sites in accordance with council's section 94 Contributions Plan.

Refer to:

- Part B – Urban Design Principles
- Part C – Public Domain
- Part E – 1.2 Site layout
- Part E – 1.4 Private open space
- Part E – 1.5 Landscaping
- Part E – 1.7 Stormwater drainage



<p>MAP 6</p>	<p>Environmental Planning and Assessment Act, 1979</p> <p>SOUTH SYDNEY DEVELOPMENT CONTROL PLAN 1997</p> <p>OPEN SPACE DEDICATION</p>	<p> Sites requiring open space dedication in lieu of sec.94 monetary contribution</p>
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1.4 Private open space

The design of private open space should focus on the quality of the space in terms of its outlook and orientation, relationship to the building, size and shape of the space, its enclosure and landscape treatment.

The form and provision of private open space would depend on the location of the site and the specific needs of the users. To be of use to the occupants it needs to be sufficiently large and therefore have minimum dimensions and area depending on whether it is at ground level or above ground.

In industrial developments open space should be provided in a form that serves the recreational needs of workers and creates pleasant working environments.

Objectives

To enhance the quality of the built environment and provide a setting for buildings.

To ensure private open space has a size and dimensions to meet user requirements and designed to:

- allow for privacy, security and solar access;
- provide landscaping, a proportion of which is to be on natural ground level;
- enhance the amenity of the site; and
- accommodate the private and communal needs of the users for passive and active recreational activities.

Performance criteria

The private open space has sufficient area and dimensions to enable recreational use, landscaping and service functions.

Private open space is sited and designed having regard to:

- site constraints and context,
- the overall density of the development,
- the need of all users of the building including communal need;
- the projected on-site playing needs of children;
- the location of adjacent buildings and other forms of open space,
- the need to maintain privacy of nearby dwellings;
- the privacy and security needs of users,
- solar access for comfortable year round use;
- the need for landscaping particularly at natural ground level; and
- the development's need to integrate and blend into the streetscape.

Private open space is clearly delineated for private use to create a sense of enclosure.

Refer to:

- Part E – 1.2 Site layout
- Part E – 1.5 Landscaping
- Part E – 1.7 Stormwater drainage
- Part E – 4.1 Visual and Acoustic Privacy
- Part F – Design Criteria for Specific Development.

1.5 Landscaping

Landscaping incorporates vegetation, any features of the site such as rock features, external paving, walls, outdoor structures and furniture. Landscaping in the street spaces defined by the buildings contributes significantly to streetscape appearance. Landscaping helps integrate the development with the streetscape, reduce overlooking, assist in energy conservation and stormwater management, and create an image for a street. Attention should be paid to the public area such as streets, public open spaces and front gardens, the communal areas such as entrances, driveways, service and recreation areas, the private open space.

Landscaping must be consistent with concepts in the Public Domain Improvement Plan.

Objectives

- To ensure landscaping enhances the setting of buildings and new development blends into the streetscape and neighbourhood.
- To assist in microclimate management and to maximise landscaped areas available for on-site infiltration of stormwater.
- To encourage native landscaping that requires minimal maintenance and irrigation.

Performance criteria**Landscaping:**

- Preserves existing landscape elements such as natural features, trees, vegetation and watercourses.
- Relates to the scale and bulk of other elements of the streetscape and the landscaping of adjoining development. Landscaped areas, backyards and private open space complement each other to create continuous belts of vegetation. It cases of conservation areas and heritage items respects and reinforces the character and any heritage constraints.
- Where it faces a street or public place, provides thematic consistency to existing street planting to strengthen street identity and is integrated with footpaths. Elements to consider include the design of street furniture, visible utility services, tree species and any structures.
- Provides comfortable and attractive conditions for pedestrians and cyclists.
- Provides screening and filtering for privacy control and to reduce overlooking of dwellings and private open space.
- Is designed to encourage safety and crime prevention by ensuring street surveillance is possible and by not having paths that are excessively screened. It includes lighting to pedestrian paths, dwelling entries, driveways and carparks to ensure a high level of safety and security.
- Is designed to assist energy conservation in buildings and comfort through attention to microclimate and shading control.
- Is designed to assist in stormwater control by including permeable surfaces to absorb water and minimise run-off.
- Includes paving in driveways, walkways, entries, outdoor patios and garbage bin enclosures, letter boxes and clothes lines. Such paving is:
 - semi-porous or graded to maximise on-site infiltration of stormwater,
 - in materials and colours which complement the development,
 - in non-slip finishes.

Native plants which require minimal maintenance and irrigation are preferred.

Common or public landscaped areas are served by an automatic watering system to ensure basic plant maintenance.

Where landscaping is proposed for the roof of any part of the development, especially the roof of underground parking areas, sufficient soil depth is provided to allow the growth of medium size plant species (up to 2m in height).

Controls

Any application for development which has to provide landscaping is to include a Landscape Principles Plan. The Plan incorporates the principles of the Public Domain Improvement Plan. Landscaping complies with the requirements of Council's Landscape Code.

The landscaped area provided comprises a minimum of 50% soft/porous landscaping.

Landscaping is provided at natural ground level on not less than 25% of the site.

Where open space areas are located above parking areas, at least 600mm soil depth is provided for tree/shrub planting, and 300mm for ground cover planting.

Treatment of trees on site takes account of Council's Tree Preservation Order.

Refer to:

- Part C – Public Domain
- Part E – 1.3 Public Open Space
- Part E – 1.4 Private Open Space
- Part E – 1.7 Stormwater Drainage
- Part E – 2.4 Setbacks
- Part F – Design Criteria for Specific Development Types.

1.6 Parking, access and servicing

Accommodating for the storage of cars and service vehicles, and providing for their access can have significant impact on the design and layout of new development. For example:

- in residential areas, in particular, parking can create visual problems and adversely affect the streetscape;
- in mixed-use areas the appropriate resolution of vehicle access and servicing will generally contribute to the success of the development
- in industrial development, the layout of parking and servicing determines the layout of the buildings overall.

On large development sites, car-parking and access can be more easily integrated into the overall design and enable the visual impact to be reduced.

The provision and design of parking, access and servicing areas must be appropriate and functional for all users of a development – residents, customers, workers, visitors and service vehicles.

Design of such facilities needs to be mindful of other design elements and non-vehicular users. For example:

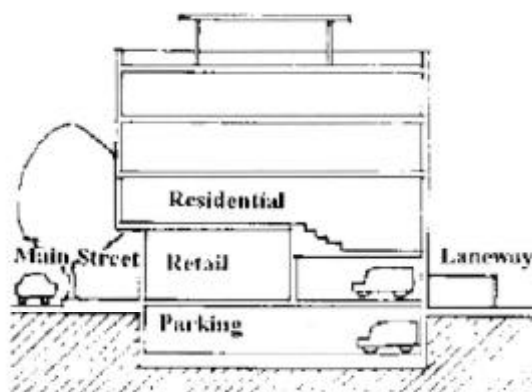
- parking at ground level can alienate the street frontage and reduce street activity and surveillance, significant contributors to street crime;
- excessive car parking and parking at ground level can unnecessarily add to the height and bulk of a building and contribute to objection from neighbours;
- traffic calming measures and landscaped areas should be incorporated wherever possible to reduce the dominance of the car within a development. These measures help provide a more pedestrian and cyclist friendly environment.

Council's DCP 11 – Transport Guidelines for Development, set out appropriate levels of parking for specific land uses and their design standards.

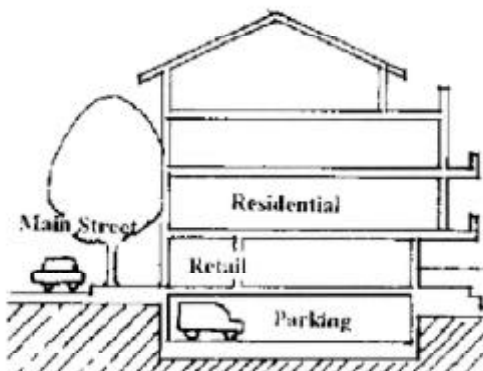
Objectives

To encourage the provision of parking, servicing areas and their access which are:

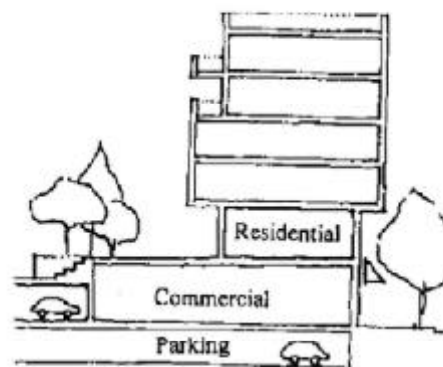
- compatible with Council's transport policies, and community and environmental expectations.
- designed as an integral part of the streetscape;
- well-designed and located to address road safety issues by minimising conflicts amongst vehicular and pedestrian traffic, and maximising visibility;
- mindful of the site context and suitability of related streets to adaptation to angle parking and associated landscaping and pedestrian amenity improvements.



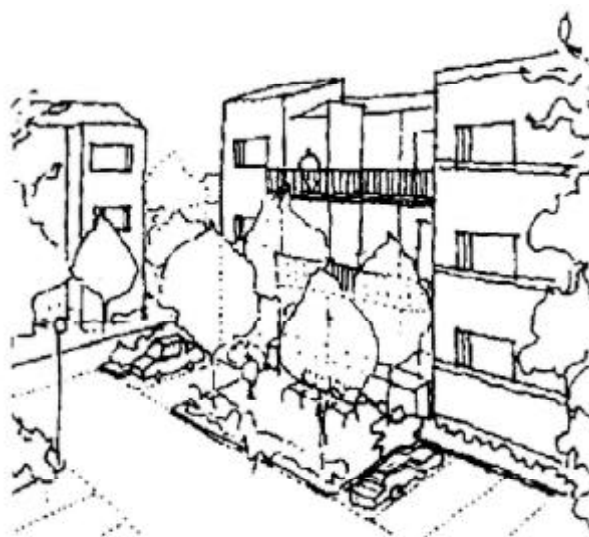
Laneways allow parking access from the rear of the building. Parking screened from street by activity use.



Above ground carparking should be screened from the street and decked over to promote useable open space on site.



Underground carparking provides economical site coverage and ensures the carparking access and garage requirements don't dominate the street.



Carparking should be screened by landscaping.



Carparking screened from the street.

Performance criteria

Car-parking provision

- does not unreasonably compromise street security and urban design objectives;
- is reduced in relation to availability of public transport and proximity to CBD, services, etc;
- does not unreasonably compromise residential amenity due to additional traffic
- take advantage of on-street parking capacity to adapt streets to create more pleasant pedestrian friendly streets by providing differentiated pedestrian and vehicular areas

Car-parking form

- Parking is provided underground wherever possible – desire to provide natural ventilation rather than mechanical ventilation should not compromise this.
- Where above ground parking cannot be avoided, it:
 - does not protrude significantly above ground level;
 - is generally located at the rear or side of buildings or incorporated within the building, or screened behind other uses such as retail;
 - is integrated with the building and incorporates appropriate proportions, architectural details and materials that complement the building and the streetscape.

Car-parking design

- is convenient, functional and safe for users, including pedestrians, cyclists and other vehicles;
- adequately provides for manoeuvring of vehicles between the street and the parking space;
- is compatible with the streetscape and include vehicle and pedestrian movements to avoid possible conflict;
- are integrated into the design and

appropriately screened, where necessary.

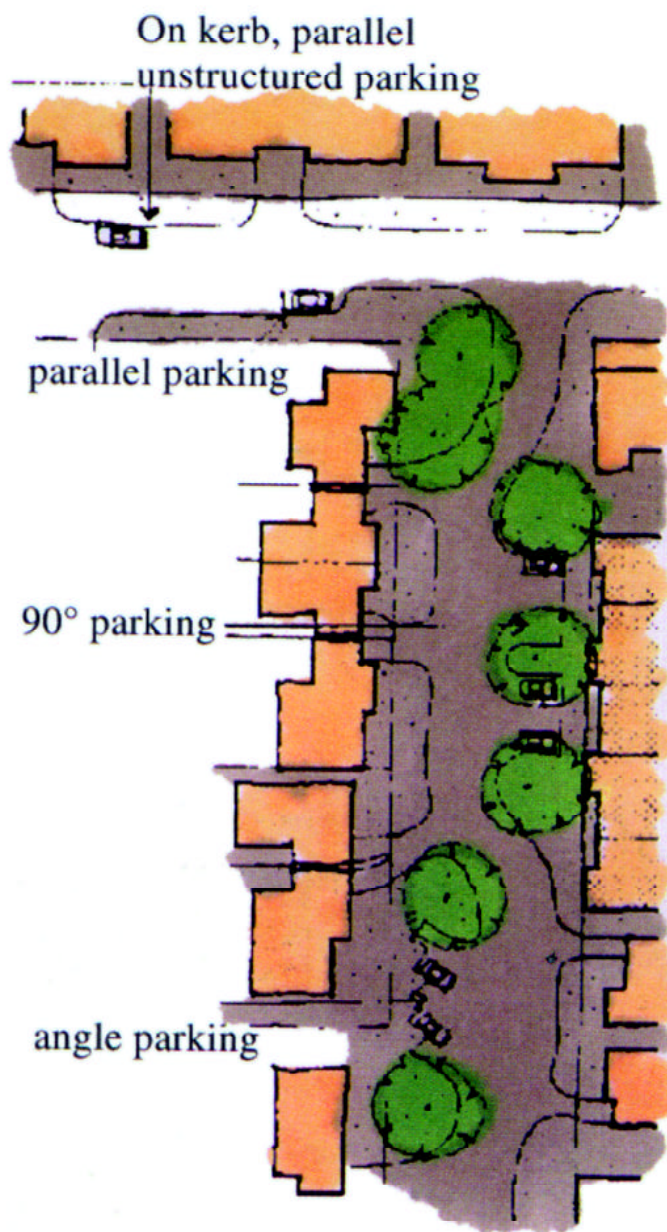
- Servicing areas, particularly garbage and recycling collection areas provide suitable accessible collection points and adequately respond to the streetscape.

Bicycles

- Individual bicycle lockers (Class 1 facilities in AS 2890.3) for residents and workers are located in secure, accessible areas with appropriate directional signage.
- Inverted U stands or similar (Class 3 facilities) are located in visible, convenient areas to ensure security.
- Shower facilities are provided for workers

Splays

- Corner sites include splay setbacks to improve visibility of pedestrians and motorists, and improve pedestrian amenity. (Refer to Part E Setbacks, for splay controls).



Types of on-street parking.

Controls

The design of parking, access and servicing areas complies with standards set out in Council's DCP No. 11 Transport Guidelines for Development.

Car-parking is provided below street level.

Parking at or above ground level is screened from the street level, preferably with active street frontages.

Parking areas are ventilated in accordance with the BCA and AS 1668, Parts 1 and 2. Where adequate natural ventilation cannot be provided the car-park must be mechanically ventilated.

The design of garbage collection areas complies with Council's Waste Management Code.

1.7 Stormwater drainage

The amount of stormwater runoff in an area relates directly to the intensity of development in that area. The more impervious to stormwater an urban area is, the faster stormwater run-off flows, and the larger the runoff quantities are. Stormwater runoff flows faster over smooth, hard surfaces, and its speed is compounded by the volume of water.

Increased overland flow which travels more quickly has greater ability to erode the landscape and carry more materials with it. As a result the quantities and concentration of natural pollutants in stormwater are increased.

Stormwater drains are only designed to accept rainwater. Other concentrated matters which might contain a variety of pollutants, including sediments, grease, animal droppings and chemicals can find their way through the stormwater system and are eventually deposited into the City's waterways.

A site may offer numerous opportunities to "hold and use the rain where it falls". These include the provision of rainwater tanks, maximum use of porous surfaces, paving which drains to grassed areas, trees, especially healthy native vegetation and ground cover, and on-site stormwater detention.

Site development should manage stormwater in a way that:

- minimises changes to the natural hydrology of the local area or region;
- achieves water conservation;
- protects water quality;
- produces cost-effective development;
- enhances local recreational opportunities by maximising the dual use of drainage systems.

Objectives

To integrate stormwater detention with the provision of open space and the urban landscape.

To minimise the effect of stormwater pollution on

receiving waters, encourage water conservation and reduce stormwater runoff to minimise flooding.

To encourage the re-use of rain and grey water.

Performance criteria

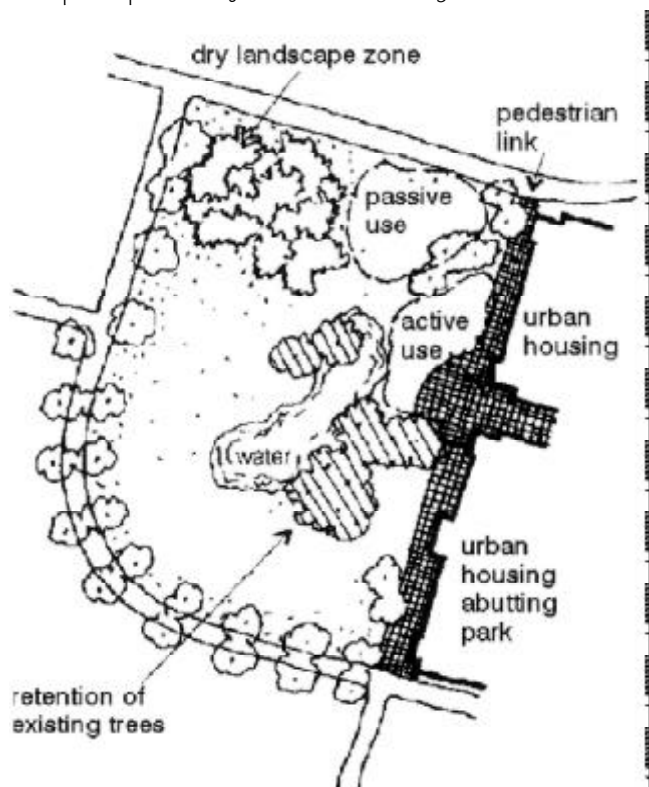
The stormwater drainage is designed to ensure existing downstream systems are not adversely affected. It should:

- 'fit' as much as possible, within the hydrology of the natural system;
- emphasise stormwater detention, vegetated overflow lines, sensitive location of discharge points and quality of receiving waters.
- minimise non-porous surfaces to reduce stormwater run-off;
- store water for re-use (such as in rainwater tanks);
- retain existing trees and;
- excludes land needed for natural or modified drainage, floodplains, remnant vegetation, environmental values.
- stormwater drains are designed to accept rainwater only excluding other pollutants from the City's waterways.

On large developments open spaces are integrated with site drainage.

On-site detention, preferably on unpaved or grass surfaces, is used to trap and remove contaminants from stormwater and increase infiltration into the ground. Where technically possible, on-site gravel filled retention pits are incorporated.

Open space may cater for a range of activities.



Controls

A local drainage management plan is required for new development sites of 1000 sq.m. or more in the Fowler's Creek catchment area draining to Johnston's Creek, or of 1800 sq.m. or more in other catchments within the Council area. The plan considers:

- the hydrology of the locality and its relationship to the drainage system;
- the distribution of soil types and the scope for on-site infiltration;
- any expected rise in ground water level due to development;
- the role of the principal landscape components on the site for water conservation and on-site detention;
- the scope for on-site stormwater detention and retention, including the collection of water for re-use;
- how any detrimental impacts on the existing natural hydrology and water quality are proposed to be minimised;
- how pedestrian safety is ensured; and
- integration between open space areas.

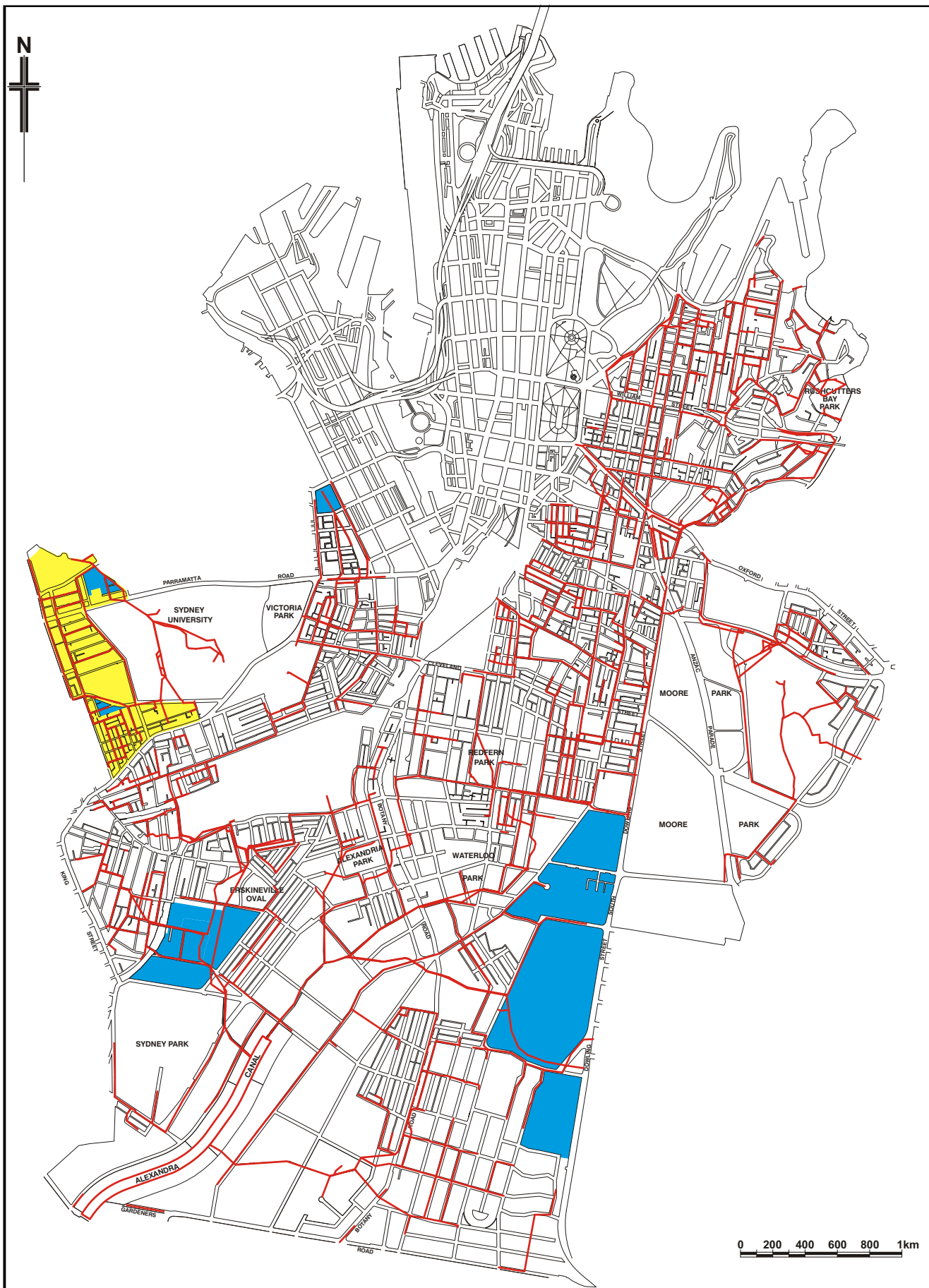
Development on sites identified in Map 7 are required to integrate stormwater detention with open space.

Stormwater control takes account of :

- Council's Code of Standard Requirements for the Discharge of Stormwater from Private Properties,
- Council's Stormwater Pollution Policy 'The Muck Stops Here', and
- Sydney Coastal Council's Stormwater Pollution Control Code for Local Government.

Refer to:

- Part E – 1.3 Public Open Space
- Part E – 1.4 Private Open Space
- Part E – 1.5 Landscaping
- Part E – 6 Operational Controls



MAP 7

Environmental Planning and Assessment Act, 1979

**SOUTH SYDNEY
DEVELOPMENT CONTROL PLAN
1997**

STORMWATER DETENTION/OPEN SPACE

- Site where stormwater detention is integrated with and/or dedicated open space
- Fowlers Creek catchment area
- Major drainage lines

1.8 Site contamination

Many sites in South Sydney may be or are contaminated due to past or present land uses. Contaminated land means a building or place which is affected by a chemical or any other waste and is:

- unsafe or unfit for occupation by persons or animals;
- has a reduced capacity to support plant life; or
- otherwise environmentally degraded.

Contaminants pose immediate or long-term threats to human health, flora and fauna and to the amenity of the area. Contamination raises important issues about the suitability of land for redevelopment and especially of industrial land for residential redevelopment.

The type of land uses that pose significant risk are listed in Table 1.

To ensure that high risk sites identified and remedial work incorporating the necessary safeguards is carried out, Council requires an environmental site assessment (ESA) as part of the development control process. In determining a DA involving a change of use to a more sensitive land use (see Table 2), Council must be satisfied that the site is not contaminated and an appropriate use is not approved, without the necessary remedial conditions. Failure to do so may expose Council to legal challenge and compensation.

The flow chart in Appendix iii Lodging a Development Application shows the DA/BA process Council will follow where a contaminated or potentially contaminated site is involved.

Objective

To ensure that the redevelopment of contaminated or potentially contaminated land does not pose risk to public health or the environment and is suitably assessed to determine the extent of contamination and is

remediated so that any change of use is appropriate.

Performance criteria

Development applications for sites that are contaminated or potentially contaminated (including those which are or have been used for a use(s) listed in Table 1) show:

- the suitability of the site to accommodate the intended use(s) without posing a risk to public health or the environment,
- any measures necessary to ensure development of the site will not pose a risk to public health or the environment.

Where Development Applications involve a change of use to a more sensitive use (see Table 2) the applicant must demonstrate that the land can be developed for the intended use without any immediate or long term threats to public health or the environment

**repealed by City of Sydney
Contaminated Land DCP 2004,
adopted 7 June 2004**

environmental site assessment (ESA) is to be submitted. The ESA is prepared by a qualified consultant and demonstrate that the site can be remediated to a state suitable for the proposed use. The environmental site assessment is to be carried out in accordance with the Environment Protection Authority (EPA) guidelines.

Council will refer the environmental site assessment and any remediation strategy to the EPA. Any remediation works must be acceptable to the EPA.

For development involving change of use to more sensitive uses, such as industrial to more sensitive industrial, industrial to commercial or industrial/commercial to residential, the application includes the following information:

- a detailed site history indicating previous uses;
- details of any preliminary site

investigations;

- details of any site remediation works;
- any statement from the EPA or recognised consultant as to what remediation is required to permit intended uses;
- any statement from the EPA or recognised consultant certifying that the site is suitable for its intended use.

Refer to:

➔ Appendix iii – DA/CC process

Table 1.

High risk land uses

acid/alkali plant formulation
agricultural/horticultural activities
airports
asbestos production and disposal
chemicals manufacture and formulation
defence works
drum reconditioning works
dry cleaning establishments
electrical manufacturing (transformers)
electroplating and heat treatment premises
engine works
explosives industry
gas works
iron and steel works
landfill sites
metal treatment
mining and extractive industries
oil production and storage
paint formulation & manufacture
pesticide manufacture and formulation
power stations
railway yards
scrap yards
service stations
sheep and cattle dips
smelting and refining
tanning and associated trades
waste storage and treatment
wood preservation

Table 2.

Sensitive land uses

single dwellings
residential flat buildings
boarding houses
motels
hotels
backpackers' hostels
housing for aged and disabled
hostels
hospitals
institutions
medical clinics
childcare centres
educational establishments
universities
playground, parks, reserves
water parks

1.9 Site facilities

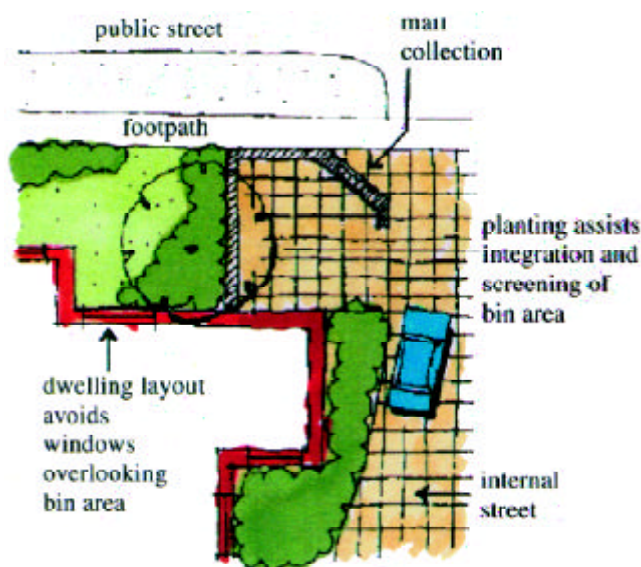
Site facilities include:

- garbage storage and collection areas including facilities for recycling
- general storage areas
- mailboxes
- clothes drying areas
- telecommunications facilities, e.g. satellite dishes and TV antennae.

Poorly-designed or unattractive site facilities can significantly detract from the image and amenity of a development. It is best to solve these problems early in the design process.

Objectives

To ensure site facilities are designed for easy access, to be visually attractive, to be integrated into the overall design of the development and streetscape, and to require minimal maintenance.



Mail and garbage collection areas, where provided, are to be integrated with building design and landscape.

Performance criteria

Garbage bin areas, mail boxes, outdoor clothes drying areas and external storage facilities are accessible, attractively designed and integrated into the overall development.

Space for the storage of recyclable materials is provided.

Accessible and centrally located space(s) for composting facilities is provided in larger developments where landscaped garden areas are planned.

Mailboxes are provided adjacent to the major entrances and are big enough to accommodate large articles such as newspapers.

Satellite dishes, telecommunications antennae and any ancillary structures are:

- located away from the street frontage or any public or private property adjacent to the site to reduce visual impact, and adequately setback from the perimeter wall or roof edge of buildings;
- suitably proportioned in size in relation to the building to which they are attached or adjoin;
- installed so that they do not encroach upon any easements, right-of-ways, vehicular access or parking spaces required for the property; and
- painted in colours selected to match the colour scheme of the building.

Residential development includes provision for outdoor drying of clothes.

Mobile phone towers are located away from community facilities and public places.

Controls

Garbage facilities provided and the collection of waste complies with Council's waste management policies. All development provides a garbage storage area within the site and adjacent to a lane or street frontage. All development provides space for the storage of recyclable goods either within the curtilage of each dwelling or in a central location in the case of larger developments.

For large residential development Council may require the provision of a compaction unit. Detailed specifications for the use and installation of such systems are available from Council's Department of Health and Community Services.

Disposal of trade waste is to be provided by commercial contract. Applicants need to satisfy Council that such an independent service is available and that provision has been made on site for suitable containers for the disposal of garbage.

The installation of incinerators as a method of garbage disposal is not permitted.

Residential development includes adequate general storage space which may be incorporated as part of a carport or garage.

For new residential flat buildings, all units are connected to a single common television/radio antennae/satellite dish.

Satellite dishes where they are situated in rear yards, are less than 1.8 m above ground level, or not visible above any fence surrounding the site.

The Waste Minimisation and Management Act 1995 requires waste to be managed on a regional basis. South Sydney Council is a member of the Southern Sydney Waste Planning and Management Board and changes to service provision may occur on a regional basis.

Refer to:

- Part E – 2.5 Facade treatment
- Part E – 6. Operational Issues

2. BUILDING FORM AND APPEARANCE

Many areas of South Sydney have a strong sense of unity. They have a consistent scale, with each building having a similar form and appearance expressed by their height, size, form, massing and proportion to its neighbours. New infill development is to maintain this scale. The appropriate building form and appearance of a development to a large extent will be determined by its immediate context and architectural character of the area.

The elements in this section refer to Steps 5 and 6 of the Design and Development Process. They relate to the detailed design of buildings and their curtilage to ensure appropriate development ‘fit’.

The following elements are dealt with:

- 2.1 Building envelope
- 2.2 Floor space ratio
- 2.3 Height and scale
- 2.4 Setbacks
- 2.5 Facade treatment
- 2.6 Signage

2.1 Building envelope

The building envelope ‘shapes’ the building and helps set the character of any development. It enables some certainty of outcome in relation to the scale of new development and the distribution of its bulk across a site. It controls the intensity of development to ensure other objectives of the Urban Design DCP are achieved, particularly the protection of residential amenity.

Building envelope controls seek to ensure the built form and intensity of new development respects the scale, character and density of existing development and does not detrimentally affect the amenity of the existing precincts.

Of primary significance in the successful integration of new development within existing precincts is the appropriateness of the scale of new building to its immediate context. This ‘appropriateness’ of scale does not necessarily mean an exact match of neighbouring building height (though this is extremely important in largely homogeneous areas) but rather a compatibility of overall size, form and massing as well as facade design and detailing.

In most areas where new medium and/or high rise apartment blocks have been erected adjacent to older, lower scaled dwellings the differences in scale appear irreconcilable. In many older, mixed use areas, however, the sympathetic relationship between 2-3 storey terraces and larger commercial/industrial buildings show that appropriate design and alignment (among other factors) can effectively mitigate much

of the height and size. The appropriate height/scale of new infill development is a function of both its immediate context and architectural character.

A sympathetic scale relationship between new and existing buildings can be achieved through appropriate design, including careful massing and site arrangement, i.e. breaking up or consolidating as necessary the mass of a new structure to accord with the character of the existing context. For example, lower elements may be located along street frontages and taller blocks sited adjacent to existing large commercial/industrial buildings, etc.

Where high rise developments adjoin buildings of lower height, a podium element may be appropriate to maintain the existing scale of development along the street frontage. The street frontage section of the podium can be used, depending on the zoning, for residential accommodation or retail uses such as mall shops, but not for car-parking.

Corner sites have an important streetscape function which can be enhanced by extra height. Subject to facade controls, a corner building may be higher than the general height of buildings in the street.

The bulk of a building is also strongly influenced by the shape of the roof and the pattern it makes against the sky. Infill buildings and in particularly terrace house infill must respect existing ridge or parapet lines, their roof slopes must be compatible with those in the neighbourhood and the pattern of chimneys must be retained where possible.

Floor space and height controls in this DCP are intended to allow development that will enhance the character and built form of the City, particularly in well established areas. These controls have been set to generally reflect:

- the intensity of land use with respect to proximity to transport and infrastructure;
- site specific constraints such as urban conservation areas and areas of high environmental amenity; and
- the desired scale and form of development in relation to the structure of the City overall.

The FSR and Height Maps identify the potential maximum limits of development. However, maximum limits may not be achievable in all instances. Environmental conditions set out in performance criteria will determine these.

Where a site is seen as capable of taking an FSR or height above the limit, and still satisfy environmental and amenity considerations, the onus is on the applicant to demonstrate to Council, by way of a

detailed assessment of the urban context, that the site is capable of taking such increase.

Additional objectives, controls and guidelines which relate to building envelope, landscaping, and ancillary structures for the Martin Road Heritage Conservation Area and part of the Lang Road Heritage Conservation Area in Centennial Park are contained in South Sydney's Development Control Plan 1998 (Heritage Conservation). The provisions of Development Control Plan 1998 take precedence over the controls in this Plan.

2.2 Floor space ratio

The relationship between the total amount of floor space proposed to the total area of the site may be expressed as a ratio. This ratio is called a *floor space ratio* (FSR). It is used to indicate the intensity of the development.

Objective

To control the floor space of new development to ensure its intensity respects and reflects the overall built form and does not detrimentally affect the amenity of the area.

Performance criteria

The maximum FSR a site can achieve is determined by the environmental constraints of the site, in particular:

- overshadowing and privacy
- streetscape
- parking and landscape requirements
- visual impact and views
- capacity of the community infrastructure and the road network to support the development.

Controls

The FSR does not exceed the maximum FSR indicated in the FSR Map of this DCP.

A bonus floorspace incentive of up to 0.25:1 of the total site area, may be applicable to sites requiring the provision of:

- *Dedication of land for wider pedestrian and/or cycle paths, additional useable public open space, new streets, bus and traffic turning lanes, pedestrian links, corner splays, etc, and where appropriate the treatment of those spaces. Only those elements in addition to Section 94 requirements;*
- *provision of the right of public access in otherwise private space (through a positive covenant on title) and other encumbrances over land for through-site pedestrian links, access to large internal courtyard spaces, etc. (The granting of a bonus for treatment of these spaces will not be given as these would occur normally);*

- *Streetscape, bicycle, and pedestrian enhancement works such as widened footpaths, footpath and kerb reconstruction, street tree islands, local parks achieved through road closures, flush entry thresholds, nodal treatments, pedestrian crossings, bicycle paths, upgraded lighting, overpasses and underpasses, traffic management facilities etc;*
- *Public art, thematic street furniture, fountains and water features;*
- *Social development projects such as provision and upgrade of community buildings;*
- *Stormwater amplification, integrated water treatment facilities and large-scale detention systems and other civil infrastructure projects;*
- *Public transport projects such as bus priority projects, subsidisation of embryonic bus services, feasibility studies and promotion initiatives;*
- *Enhancements to existing parks such as play equipment, lighting, sports facilities, furniture, landscaping, etc.*
- *Aerial bundling or undergrounding of cables, improved street lighting, new street masts, solar lighting etc;*
- *Any other works or improvements at the discretion of Council*

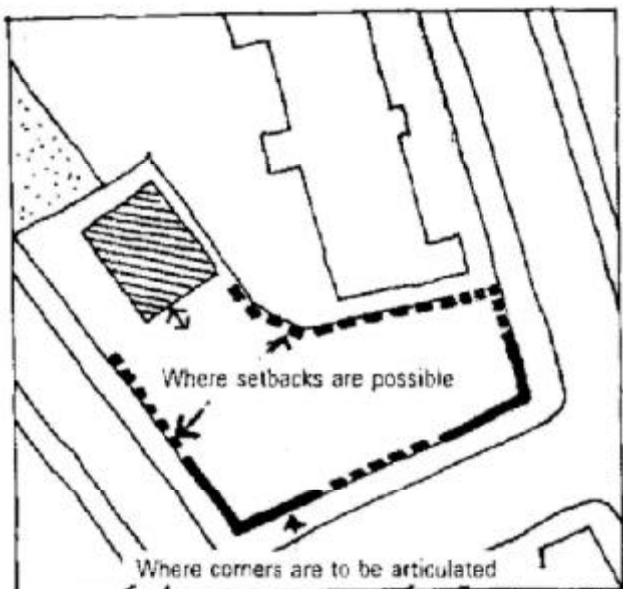
However, in instances where it can be justified on environmental and amenity grounds and Council considers it suitable to exceed the maximum FSR provisions contained in Section 3.2 Elements of the Urban Framework: Built Form, that any floor space proposed above the maximum identified on the FSR map will be calculated as bonus floor space in all cases. and will require public domain improvements above those generated by the floor space bonus indicated on the FSR map.

The St Margarets Hospital Site at 421-441 Bourke Street, Surry Hills has site specific objectives, performance criteria and controls. Compliance with the endorsed Masterplan and Council's resolution is imperative to achieving the maximum floor space ratio shown on the Map.

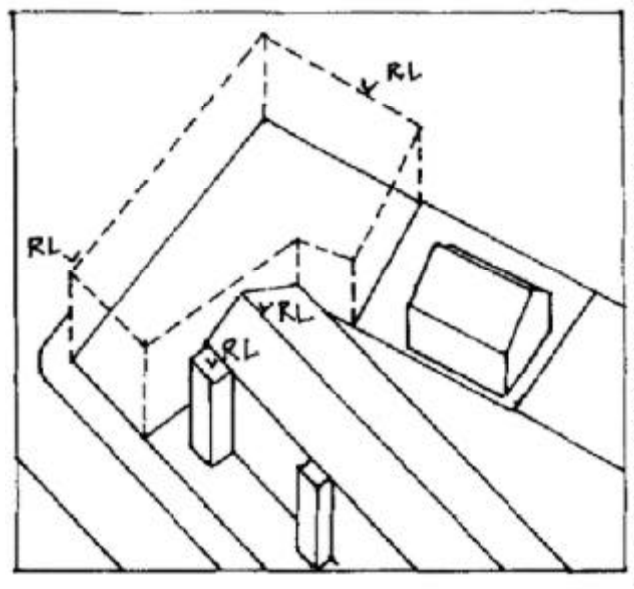
Refer to:

- Guidelines titled "DEVELOPING PUBLIC DOMAIN"
- Part C – 4 Implementation
- Part E – 2.3 Height and scale
- Part E – 2.4 Setbacks
- Part E – 2.5 Facade treatment
- Part F – Design Criteria for Specific Development Types.

Site area showing existing and proposed setbacks.



Building envelope represented in three dimensions is showing proposed heights of development relative to site levels.



2.3 Height and scale

Objective

To ensure buildings:

- Are appropriate in scale, compatible and complementary with areas of townscape significance, the site and its context.
- Do not dominate and overshadow the Public Domain.
- Achieve high environmental amenity.

Performance criteria

The height of new buildings:

- adopts the predominant height and scale of adjoining buildings and has a similar bulk and mass to the neighbours takes into consideration the topography and shape of the site, and taller buildings are located on the higher parts of the site.
- together with the bulk is distributed on the site so as to ensure there is no significant loss of amenity to adjacent buildings and public streets and spaces.
- maximises solar access in the Public Domain and areas of private open space.

Building height for infill development maintains appropriate proportions in relation to street width.

To reinforce street corners, corner buildings may be higher than adjoining buildings only where the additional height will not be detrimental to the streetscape.

Controls

Building height is no greater than the height specified in the Height Control Map not including an Attic as defined in this Development Control Plan.

Where the height specified in the Height Control Map is varied in exceptional circumstances for 'infill' linear development, building height does not exceed the 'building envelope control line' determined by the width of the street specified by the formula for street height. (Refer to Figure E-1)

Building height on rear lanes complies with the maximum height specified by the formula for rear lane. (Refer to Figure E-2)

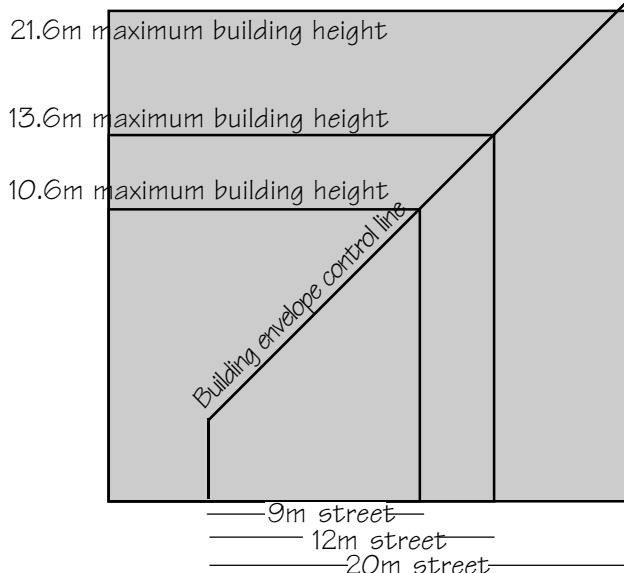
In special circumstances Council may support a part storey above the prescribed height limit provided the part storey is wholly within the 36 degree Attic height plane as defined. (Refer to Figure E-3)

'Infill' sites are defined in the Glossary.

Refer to:

- Part E – 2.2 Floor space ratio
- Part E – 2.4 Setbacks
- Part E – 2.5 Facade treatment
- Part F – Design Criteria for Specific Development Types.
- Part G – For specific height controls applying to the William Street Precinct.

Street height maximum controls



Note:

The formula shall be used as a control only where height variations can be justified. This formula does not override the Height Control Map and is used for continuous linear infill development to ensure that buildings do not create a canyon like effect and are not overbearing.

The height controls as defined in Section 2.3 Height and Scale do not apply for buildings fronting William Street. For specific height controls affecting William Street refer to Part G –Section 5: William Street Precinct of the DCP.

Rear lane building envelope controls

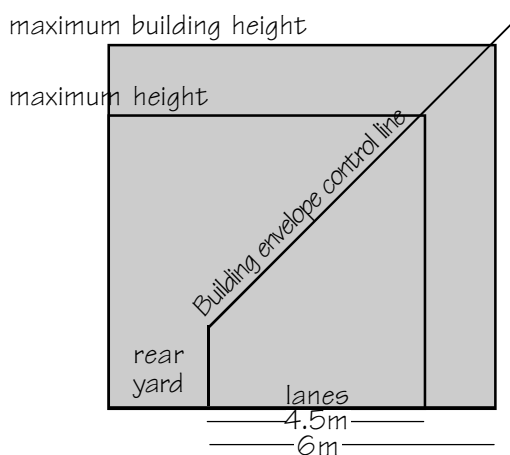
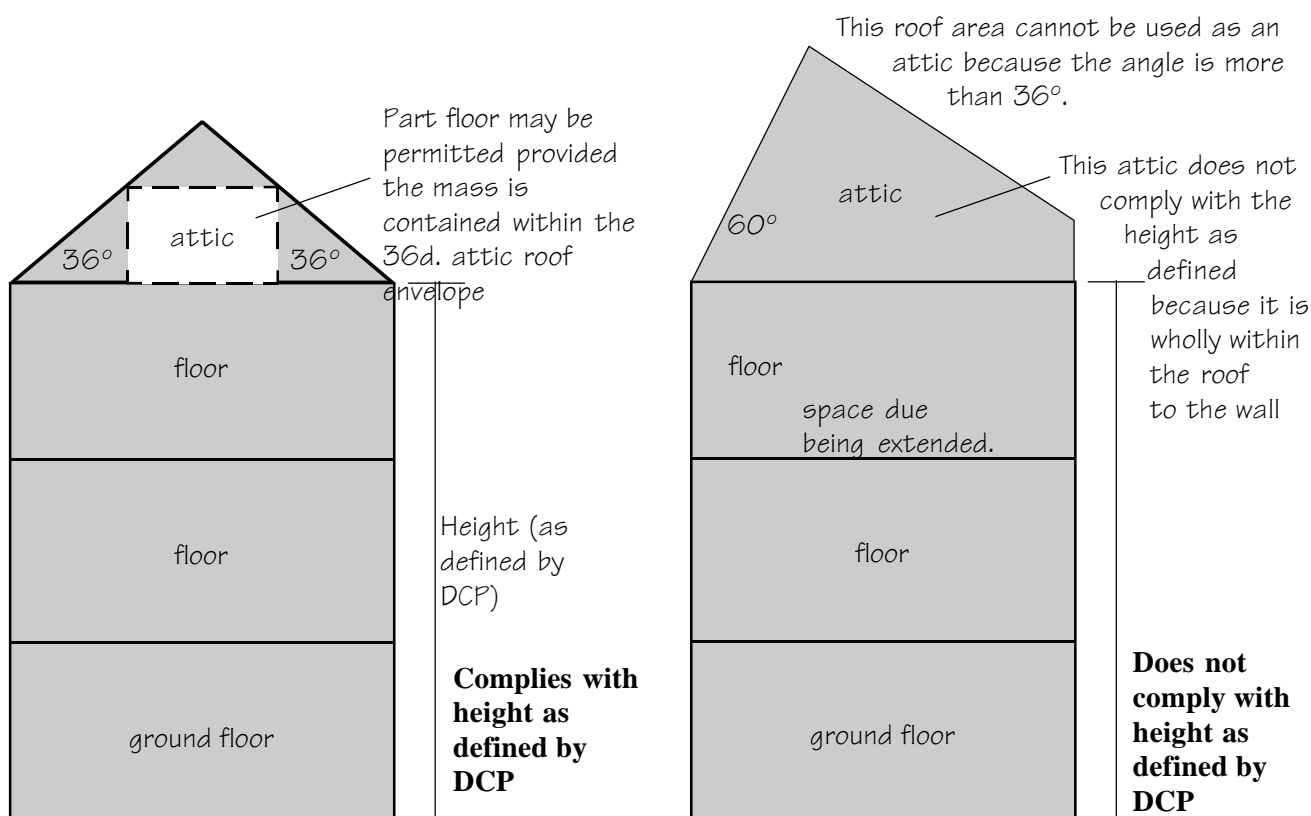


Figure E-3: Attic height controls



2.4 Setbacks

The relationship and proximity of buildings to each other and to the street significantly influences the form of development and how it relates to the neighbourhood and streetscape. Front setbacks are required to provide:

- continuity with the existing streetscape a territorial threshold between the public or communal street and the private home
- privacy from the street and facing buildings
- a buffer to street activity
- an area that allows daylight and sunlight to reach the building
- a landscaped visual setting for the building
- a noise attenuation zone.

Side and rear setbacks are required to:

- provide adequate separation between buildings;
- protect adjoining buildings from overlooking, overshadowing and general loss of amenity;
- protect sunlight and daylight to habitable rooms;
- protect and optimise useable semi-private and public open space; and
- provide a landscaped visual setting for the building.

A setback requirement of 4 m applies to the whole of South Sydney with the intent of maximising Public Domain improvement opportunities. Variations to this setback will occur where site specific conditions and the environmental characteristics of the area determine the need for a site specific setback.

Objectives

To encourage setbacks that:

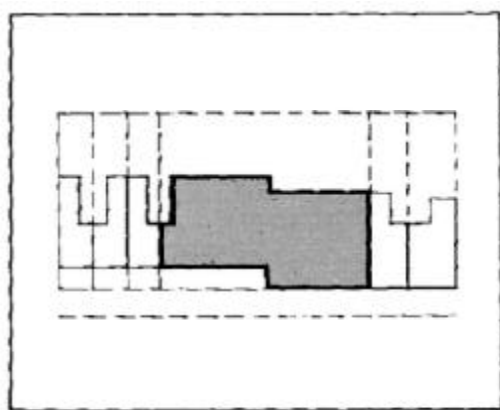
- Provide adequate separation between buildings and open space.
- Complement the streetscape and assist in the integration of new development into the streetscape.
- Protect adjoining buildings from overlooking, overshadowing and general loss of amenity.
- Protect and enhance the amenity of public spaces.

Performance criteria

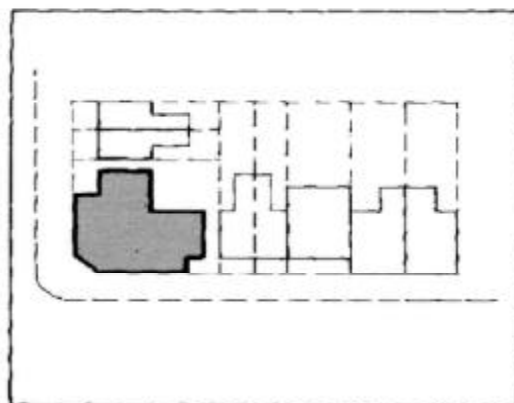
Building footprint is related to landform, maintains the natural features of the site and minimises excavation.

The setback of buildings:

- is identified in the site analysis plan;
- responds to the setbacks of adjacent development, the existing building form and the pattern of the streetscape;
- contributes to existing or proposed streetscape character, integrates new development with the Public Domain, and maximises opportunities to enhance the Public Domain;
- provides separation to achieve visual and acoustic privacy to habitable rooms adjacent to the street.



Building maintains adjoining setbacks.



Building defines street corner and maintains adjoining setbacks.



Building maintains existing stepping street frontage.

Controls

Front setbacks are in accordance with the setback identified in the Public Domain Improvement Plan, and as required by the appropriate envelope formulas identified for specific precincts.

A minimum 4.0 metre setback from all street frontages is required for all development types to provide adequate space for landscaping, visual and acoustic privacy, sunlight penetration, safety requirements and to expand the Public Domain where appropriate. This requirement may be varied, at the discretion of Council, along street frontages to maintain uniformity of existing street building alignment.

A minimum setback of 6 metres is required along

the City's major roads and identified open space corridors through industrial areas, excluding industrial development. It includes Sydney Park Road, Euston Road, McEvoy Street, Lachlan Avenue, Short Street, Gardeners Road, Canal Road, South Dowling Street, Botany Road, Bourke Road, Elizabeth Street, O'Riordan Street, Mitchell Road, Epsom Road, and Joynton Avenue. The 6.0 m. setback is to be landscaped to complement existing street trees and is to reinforce the 'boulevard' qualities of the street, in accordance with Council's Street Tree Masterplan.

The above control may be varied where:

- *there is a predominant street building line;*
- *the predominant line of buildings is staggered and continuity in setback pattern should be maintained;*
- *there is no predominant street building line, and new buildings should align with maximum and minimum building lines of existing development;*
- *to reduce bulk and overshadowing and maintain adequate daylight setbacks are to be progressively increased as the wall height increases (refer to E 2.1.2 Height and scale);*
- *on corner sites, buildings are erected on street boundaries (while allowing for splays at intersections);*
- *other circumstances such as in commercial or industrial areas where a variation is warranted to achieve Public Domain improvements (e.g. plazas).*

Large sites can create their own front setback but it does not vary greatly from that of adjoining development.

Rear setbacks

Buildings conform to the rear building setback of adjoining buildings at ground and upper levels.

Rear setbacks, particularly at rear lanes, are provided to enhance the Public Domain.

Splays

Corner sites include splay setbacks of:
3m where both streets are 15m or wider; or
2.5m where one or both streets are less than 15m.

Refer to:

- Part E – 1.4 Private open space
- Part E – 1.5 Landscaping
- Part E – 1.6 Parking, access and servicing
- Part E – 2.2 Floor space ratio
- Part E – 2.3 Height and scale
- Part E – 2.5 Facade treatment
- Part C – Public Domain
- Part F – Design Criteria for Specific Development Types, relevant to the particular development.
- Part F – Setbacks for Industrial development.

2.5 Facade treatment

Facade treatment deals with design and architectural details that determine how a building 'reads' from the street. It must suit the context of the development. The dominant design parameters for new development are the existing built form and in particular that of adjacent buildings. For development in conservation areas the design must achieve a higher level of compatibility, taking into account the unique fabric and character of heritage streetscapes and buildings nearby.

Certain forms, patterns and details, which help to establish an attractive theme or character for the locality, are to be maintained, while seeking to create an innovative and sustainable built environment. It is neither essential nor even desirable to replicate the appearance of adjacent buildings. Council encourages contemporary design solutions based on sound design principles which recognise and make reference to the underlying elements that create the character of the area.

In large scale developments, there will be an opportunity to establish new energy efficient design forms using contemporary design solutions whilst ensuring that the appearance of the buildings conform with the streetscape.

The key building design emphasis should be on the components that affect streetscape: how a building is sited and designed to face or address a street, building height, roof form and silhouette, articulation, detailing, materials and car-parking arrangements.

In addition, to attain a high quality urban streetscape there is a need to carefully consider the effect of fences and screen walls, depending on the street context. Fencing design and the material used have implications for streetscape, privacy and security.

Council does not favour high front fencing. The intention is to achieve a safer more community-spirited environment where people are not hidden behind fencing and not separated visually from the street. Privacy can be achieved through building design, detail and planting rather than high fencing.

Objectives

To ensure:

- Building facades reinforce the character and continuity of the streetscape by recognising contextual cues particularly in streetscapes of heritage significance.
- The facade, roof and materials of buildings contribute to harmonious and robust streetscapes.
- Facade treatment responds to environmental conditions (e.g. traffic and noise) and incorporates energy efficient design principles for solar access and energy saving.

Performance criteria

The frontage of buildings addresses the street.

Building facades:

- are modulated both in plan and elevation and articulated to express the building's distinct elements and functions;
- recognise and architecturally respond to unique streetscape characteristics to achieve dramatic and picturesque visual effects;
- pick up the horizontal and vertical control lines of adjoining buildings.

Building facades incorporate the following design characteristics:

- 'punctuated' walls with visually recognisable patterns, decorative features, rhythm and texture;
- variation in setbacks;
- variable roofs and skyline silhouettes;
- architectural features such as corbelling and string courses to complement the scale of the streetscape;
- many entrances at ground level and 'robust' architectural building elements;
- balconies with variable materials and finishes; and
- accentuation of vertical and horizontal articulation.

Podiums:

- Maintain the alignment of neighbouring buildings and generally occupy the whole frontage of the site.
- Are compatible with lower scale context (e.g. with no large, horizontal spandrel elements).

For industrial and commercial buildings, facades have a masonry character appearance with minimal large unbroken expanses of solid material or glass.

The roof pitch and form matches adjoining buildings.

Building materials are compatible with the streetscape.

Reflectivity from building materials does not cause discomfort or threaten safety to pedestrians or drivers.

Streetscape elements such as fences and walls, are designed as an integral part of the building to define the edge between the street and semi-public front spaces and respond to:

- the character of the street;
- the continuity of streetscape elements;
- building setbacks;

- the period of construction and individual character and scale of the building;
- the heritage context; and
- privacy and security issues.

If parking levels are visible from the street:

- they are screened behind other uses and integrated with the design of the building;
- the facade is modulated and consistent with the overall design;
- exposed walls are textured using architectural detailing such as corbelling, hit and miss brickwork and using similar material to the rest of the building;
- ventilation panels are carefully designed to achieve aesthetically pleasing patterns, that include vertical and horizontal proportions.

Where solar water heaters are required the following criteria is considered:

Solar water heaters are designed as part of the building. They are positioned to be as unobtrusive as possible, both to the street and neighbouring properties.

On housing with a north – facing street frontage, solar water heaters are specified and positioned to minimise the visual impact of the system on the street. Where possible, solar water heaters are set back from the street frontage.

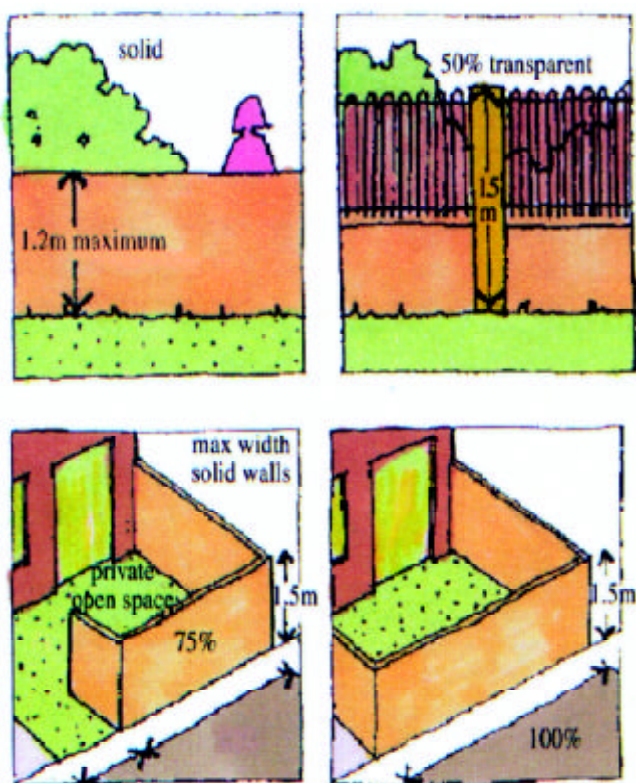
Solar water heaters are positioned below the ridge line of the roof.

If a solar water heater is to be placed on a residential building listed as a Heritage Item under a planning instrument, consideration is given to the visual impact of the system on the significance of the item.

Solar water heaters are complementary to the colour of the roofing materials of the building.

Controls

Front fences and walls are no more than 1.2m high if solid (forward of the building line). This height may be increased if the fence has openings which make it not less than 50% transparent. In areas of unique character such as Rosebery and Moore Park the height of front fences is determined in accordance with traditional patterns. Reflectivity from building materials used on the facades of new buildings does not exceed a threshold increment level of 20%. (In some instances, Council may require a reflectivity analysis be submitted with applications for new building work).



Refer to:

- Part E – 5.1 Energy Efficiency
- PART F – Design Criteria for Specific Development Types

2.6 SIGNAGE

Signs should act as a unifying element in the streetscape. Well designed signs contribute to and enhance the character of the streetscape. The scale of advertising signs should be compatible with the scale and architectural detail of the buildings to which they are attached.

The location of signs should be determined by the geometrical discipline dictated by the building facade, set by the lines of awnings, window and door openings, fenestration patterns, parapet lines and setbacks. Signs should be clear and visible and have regard to human safety.

South Sydney has many conservation areas and heritage items and signage should not compromise the dominant character of these buildings and areas.

Objectives

- To allow outdoor advertising that communicates effectively and contributes in a positive way to the Public Domain.
- To ensure public utility signs maintain and contribute to a theme for the City.
- To encourage signage that is integrated with building design, complements the architecture of buildings and enhances a building's significance.
- To encourage a co-ordinated approach to signage, particularly where there are multiple signs.

**repealed by City of Sydney Signage
& Advertising Structures DCP
2005, adopted 21 February 2005**

Controls

The development application plans identify proposed signs and their location. The design and location of signs is in accordance with DCP No 7: Guidelines for Outdoor Advertising.

Refer to:

- Part E – 2.5 Facade treatment
- Part F – Design Criteria for Specific Development Types.
- DCP No. 7 Guidelines for Outdoor Advertising.

Performance criteria

Signage respects and enhances the architectural character of the building, contributes to the character of the streetscape and complements the Public Domain.

Signs are proportional to the scale of buildings or spaces within which they are placed and they do not dominate building architecture.

Signs do not encroach on the setback of buildings and are integrated with building design and located to fit the form and geometrical pattern of building facades.

The number of signs on various faces of buildings are limited to avoid visual clutter, and their placement defined so as not to obscure important architectural features or obstruct visual corridors.

3. HERITAGE AND CONSERVATION

Introduction

South Sydney is a diverse area containing a rich mixture of buildings, parks, industrial sites and places of special significance. Conservation is concerned with the care and maintenance of culturally significant sites. It is also concerned with the sense of place that has evolved over time and the relationship of the various elements that give each place character and identity in the community.

Conservation does not mean that progress is stifled or that development is frozen, but rather that special attention should be taken to appropriately manage the significant elements of our past, in order to retain their heritage value.

South Sydney's Heritage Conservation Strategy

Council's Strategy for a Sustainable South Sydney sets out a number of strategies to "identify, conserve and promote those items and areas which contribute significantly to the local environment and cultural heritage of the city" (p.108).

The main strategy is to integrate recommendations of the Heritage Study into the The Heritage Study identified conservation areas, and form comprehensive heritage management plans to conserve and appropriately manage heritage items and components of Conservation Areas.

The Heritage LEP 1996 forms the legal basis to manage and conserve South Sydney's heritage and includes specific requirements and controls. The plan identifies individual heritage items in a schedule and conservation areas on a map. This DCP expands on those requirements and provides guidance for development.

What is a heritage item?

A heritage item can include any part of the environment which has been assessed as having heritage significance or value to the local area, region or State, such as a building, archaeological site, park, natural feature or industrial site to name just a few.

Where buildings are identified as heritage items, it is not always their architectural value which may be of importance. Many buildings may have other values such as historic, social or scientific significance, which make it important and worth keeping. For example the home of Patrick White in Centennial Park, is of prime importance primarily for its association with this famous Australian author.

There are 448 heritage items within the City which are identified in the South Sydney LEP, 1996. A further 881 additional heritage listings were recommended in the Heritage Study, (some of which contain more than one building). These items have been included in the draft Heritage LEP, 1996.

It should be noted that the heritage schedule is not finite and buildings or sites, may be added to the schedule in the future or removed from a list providing there is adequate justification.

What is a conservation area?

Most conservation areas are significant for their townscapes and streetscapes character although some also have historic or other values. The majority of buildings within the conservation area contribute to the character of the area in some way.

Elements of conservation areas which contribute to their character include roofscapes, chimneys, front fences, landscaping, gardens, materials, setbacks, building heights, kerbs and guttering, street furniture and the like. These are also referred to as 'streetscape elements'; that is, they contribute to the character of the streetscape. It is the total of all these elements which make a place stand out and be valued. In this regard, the retention of the character of an area is the combined responsibility of Council and the

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every building or place in an area may warrant individual heritage listing, collectively they contribute to the character of the area. Conservation areas do, however, often include some individually listed heritage items. The Heritage Study has identified 47 conservation areas in the South Sydney area. These have been included in Appendix iv. In some cases these modify or extend the existing conservation areas. Some of these are large, such as Paddington Urban Conservation Area, and some small, such as Cooper Street Conservation Area.

Experience has shown that conservation areas are often regarded as desirable places to live because of their special character. In some areas this has resulted in property values increasing.

What is a contributory item?

A contributory item is a building or element which makes a positive contribution to the character and/or heritage significance of a conservation area.

To determine if a building contributes to the conservation area, elements such as height, roof shape, design, siting, materials, fencing and other details are taken into account. The building may be an older building which contributes to the character of the area but has undergone many changes through additions and/or alterations. Alternatively, it may be a new building which has been designed in such a way that its overall appearance complements or “contributes” to the character and streetscape values of the conservation area. Other elements, such as sandstone kerbing and guttering, original street trees, older painted signs etc, will also generally contribute to the character and heritage value of a conservation area.

What is a potential archaeological site?

A potential archaeological site is an area, developed or not, which may contain relics of an earlier settlement phase within the City. A potential archaeological site is usually determined through historical records which have indicated that a particular land use occurred on the site and no longer exists. However, the site is likely to contain relics and archaeological deposits from that previous use. Potential archaeological sites are likely to occur where the existing development on the site, if any, has not involved extensive excavation works. Archaeological sites can provide extensive information and insight into past methods and practices, ways of life and social history.

What is heritage significance?

The concept of heritage or cultural significance is based on the idea that a place, building or relic may have aesthetic, historic, social or

technical/research value, for past, present or future generations. Heritage significance is also made up of a comparative assessment to determine whether the heritage item is a representative or rare example of its kind.

Before deciding how to care for a place or deciding what changes are appropriate, there must be an understanding of what makes the place important, ie, its heritage significance. Once this is determined, decisions about the future of their property are more easily and appropriately determined.

The concept of heritage significance is more fully explained in the Burra Charter and the illustrated Burra Charter and in the New South Wales Heritage Manual produced jointly by the New South Wales Department of Urban Affairs and Planning and Heritage Council of New South Wales.

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Significance) and the illustrated Burra Charter, provides a sound philosophical basis for the conservation of items and places of heritage value. The Burra Charter is widely accepted throughout Australia and overseas as a sound framework for good heritage decision making. Council has previously adopted the basic principles in the Burra Charter. Both documents are valuable references to assist decision making in relation to heritage items and areas.

In summary, the Charter embodies the following ideas:

- the place itself is important;
- understand the significance of the place;
- understand the fabric;
- significance should guide decisions;
- do so much as necessary, as little as possible;
- keep records; and
- do everything in logical order.

These ideas are relevant to most decisions about development involving heritage items and conservation areas and the day-to-day management of heritage properties.

Conservation processes

The Burra Charter defines the term ‘conservation’ and the type of work and processes which may be regarded as conservation. These are called conservation processes and each has its own particular meaning:

- Preservation
- Restoration
- Reconstruction, and
- Adaptation.

Often these terms are used loosely in application and can misinterpret the actual work which is to be undertaken to the building.

Restoration is a term loosely used for works ranging from painting to extensions and alterations. Strictly speaking, as defined by the Burra charter, restoration means “*returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material*”. (Article 1.7) This may involve, for example, the reinstatement of original verandah posts, brackets, balustrades, and the like, which have been removed from the building. (Often decorative features such as these, were removed during the 1950s and 1960s and can sometimes be found under the house, in the garden or in garages.) Restoration may also involve removing verandah or balcony enclosure, to expose the original form of the building, or, removing asbestos fibrous cement wall linings to expose original weatherboards underneath. Restoration does not involve for example, replacing timber sash windows to aluminium casements or the introduction of iron lace or other such decorative details on the building, if they never previously existed.

Reconstruction often goes hand in hand with restoration and is distinguished by the introduction of new or old materials into the building. The Burra Charter defines reconstruction as *“returning a place as nearly as possible to a known earlier state and is distinguished by the introduction of material (new or old) into the fabric. This is not to be confused with either recreation or conjectural reconstruction which are outside the scope of this Charter.”* (Article 1.8)

Reconstruction is an acceptable form of building conservation, providing there is sufficient evidence (documentary, physical, pictorial) to ensure the proposed works are appropriate. It is generally unacceptable to totally reconstruct a building where there is little or no original fabric remaining and limited documentary evidence to ensure accurate interpretation.

The other terms used in the Burra Charter are defined in Section 6.0.

Change of use

Maintaining the original use of a building is desirable as it usually involves the retention of the original floor plan of the building and decorative features such as fireplaces, chimneys, ceiling roses, cornices. The continuation of an original use in the building also enhances its heritage significance.

It is not always possible, however, to retain the original use of a building due to changes in technology and changes in market/social trends. Changing the use of a heritage item is acceptable on heritage grounds in many cases, providing the use is compatible and the heritage significance of the item is not significantly compromised. The Burra Charter includes a definition for compatible use as follows:

Compatible use means a use which involves no change to the culturally significant fabric, changes which are substantially reversible, or changes which require a minimal impact (Article 1.10).

Council has recognised the need to be flexible with heritage items in terms of providing for their long-term conservation. A specific conservation incentives clause has therefore been included in the Heritage LEP, 1996, enabling Council to approve a use in a heritage item, which would otherwise be prohibited in the zone. It must be proven, however, that the conservation of the item depends on the granting of consent for the new use.

Setting/curtilage

Establishing the heritage significance of a property is a means of determining why a place or item is of importance or special, to the community. Conserving heritage significance extends beyond the physical fabric of the place and must include the setting and context of the place and respond to the broader reasons why the place is of value to the community. Heritage sites may be visible from a public place and often their setting contributes to their aesthetic value, historical context and heritage significance.

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considered in relation to potential impacts:

- conservation of the existing heritage item;
- visual setting;
- historic allotment (or setting);
- original boundaries;
- significant features;
- design components;
- significant vegetation;
- views and vistas;
- screen planting; and
- archaeological features.

Where does the Heritage Council fit in?

The Heritage Council of New South Wales is constituted under the *New South Wales Act 1977*, and is serviced by the New South Wales Heritage Office. The Heritage Council gives advice and makes recommendations to the Minister for Urban Affairs and Planning whether properties should be protected by Conservation Order. If a building or site is protected by Conservation Order under the Heritage Act, consent must be

obtained from the Heritage Council, in addition to Council consent. If a property which is listed on Council's Heritage Schedule is proposed to be partially or totally demolished, the comments of the Heritage Council also needs to be sought.

The Heritage Council also consults and comments on the heritage implications of planning instruments, environmental studies and impact statements, referred from Councils.

Where does the National Trust fit in?

The National Trust of Australia (NSW) is a non-government funded heritage conservation organisation that relies on community support. The National Trust provides advice on all heritage issues, and is a highly regarded expert organisation, although it has no legal role in the conservation process. The Trust undertakes environmental surveys, maintains a Register of heritage items, provides information to government, industry and property owners on conservation issues and carries out education programs.

Councils can consult with the National Trust for advice on policies, plans and development applications, where it considers this to be appropriate.

Designing for heritage compatibility

The heritage significance of many buildings, has been compromised by unsympathetic changes to the outside. The most common alterations include:

- changing pairs of tall narrow windows to one square aluminium window;
- changing the style of front doors, skylights and fan lights;
- changing roofing materials;
- infilling verandahs;
- changing fence style and materials;
- changing the external cladding materials of walls;
- painting previously unpainted finishes, such as face brick work;
- inappropriate additions.

New development and alterations and additions to existing development should be designed to be compatible with the conservation significance of the area, i.e. what surrounds the site, so that it can stand alone as an identifiably new structure but which can be seen as an integrated part of the surrounding area.

Heritage compatibility applies to additions and alterations to existing buildings and to new buildings, not only to the front of buildings, but the rear as well, including any internal changes.

Where repair, alteration or extension works are necessary to an IEH, they must relate sensitively to the original building and will require craftsmanship and professional skill of a high standard.

Before any changes to an IEH or a building within a Conservation Area are designed, the building, site or place must be fully understood. (Refer to the Burra Charter).

Heritage compatibility does not mean replication which is the reproduction of an existing building or style of building. Council does not encourage replication, but it may be an appropriate design approach when adding to an existing building.

Applications involving an IEH or within Conservation Area

When submitting an application, applicant to demonstrate how compatible with the conservation area.

For proposals in a conservation area, depending on the importance of the site, or involving an IEH of local significance, you will need to submit together with the application a statement of effect setting out the effect the proposed works will have on the significance of the conservation area and/or the IEH.

For work to heritage items of state or national significance – covered by an Interim Conservation Order, a Permanent Conservation Order or are in the Register of the National Estate (see Glossary) – a conservation plan must be submitted with the application. A conservation plan is a document setting out what is significant about the site or building and what policies should be adopted to enable the significance to be retained for future use or development.

Council will require sufficient information to be sure that any proposed works can be carried out without danger to the fabric and structure of the building, including adjoining historic properties or contributory buildings which may be affected by such works. Should, during the construction of approved works, part of a building found to be insecure or unstable or otherwise affected by the works, Council will require that measures be taken

to ensure the preservation of the building. Repairs to IEHs should be carried out with the least possible detriment to the character or fabric of the IEH and confined to the best possible method of rectifying the fault.

Council has control over the demolition of IEHs and the general presumption is that IEHs will be retained because of their significance. Permission for demolition or part demolition may be granted in special circumstances but is subject to permission from the Heritage Council of NSW.

Objective

To protect and enhance all items of environmental heritage and their settings and those areas of special architectural, social, cultural or historical interest.

To find out if your property is a heritage item or in a conservation area please call the Planning and Building Department on 9300 4481. If you are considering submitting an application to Council, before planning any work on the property consult *The Illustrated Burra Charter-Making good decisions about the care of important places*, by Peter Marquis-Kyle & Meredith Walker. You may need approval by Council for any proposed internal or external alterations or new works that might affect the character or appearance of an IEH or Conservation Area. Refer to South Sydney LEP 1996 to determine whether the works you are proposing require Council consent.

When proposing fire safety upgrading of an IEH consult with officers of Council's Strategic Planning Section and Fire Group. You should also refer to the Department of Urban Affairs and Planning's Fire and Heritage – Guidelines on Fire Safety in Heritage Buildings.

If you are proposing to employ a heritage consultant, the Heritage Council of NSW produces a Register of Heritage Consultants. A copy of the register can be inspected at the South Sydney City Council One Stop Shop.

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Performance criteria

Where the development involves IEHs or is in a conservation area, all new buildings and alterations and additions to existing buildings incorporate design elements that typify the architectural character of the area and so provide heritage compatibility through:

- roof forms (pitch, shape, gables, parapets, decorative elements, chimneys) including relationship of verandahs to the main roof;
- proportions and relationships of openings for windows and doors;
- building materials.

Additions to buildings identify the significant elements or characteristics of the existing building and draw from and preserve them in new work, matching the style, form and detailing, and/or having elements which connect the additions to the existing building.

Alterations, extensions and other structural works to IEHs:

- protect and enhance the setting of the item;
- do not put the retained historic fabric of the item at risk;
- do not compromise the original plan forms of the building;
- include retention and repair, rather than replacement; and
- where they are of architectural interest they retain important historic building such as major original chimney breasts, major structural beams and the roof structure.

A change of use of an IEH:

- contributes to the enhancement and preservation of the item,
- takes place without considerable alteration or loss of character, and
- is consistent with other requirements of Council.

A change of use of an IEH to a use not permissible in a particular zone may be encouraged by Council for practical and economic reasons to avoid neglect and promote longevity of the item. Such change of use satisfies the above criteria.

Roof extensions to IEHs are in the form of an attic conversion which:

- preserves the characteristic features of the roofscape such as chimneys, chimney pots, the external expression of party walls, variations of roof line and pitch (even where interior alterations appear to make them redundant);
- is constructed in traditional materials;
- relates in size, position and type to the windows on floors below.

Roof extensions to IEHs are not acceptable

where:

- an extra storey has already been added or where an extra storey would spoil the proportions of the building;
- the original form of the building should not be altered;
- additional height would disrupt the relationship with adjoining buildings; or
- amenity implications are created by the additional storey.

Fire safety upgrading to an IEH does not result in substantial changes to the building.

Any proposed works to an IEH or within a Conservation Area are carried out without danger to the fabric and structure of the building, including adjoining historic properties or contributory buildings which may be affected by such works.

The proposed demolition of buildings that are not listed as IEHs but are within Conservation Areas is assessed in terms of the quality and condition of the building and its contribution to the area and the intrinsic quality of the new building.

Controls

For development in conservation areas and for development of local significance Council requires a statement of effect to accompany a development application. The statement sets out the significance of the place or relic as a whole and the effect the proposed works will have on the significance of the conservation area and/or the IEH.

For development involving an IEH of state or national significance, Council requires a conservation plan to accompany the development. The plan is prepared by a recognised heritage consultant and sets out what is significant in the place and what policies are appropriate to enable that significance to be retained in future use or development.

Refer to:

- ➔ Part B: Urban Design Principles – Buildings and Heritage
- ➔ Part E – 1.2 Site layout
- ➔ Part E – 2.5 Facade treatment
- PART F - Design Criteria for Specific Development Types
- ➔ *Development Control Plan 1998: Heritage & Conservation*

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4. AMENITY

4.1 Visual and Acoustic Privacy

The need for both visual and acoustic privacy should be considered when deciding the location of a building, the room layout, the location of windows, private open space and landscaping.

The direct overlooking of adjacent private open space and living rooms from immediately abutting new development should be minimised. Dwelling layout, screening devices, distance, offsetting windows and landscaping are some of the techniques used to divert or screen direct views.

Acoustic privacy can be achieved through appropriate layout combined with the use of construction techniques and materials. For example, development near existing noise sources such as railways, busy roads or industry, need to be insulated against excessive noise levels.

Objectives

- To site and design buildings to meet projected user requirements for visual and acoustic privacy.
- To ensure development minimises noise and overlooking to adjacent development.

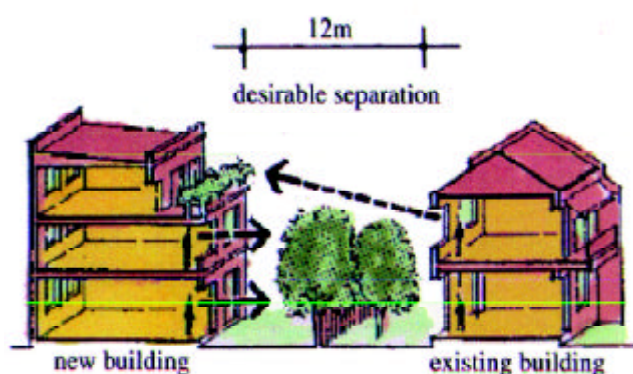
Performance criteria

Visual privacy

The main habitable areas and private open space are designed to be protected from direct overlooking, by building layout, location and design of windows and balconies, screening devices, distance or landscaping.

Acoustic privacy

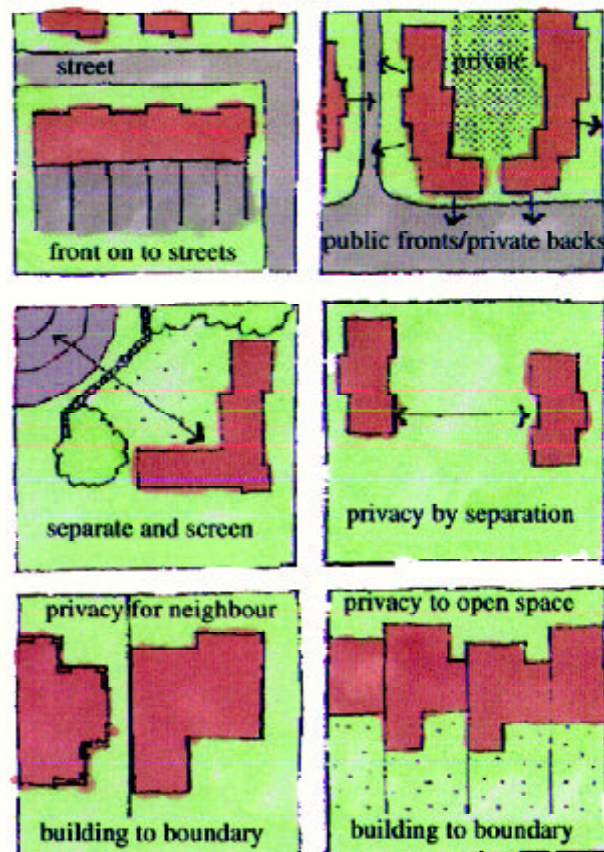
Site layout, building design and construction protect internal living and sleeping areas from high levels of external noise and minimises the transmission of sound through the building structure.



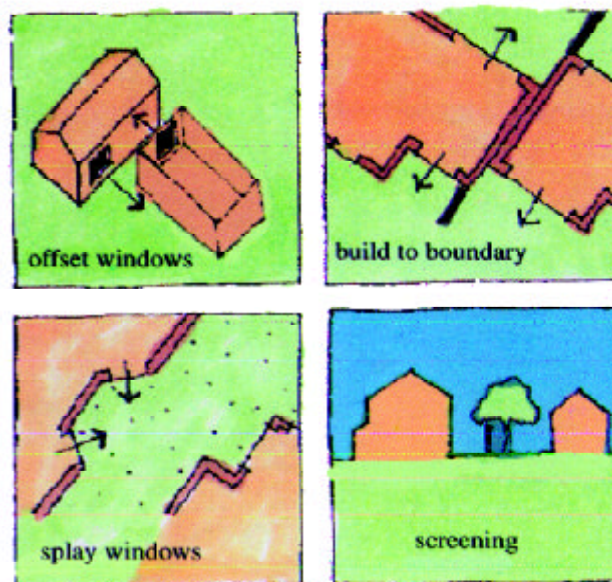
Privacy between buildings by screening, planting and offsetting window locations.



Avoid overlooking neighbouring private open space.



Privacy is a key consideration of the site planning and layout stage.



Locating windows to limit overlooking.

Controls

Visual privacy

Dwellings are orientated so that the main living areas and windows are to the front or rear of the site.

For dwellings, habitable room windows of one dwelling are not located directly opposite the windows of another dwelling unless direct viewing is restricted.

Acoustic privacy

Where buildings abut major roads, railway lines or other uses that emit high levels of noise, they incorporate noise reduction devices. Noise sensitive areas are located away from the source and protected by appropriate design and screening devices such as fences or walls. Where appropriate, individual buildings and groups of buildings are located to act as barriers to the noise.

Noise transmission between buildings and uses within a building is minimised by:

- locating living rooms, garages or other noisy areas of a building away from bedrooms of adjacent dwellings;
- separating and containing the plumbing for each dwelling or activity within a building to prevent transmission of noise to other dwellings;
- using appropriate noise resistant wall, ceiling and floor materials.

Dividing walls and floors between dwellings, and between different uses in mixed-use development are constructed to limit noise transmission to comply with the provisions of the Building Code of Australia.

Electrical, mechanical or hydraulic equipment or plant do not create an offensive noise, as defined in the Noise Control Act, at the boundaries of any development at any time of the day.

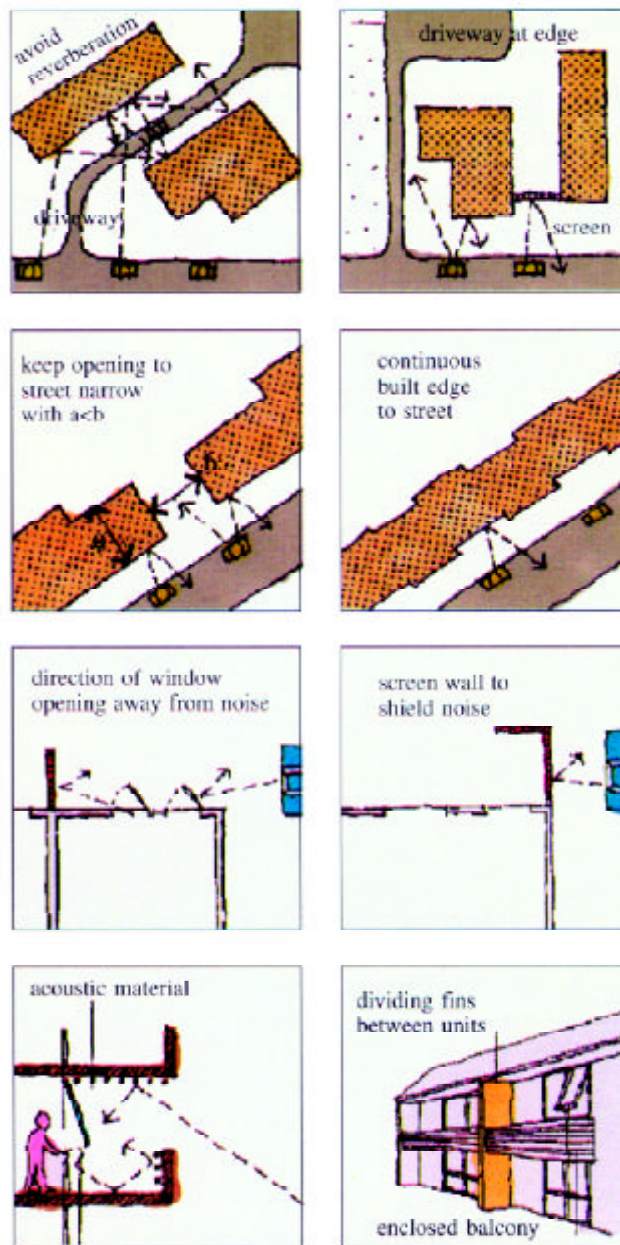
Internal habitable rooms of dwellings affected by high levels of external noise are designed to achieve internal noise levels of 50 dBA maximum.

Noise attenuation between different classes of buildings complies with the Local Government Approvals (Regulations) 1993.

Refer to Australian Standards AS3671-Road Traffic Noise Intrusion, AS2107-Acoustics and AS2021 Aircraft Noise for noise attenuation design and construction techniques. Council may require a report by an acoustic consultant to be submitted with development applications for residential and other noise sensitive development in noise affected locations, to ensure acoustic privacy criteria are satisfied.

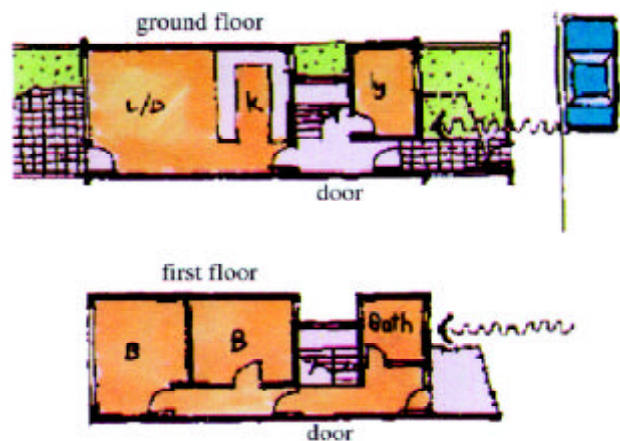
Refer to:

- Part E – 1.4 Private open space
- Part E – 1.5 Landscaping



Some ideas for achieving acoustic privacy.

Service rooms located close to the noise source can protect other more often used and noise-sensitive rooms.



4.2 Safety and Security

Streets, sites and buildings can be designed to discourage crime and increase occupants' sense of security. Designing for security can be achieved through arranging buildings, open spaces and access ways to allow occupants to easily observe semi-public areas around buildings.

A clearly defined transitional space can deter intruders, and is characteristic of traditional areas where front gardens and porches are used to delineate the change from public to private space.

The design of front fences and walls (height and transparency) has implications for security. High fences and walls can block street surveillance from the building. A low wall combined with a semi-transparent fence, for example, can achieve privacy while enabling street surveillance.

Objective

To ensure buildings and public spaces are designed to both enhance safety and minimise opportunities for crime.

Performance criteria

Site planning provides a clear definition of territory and ownership of all semi-public spaces. Buildings are designed to overlook public and communal spaces and other public areas to maximise casual surveillance.

Building entry is designed to:

- give the resident/occupier a sense of personal address and shelter;
- incorporate a transitional space around the entry, such as porch or veranda;
- be clearly visible and easily identifiable from streets, public areas or internal driveways, to enable visitors to easily identify a particular building.

Blank walls are minimised along all-street frontages.

Major pedestrian, cycle and vehicle thoroughfares are identified and reinforced as 'safe routes' through:

- appropriate lighting;
- the potential for casual surveillance from houses and activities;
- minimised opportunities for concealment;
- landscaping which allows long-distance sight lines;
- avoidance of 'blind' corners.

Landscaping and fencing do not reduce the safety of residents/occupiers and are placed in such a way as to minimise screening near security risk areas such as doors and windows.

Pedestrian site access, through site links and parking are clearly defined, appropriately lit, visible to others and give direct access to buildings from areas likely to be used at night.

Controls

Development has an 'active' street frontage where appropriate

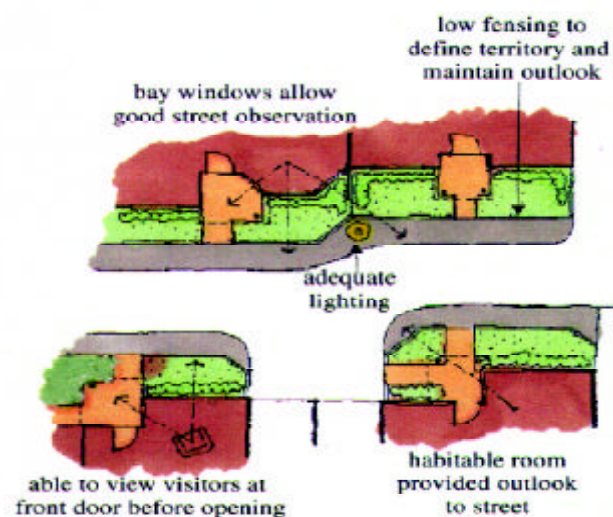
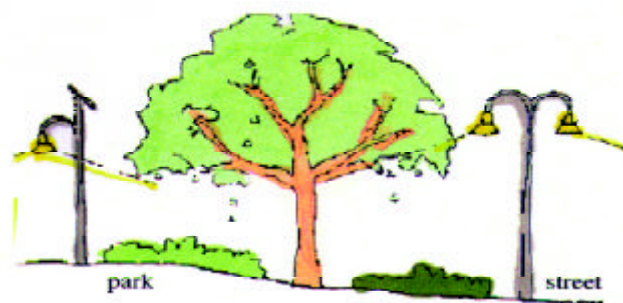
Lighting to all pedestrian paths is provided between public and shared areas, parking areas and building entries.

Underground parking areas incorporate security systems such as intercoms to discourage intruders.

Refer to:

- Part D – Social Planning
- Part E – 1.5 Landscaping
- Part E – 2.5 Facade treatment
- Part F – Design Criteria for Specific Development Types.

Street/park interface lighting offers greater safety.



4.3 Security devices

Security devices are those devices, which are installed on buildings to increase safety and security for the building and its occupants.

Poorly designed or over-prominent devices detract from the appearance of buildings and are obtrusive in the streetscape.

Objectives

- To protect and enhance South Sydney's streetscape through the effective management and control of the use of security devices.
- To create a secure environment for the residents and businesses within South Sydney.

Performance criteria

- Security devices complement the architectural style of the host building.
- Security devices enhance casual surveillance of public spaces.
- Security devices do not deter active street frontages.

Controls

Security devices:

- *are sympathetic to the scale and architectural style of the host building or site and the street in which they are sited.*
- *are to be permeable and transparent*
- *provide views out of the premises.*
- *do not dominate facades.*
- *do not obscure architectural features on the host building or adjacent buildings.*
- *do not reduce ambient lighting from shopfront to the footpath.*

Refer to:

- Part F, Design criteria for specific types of development relevant to your proposal.

4.4 Access and mobility

Background

Over 20% of the general population has a disability which limits their ability to access buildings, move around freely and operate facilities. Common barriers to people with disabilities include:

- devices requiring precise manipulation or use of both hands, such as door handles, control buttons, taps and switches;
- steep, rough, uneven, broken, soft or slippery surfaces;
- lack of accessible toilets, showers and seating;
- street furniture and fittings that are too high or too low to be reached comfortably from a seated position;
- narrow pathways, corridors, entrances, arcades and turnstiles;
- steps and stairways which are difficult to negotiate;
- confusing streetscapes, signs, colour schemes and direction boards.

Council strongly encourages the creation of a barrier-free environment for all people who live, work or visit the area and therefore the design of buildings and ancillary spaces should allow use by all persons with mobility limitations.

The Disability Discrimination Act 1992

The Disability Discrimination Act (DDA) is a Federal anti-discrimination law which sets out to eliminate bias against people with disabilities and protect their rights to equality with the rest of the community. The DDA seeks to stop discrimination against people with any form of disability and hence covers disabilities other than physical ones such as intellectual, sensory, neurological and other conditions and learning disorders.

Recent changes to access and mobility standards

There have been a number of recent developments on access issues as a result of legal action and liability considerations of the DDA.

Until recent times, the development industry has largely relied upon compliance with access provisions of the Building Code of Australia (BCA) to satisfy access and mobility requirements of new or refurbished buildings.

[Until 1997, South Sydney City Council had more specific requirements for people with disabilities with its DCP No. 10 – Planning For Disabled Access (1993).]

However, compliance with the Building Code of Australia may not be adequate protection for a developer against action under the DDA.

repealed by City of Sydney Access DCP 2004, adopted 7 June 2004

and equitable and dignified use of services and facilities within premises. It focuses on outcomes rather than specifications. The DDA takes more account of the spirit of anti-discrimination – the quality of access being just as important as the physical dimensions.

For example, it may not be good enough to provide convoluted wheelchair access through the back lane, garbage room and kitchen when easy access facilities via the main entrance could be provided without undue hardship.

There is now very real potential for proponents of access deficient proposals to be taken to court if they do not adequately address anti-discrimination issues. There have been recent instances where complaints of access

discrimination have led to such legal action.

Recommended guidelines and standards

The Building Code of Australia Board is currently reviewing the BCA to make it more compatible with the DDA. A more DDA-compatible BCA is not expected until early 1999.

In the interim, a bridging document has been issued by the Human Rights and Equal Opportunities Commission (HREOC) entitled *Advisory Notes on Access to Premises (June 1997)*. HREOC has incorporated performance criteria largely based on reference to appropriate sections of AS 1428 Parts 1 to 4, and have included suggestions on how access to buildings can be designed in accordance with the DDA. The application of the Guidelines would be, in HREOC's opinion, reasonable protection against action under the DDA.

The current BCA and HREOC Guidelines On Access To Premises are recommended as access and mobility references until an accepted, fully DDA compatible industry standard is available.

The draft revised access provisions of the BCA may also provide useful information.

The most recent relevant Australian Standards are the four-part AS1428: *Design For Access and Mobility* series:

- AS1428 Part 1 – General Requirements of Access To Buildings (1998)
- AS1428 Part 2 – Enhanced and Additional Requirements – Buildings and Facilities (1992)
- AS1428 Part 3 – Requirements for Children and Adolescents with Physical Disabilities (1992)
- AS1428 Part 4 – Tactile Ground Surface Indicators For People With Vision Impairment (1992)

Proof of Unjustifiable Hardship
Legitimate “Unjustifiable Hardship” can be accepted as a reason why buildings and spaces cannot be designed to provide access for people with disabilities in full accordance with the BCA access provisions and HREOC Advisory Notes.

However, where such exemption is sought, the application should be accompanied by a statement detailing the reasons for this, along with supporting information, such as cost estimates, financial impact and examination of alternatives.

Consideration will need to be made to issues such as the degree of use by the public of a building or proposal, the degree of exclusion to people with disabilities which may arise from such an exclusion, cost of modifications versus overall cost of project, ability to pay, heritage impacts and other relevant considerations.

Council will consider the reasonableness of these arguments may still condition fully accessible design. Even if considered to be reasonable by Council, the defence of Unjustifiable Hardship lies solely with the applicant (refer to Disclaimer). A claim of Unjustifiable Hardship also needs to be weighed up against the cost of a possible complaint to HREOC.

HREOC’s website provides a number of case summaries which demonstrate the issues associated with reasonableness of a claim of Unjustifiable Hardship. The address is (www.hreoc.gov.au/).

While it is stressed that it is the applicant’s ultimate responsibility to address compliance with the DDA and substantiate hardship, Council may be able to provide referral to organisations to enable alternative designs to be

developed. Council’s Heritage Officer may be able to assist with accessible designs which may have least impact on heritage values.

Objectives

To ensure new buildings and associated spaces are accessible and useable to all people in the community, including people with disabilities.

Performance criteria

Paths of travel to and within a building provide people with disabilities with uninterrupted, comfortable **quality** access to all areas and facilities accessible to other users.

At least one clearly identifiable **main entrance** to a building is designed to enable dignified and convenient access

Parking spaces are sufficient in number, adequately located

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Doors and doorways are of adequate width and design to enable access to all public areas within a building and use by those with limited strength.

Where lifts are provided, they are of sufficient size and control buttons laid out horizontally.

All accessories such as door handles, bell pushes, window fittings, switches and letter boxes are easy to manipulate and located at an appropriate height.

The finish on ground and floor surfaces does not restrict access or present an undue hazard.

Signs, including visual alarms, are visible and legible to as many people as possible,

including people with sight impairments or colour-blindness.

Controls

Buildings and spaces are designed to provide access for people with disabilities in accordance with access provisions set out in the BCA and criteria set out in Advisory Notes On Access To Premises issued by HREOC in June 1997.

References

- South Sydney Council Access Kit, incorporating:
- AS 1428 – Design For Access and Mobility series
- Advisory Notes on Access To Premises, June 1997, Human Rights and Equal Opportunities Commission
- Building Code of Australia – Revised Access Provisions, Draft, June 1997
- HREOC’s Guidelines on Access To Premises is also available...to be advised
- Council’s Access Information Officer 9300 4150
- Council’s Heritage Officer 9300 4343.

Development and building approvals are assessed in accordance with relevant building laws and Council development controls. Irrespective of any requirements, directives, suggestions or conditions imposed by Council, it remains the responsibility of the developer, designer or builder to investigate their own liability and attempt compliance with the Disability Discrimination Act.

A conservative, best-practice approach, such as adoption of the Human Rights and Equal Opportunities Commission’s *Guidelines On Access To Premises*, may be the best defence against potential action until an accepted industry standard is available.

4.5 Flexible housing design

Council has requirements for both **Accessible Housing** and **Adaptable Housing**, explained below. Note that the information in this section supercedes provisions of Council's DCP 10 Access and Mobility (1993). Reference should be made to Part E of this DCP – regarding Design For Access and Mobility, for design requirements and liability issues in relation to the Disability Discrimination Act 1992 and recent guidelines and standards.

Accessible housing is housing fully designed and built to accommodate the needs of residents with disabilities as required by the Building Code of Australia (BCA). A principal requirement is a minimum number of units be fully wheelchair accessible and barrier free, both from the street to entrance and within the dwelling.

Adaptable housing is normal housing designed with forethought, deliberately planned and built to accommodate eventual changes to suit a disabled resident or life cycle need. It is built to have the potential to be easily adapted at a minimum cost to suit a particular individual's requirements should it be needed at a later time.

It is built in such a way that people with disabilities and the aged can even visit and use the facilities from the moment it is built. Adaptable housing takes on a design for all or part of the life cycle to housing which is not only designed to accommodate the needs of people with disabilities, but is also a means of adding value to living environments to make them better and more functional places for all age groups and abilities.

Typical features which are aimed at all users and are available immediately, are level and wide doorways, non-slip surfaces, reachable power points and controls, easy-use door handles. Features which may be utilized at a later stage are strengthened walls onto which hand-rails may be attached, or an inclinor installed between levels, or cabling to all rooms to allow intercoms to be connected. Advantages to developers and the community include:

- greater marketability of dwellings as it offers much sought-after choice of housing for a wide range of people looking for features that allow occupation over a longer period;
- low initial cost – at most only 5% more than traditional housing, in many cases minimal or nil;
- visitability – adaptable houses are able to be visited by people with disability and older people, allowing greater participation in normal community activities;
- safer and easier for use by people of all ages and physical strengths without the need for assistance;
- reduced welfare, medical and nursing costs – the

overseas experience suggest that people who live in adaptable housing live longer, generally have better health, fewer accidents, are happier and more independent and able to defer nursing care much longer than normal, therefore preserving networks and diversity within a community.

- promotes the economic and efficient use of building resources and materials;
- helps address the responsibilities and potential liability of developers to action under the *Disability Discrimination Act 1992*.

Australian Standard AS 4299 – Adaptable Housing (1995), provides guidelines for the design of residential accommodation. It can be applied to all types of new and existing residential accommodation.

Objectives

To ensure that the minimum number of dwellings are purpose built for people with disabilities as prescribed by the Building Code of Australia and that a reasonable proportion of dwellings include standard adaptable housing features, designed and built in such a way that later alterations to suit individual requirements can be achieved without undue expense.

repealed by City of Sydney
Access DCP 2004, adopted 7
June 2004

Criteria

Adaptable housing provisions outlined in the Building Code of Australia are met. The Building Code (AS 1428) effectively prescribes that

1 unit in every 50, or part thereof, be built as fully accessible for people with disabilities in accordance with AS 1428 Design For Access and Mobility Part 1.

The design of access to dwellings, external circulation spaces, fixtures and the external residential environment fully considers the requirements of mobility impaired or disabled persons by:

- avoiding unnecessary physical obstacles
- avoiding public areas of the site that are only accessible via steps and steep gradients
- paying attention to the positioning of street furniture such as lighting columns and where necessary employs the use of recognisable visual and tactile warning techniques
- provides dropped kerbs at safe and convenient crossing points
- level or ramped, well lit and uncluttered approaches from pavements and parking areas are provided.

The design of the internal components of the dwelling incorporates flexibility for potential occupants with disabilities by:

- avoiding changes of level and steps throughout

5. ENERGY EFFICIENCY

Glossary

The glossary below refers to terms specifically referred to in this section and Appendix A: Energy Efficiency Design Guidelines. (This glossary is an extract from Ballinger, J.A., & Prasad, D.K., & Rudder, D., *Energy Efficient Australian Housing*, 1992).

Accredited energy auditor is an energy auditor that is accredited by the Institution of Engineers, Australia, for registration with the Commonwealth Government's Enterprise Energy Audit Program.

Active Systems are generally visible, with roof mounted collectors, pumps, plumbing, control systems and storage tanks. (Energy Efficient Australian Housing, 1992).

Clerestory is a small row of windows high in the wall below the ceiling.

Domestic Thermal Assessment Program (DTAP) is an energy efficiency assessment program and model to facilitate development and building assessment.

Double glazing is a form of glazing which incorporates two panes of glass separated by a vacuum, dry air or argon.

Effective glass area is that area of glass exposed multiplied by the shading co-efficient.

Energy target is a single number used to quantify a building's energy consumption and is expressed in Mega Joules per annum per metre square (MJ/am²).

Heat gain is an increase in the amount of heat in a space, resulting from direct solar radiation and the heat given off by people, lights, equipment, machinery and other sources.

Heat pump, cooling and heating is a refrigerating system designed to utilize alternatively or simultaneously the heat extracted at a low temperature and the heat rejected at a higher temperature for cooling and heating functions respectively.

Infiltration is the uncontrolled movement of outdoor air into the interior of a building through cracks around windows and doors or in walls, roof and floors.

Insulation is a material having a relatively high resistance to heat flow and used principally to retard heat flow.

Joule is the International Standard (SI) Unit for energy and is denoted by the symbol 'j'.

Non-renewable fuels are often fuels derived from fossil remains such as coal, oil or gas and are not

capable of being replenished. Although wood is used as a fuel in some cases and timber can be replaced, the rate of growth of timber is relatively slow compared with the rate at which it is consumed.

R Value or Resistance is described as the area of insulation which will permit one watt of energy to pass through it, when a temperature difference of one Celsius degree exists across it. The greater the "R" value, the greater will be the effectiveness of the insulation on resisting heat flow into the building in summer or out of it in winter. (Earth Exchange, Brochure titled "The Value of Thermal Insulation").

Reflective Foil Laminate is a type of reflective insulation defined in AS 1903 as a flexible sheet material, supplied in roll form.

Renewable fuels are fuels that can be used without any loss to the supply. These include solar energy (in all forms including wind and ocean waves which are derived from the effects of heat from the sun) and plants that grow rapidly and in large quantities (still largely experimental stages).

Passive Systems uses the building structure as a collector, storage and transfer mechanism with a minimum of mechanical support (Energy Efficient Australian Housing, 1992).

Skylight is a clear or translucent panel set into the roof to admit daylight into a building.

Solar collector is a device for capturing solar energy.

Solar radiation is electromagnetic radiation that is emitted from the sun. It affects temperatures inside buildings and is a significant influence in the internal climate.

Thermal mass is the amount of potential heat storage capacity available in a given assembly or system. Masonry walls, concrete floors and adobe walls are examples of thermal mass.

Ventilation is the process of supplying or removing air by natural or mechanical means to or from any space. Such air may or may not have been conditioned.

Introduction

This DCP encourages the design and construction of buildings that minimise consumption of energy from non-renewable sources to preserve the environment and reduce greenhouse gas emissions to improve the health and comfort of the community. This reflects Council's commitment to promote ecologically sustainable development and fulfil strategies identified in Council's Greenhouse Effect Policy Statement and Strategy for a Sustainable City of South Sydney.

Clause 28 of South Sydney LEP 1998 requires

Council in determining a development application, to take into consideration whether the development "...has been designed so as to be energy efficient in terms of natural:

- lighting,
- ventilation,
- heating and cooling."

This section of the DCP expands on principles and requirements to achieve energy efficiency by design. The design approach adopted assumes the availability of solar access, even though it is recognised that this may not always be the case. When solar access is not available or possible for all buildings, a range of design techniques will be necessary to achieve reasonable levels of energy savings.

Energy efficiency can be achieved in three areas:

- In the design and siting of buildings using *passive solar design* strategies.
- In *operating energy* systems by choosing supplementary systems or active solar design strategies.
- In *construction energy* by choosing materials and construction techniques with low energy inputs in their production.

Passive solar design

Passive solar design uses the building structure as a collector, storage and transfer mechanism with a minimum of mechanical support. Passive solar design can be achieved by:

- *Siting, orientation and building layout*
Where the areas of a building that are used most are located to maximise energy gain in winter and minimise energy gain in summer.
- *Solar access and daylight*
Where buildings and their private open space are sited and orientated towards north to maximise winter sunshine and warmth, whilst maintaining reasonable sun access and daylight available to adjoining properties.
- *Glazed areas*
Where the areas of glass take advantage of sun and daylight access and are shaded from the summer sun.
- *Shading*
Where devices such as overhangs, projecting blade walls, louvers, screens, heat absorbing and reflective glass, or curtains and blinds, are used to control the penetration of solar radiation in summer.
- *Insulation*
Where thermal insulation is used to control the heat flow through the external fabric of a building including the roof, walls and floors.
- *Thermal mass*
Where materials used can store sufficient energy and reduce temperature fluctuations, thereby reducing energy consumption.

• Ventilation

Where air flow is controlled to achieve varying degrees of cooling.

• Landscaping

Where landscape features such as pergolas, screens, trees and plants are sited to provide shade and transpiration cooling of air and reduce glare.

Operating energy

Passive solar design techniques such as natural ventilation and heating are not always practical, particularly in the case of commercial and retail buildings. Operating energy systems use mechanical equipment and can work with passive systems to increase the energy efficiency of buildings. They may comprise solar collectors, pumps, plumbing, control systems and storage tanks. The type of heating, lighting, ventilation and cooling systems should be selected to minimise energy use.

Construction energy

Materials with low contained energy should be selected. In addition, they should also be renewable, abundant, non-polluting, durable, recyclable and able to reduce fossil based energy consumption. The construction process should also seek to minimise energy consumption.

Part E – Energy Efficiency refers to Step 6 of the Design and Development Process. It is divided into three elements that give broad directions to achieve energy efficiency:

- Energy efficient site layout and building design
- Building construction
- Operating energy sources.

Appendix i – Energy Efficient Design Guidelines outlines in more technical detail ways to achieve the design and construction of energy efficient development.

Innovative solutions will be needed to achieve energy efficient design to overcome potential conflicts between energy efficiency and traditional streetscape character.

Part E – Energy Efficiency is to be considered in all Development and Buildings Applications which involve new buildings and/or major alterations and additions to existing buildings affecting 50% or more of the existing volume.

For large development proposals which involve work of a value of \$500,000 or greater, Council requires an Energy Performance Report to ensure the criteria and controls for energy efficient development are accounted for in the design. Refer to Appendix iii for details of submission requirements.

The Energy Efficiency Checklist must accompany all development/building consent application forms subject to energy efficiency considerations. Refer to Appendix iii for details of submission requirements.

5.1 Energy efficient site layout and building design

Objectives

- To encourage the use of energy from renewable sources, except wood burning, and a reduction in the use of energy from non-renewable sources and in greenhouse gas emissions.
- To encourage site planning and building design that optimises site conditions to achieve energy efficiency.
- To ensure a reasonable level of solar and daylight access to the principal living areas and private open space of dwellings.
- To minimise overshadowing on all parks and public spaces.

Performance criteria

Site analysis and layout

The site analysis takes into account the constraints and opportunities of the site to achieve energy efficiency. (Refer to Part E Site analysis).

For large development sites where a Master Plan is required, the Master Plan indicates ways by which site conditions are maximised to achieve energy efficiency.

The orientation, internal layout and design of buildings ensure that energy consumed for heating and cooling is minimised.

Solar and daylight access

New buildings and alterations and additions to existing buildings do not overshadow:

- public parks and civic spaces, and
- maintain a reasonable level of solar access to principal living areas of adjacent buildings.

All new development, particularly on large sites, is oriented to maximise solar access.

Buildings have an area of the roof with appropriate orientation and pitch for installation of solar collectors and photovoltaic cells.

For residential development, external clothes drying areas with access to sunlight and breezes are available.

Ventilation

Natural ventilation is favoured as a form of ventilation. Natural ventilation is maximised for all residential development.

Glazed areas

Glazed areas are located, sized and shaded to facilitate thermal performance:

Where possible, the extent and size of east and west facing glazed areas, are minimal to reduce low summer sun penetration into the building.

South facing glazing is double glazed to prevent heat loss in winter, especially if large areas of south glazing are used.

Shading

Devices are used to provide shading to windows during warm months and prevent glare in working areas.

Shading devices do not eliminate or substantially reduce natural lighting or views.

Landscaping

Landscape design assists micro-climate management to conserve energy.

Controls

Site analysis and layout

A site analysis drawing is required to accompany Development Applications involving work which requires consideration of energy efficiency criteria. (See Controls for Site analysis in Part E).

For large sites the site layout achieves the following:

- an efficient layout of streets with roads aligned between 30° east and 20° west of north;
- size and orientation of allotments that ensure optimum solar access; with most lots of rectangular shape to provide solar access to a maximum number of dwellings;
- orientation of buildings so that the long axis extends east-west to maximise the length of north facing walls and windows to living and/or working areas. (A maximum depth of 10-14 metres would allow natural light and cross ventilation).
- optimum environmental gains from winter and summer wind patterns with measures to minimise cold winter winds and to maximise cooling summer breezes; and
- minimum overshadowing of open space and north facing walls and roofs.

The potential energy consumed for heating and cooling is minimised through the following measures:

- The living (lounge, dining room, kitchen, family rooms and study) and/or working areas of a development and their windows, as well as the principal open space areas are orientated towards the north (within a range of 30° east to 20° west of due north) to allow maximum solar penetration during the winter months.
- Service areas, sleeping areas and circulation areas are located to the south side of the building.

Where the above are not possible, due to the surrounding development pattern, views, and/or the existing building layout, other options are used, such as courtyards, to provide internal spaces with access to sunlight and natural ventilation.

Solar and daylight access

Solar access reaching principal living area windows and to a minimum of 50% of the private open space is maintained for at least two hours, between 9am and 3pm at the winter solstice (21 June).

New development does not create any additional overshadowing where solar access is less than two hours between 9am and 3pm at the winter solstice. This control does not apply to windows on a side boundary or only separated from a side boundary by a passageway.

Where overshadowing occurs, detailed shadow diagrams are to be prepared by a qualified person, to show shadows at 9am, 12 midday and 3pm as of June 21, March/September 21 and December 21. Diagrams clearly show whether or not performance criteria and controls have been met.

Skylights to provide a sole source of daylight and ventilation to a habitable room are not permitted. Solar access to existing solar water heaters is maintained for a minimum period of four hours between 9am and 4pm to ensure the efficient operation of the unit.

Solar access to the north facing roofs of existing dwellings is maintained to a fixed area (minimum 4 sq.m.) capable of accommodating solar water heater panels.

Ventilation

Buildings are orientated and the layout is organised to benefit from cooling easterly/north-easterly summer breezes. Ventilation is achieved by means of cross ventilation or the 'stack effect'.

Windows and openings are located in line with each other, and where possible, in line with prevailing breezes.

Ventilation of buildings is achieved by permanent openings, windows, doors or other devices, which have an aggregate opening or openable size of not less than 5% of the floor area of the room.

For residential development mechanically heated or cooled areas can be closed off from other areas of the dwelling.

The design of back to back residential units is avoided so that naturally ventilated building design can be achieved.

Glazed areas

Shading

Shading devices include:

- On north facing walls, horizontal adjustable or fixed shading devices, such as eaves, overhangs, awnings, pergolas and upper floor balconies, are used to maximise winter sun penetration and reduce summer sun penetration.
- On east and west facing walls, vertical shading devices, such as blinds, shutters, adjustable external awnings and landscaping, are used to block the low rays of the rising and setting summer sun.
- North-facing overhangs, or shading devices, are at least 0.45 times the height, measured from the bottom of the glass shaded.

Landscaping

Planting and landscaping is designed to incorporate:

- Wide canopied deciduous trees, vines and pergolas, to the north of a building to provide shade and reduce glare during warm months and allow solar penetration during cool months.
- Evergreen vegetation to the west, east and south of buildings to prevent glare, heat intake and prevailing winds.
- Mature trees do not have the potential when fully grown to shade solar water heaters, both on the house and on adjoining properties.
- Where evergreen trees are used on the northern side of the building, they are spaced at a distance twice the height of the trees when matured, away from the building to allow solar access.

Refer to:

- Part E – 1.1 Site analysis
- Part E – 1.2 Site layout
- Part E – 1.5 Landscaping
- Part E – 5.4 Energy Star Ratings for Residential Development

5.2 Building construction

Objectives

- To improve the comfort and energy efficiency of buildings whilst responding to traditional street patterns and streetscape character.
- To encourage the use of building materials and techniques that are energy efficient, non-harmful and environmentally sustainable.
- To maximise the life cycle of buildings to reduce energy costs in demolition, reconstruction and recycling.

Performance criteria

Thermal mass

Building materials and construction systems that have a good thermal mass, such as heavyweight building materials (e.g. concrete slab floors, cavity brick, concrete block, stone walls) and masonry walls are used for thermal performance.

Materials with thermal mass are located inside the insulated fabric of the building, and in north-facing rooms, where they can benefit from winter heat gain.

Insulation

Buildings are insulated by using bulk or reflective insulation to walls, ceilings and roofs.

Wall, roof and floor openings are sealed using devices such as weather strips (additional to the doors and windows), fireplace flue dampers, etc.

Building materials

The choice of building materials takes account of the following environmental considerations:

- abundant or renewable resources;
- energy efficient, with low contained energy;
- environmentally acceptable production methods;
- durable materials, with low maintenance;
- recyclable materials;
- benign materials, i.e. non-polluting.

Controls

Insulation

Buildings are insulated to achieve an added 'R' value of:

- R 1.5 for roofs and ceilings
- R 1.0 for walls, except where the construction materials to be used embody an equivalent total R value to the required standard. (Refer to Australian Standard 2627.1993)

Building materials

Building specifications state that:

- Timbers used are plantation, recycled or regrowth timbers, or timbers grown on Australian farms or State Forest plantations.

No rainforest timbers or timbers cut from old growth forest are used.

Refer to:

- Part E – 2.5 Facade treatment
- Part E – 5.4 Energy Star Ratings for Residential Development

5.3 Operating energy sources

Objectives

- To reduce use of fossil fuels in active energy systems and encourage use of renewable energy in their running.
- To exploit active solar design to optimise the overall energy efficiency of development.

Performance criteria

Appliances and energy sources that minimise energy use and greenhouse gas emissions are used for:

- hot water heating (such as solar water heaters, either gas or electrically boosted, or heat pumps);
- space heating and cooling (such as 'heatpumps'- reverse cycle air conditioning);
- lighting (such as compact fluorescent light fittings and automatic turn-off switches);
- appliances (such as gas cooking systems and appliances with a minimum 3-Star rating).

Refer to:

→ Appendix i: Energy Efficiency Guidelines

→ Brochure titled "Solar Water Heater Guidelines"

Controls

A solar water heater is installed in new residential development, except individual one bedroom and studio dwellings; and 'Major renovations' to residential development where a new water heating system is required. 'Major renovations' is when any of the following conditions apply:

- The floor area is to be increased by 50% of the existing floor surface;
- Building is to be in excess of \$50,000;
- Where new works propose to remodel or refit any wet areas of the dwelling;

Solar water heaters are subject to energy efficient assessments (See Appendix 1 – Energy Efficient Guidelines), except in situations where a solar water heater is unsuitable.

An unsuitable situation is considered when an applicant demonstrates to Council that:

- there is insufficient solar access to the property (where there is more than 30% reduction in total solar radiation);
- the building is a Heritage Item listed under Council's planning instrument, and the installation of a solar water heater would significantly affect the aesthetic appearance of the building; or
- the application is for a one bedroom or studio residence.

Where a solar water heater is unsuitable, a "heat pump" system or energy – efficient natural gas system is installed.

Wherever clothes dryers are to be installed in new homes or multi-units, clothes dryers must have a minimum Greenhouse Score of 3.5. The table below indicates the Greenhouse score for dryers with dry loads over 4kg.

Energy Rating Label Star	Greenhouse score conversion
5.0	5.5
4.5	5
4.0	4.5
3.5	4
3.0	3.5
2.5	3
2.0	2.5
1.5	2
1.0	1.5

5.4 Energy Star Ratings Requirements for Residential Development

Objectives

- To reduce the use of energy from non-renewable resources;
- To reduce greenhouse gas emissions;
- To ensure that site planning, building design and the use of building materials maximises energy efficiency in new development.

Controls

The following controls replace the requirements for Energy Performance Reports (for residential development) in Part E and Appendix III of Development Control Plan 1997. If a new home or new residential units are proposed, a NatHERS (Nationwide House Energy Rating Scheme) energy report must be submitted with the Development Application. The energy report must provide an energy rating for the new home and/or each residential unit. The energy report provides a star rating similar to that found on the front of appliances. The scale operates on a 0-5 scale with 5 representing a highly energy efficient home.

Council requires new homes and units to achieve a minimum rating of 3.5 stars.

To obtain an energy report, you can contact an accredited energy assessor by obtaining a copy of the list from Council's One Stop Shop, by calling the House Energy Rating Management Board on 9385 5593 or by checking the list of assessors of the WEB on:
www.fbe.unsw.edu.au/units/solarch/hmb/assessor-details.htm

NatHERS energy report costs vary among assessors from \$80-100 per unit to \$200-300 per house depending on house/ unit design and construction.

For 'major renovations', (where new work involves alterations or additions covering an area of 50 square metres of 'gross floor area' or more) the altered section of the building and/or addition is to incorporate wall insulation having an R-value of not less than R1.5 and ceiling insulation having a R-value of not less than R3. The table on the next page further summarises the requirements.

Exemptions from compliance

Council may consider a variation of the 3.5 star requirement in a new dwelling or unit if:

- The property is significantly overshadowed by vegetation or surrounding buildings,
- The orientation or shape of a site does not allow for a northerly orientation within 20 degrees west of north and 30 degrees east of north,
- Compliance would conflict with Council's design guidelines in conservation areas and for heritage items, and/or
- The method of construction precludes allowance for insulation, glazing treatments, ventilation and other design systems.

Exemptions using the above points must demonstrate that attempts to comply with Council's requirements have been maximised. A report prepared by an accredited energy assessor must be submitted to Council, showing how the energy rating of the dwelling has been maximised having regard to all of Council's objectives and provisions for energy efficiency outlined above.

Tips to improve the energy rating of your home, unit or extension

- Install roof, ceiling and wall insulation (most effective for Sydney are R1.5 for walls and R3 for ceilings);
- Minimise large openings on the east and west orientations;
- Maximise northern openings to living areas;
- Use masonry construction for floors, walls and ceilings where possible to maximise thermal mass opportunities;
- Plant deciduous trees on the northern setbacks and evergreens along the east and west setbacks;
- Use floor to ceiling curtains with pelmets;
- Treat large glazed areas to minimise heat loss in winter and heat gain in summer;
- Use light coloured paints and finishes for external walls and roofs to reflect heat;

DEVELOPMENT TYPE	MINIMUM STANDARD	REQUIREMENTS
Alterations/ Additions covering an area less than 50 square metres gross floor area (G.F.A)	No formal standard	<ul style="list-style-type: none"> • Maximise energy efficiency through orientation, design and construction.
Alterations/ Additions covering 50 square metres G.F.A. and over	R3 insulation in ceilings R1.5 insulation in walls	<ul style="list-style-type: none"> • Maximise energy efficiency through orientation, design and construction; • Insulation within walls and ceilings of new addition.
New homes, new terraces and new residential units	Minimum 3.5 stars rating under NatHERS system	<ul style="list-style-type: none"> • Maximise energy efficiency through orientation, design and construction; • Energy rating report from accredited NatHERS assessor.

6. OPERATIONAL CONTROLS

Operational controls relate to the environmental effects of the uses, function and activities of a development. Operational controls include a combination of both planning and environmental legislation and are in effect applied when buildings are occupied and used for particular purposes. They also reflect expectations and needs of the community, and requirements that are controlled not only by Council but by other agencies such as the Environmental Protection Authority.

The underlying principles of controlling the operations of development are:

- a need to protect the environmental amenity of South Sydney, particularly its residential areas;
- to ensure the operations are not in contravention to the pollution control legislation; and
- to promote and encourage environmental sustainability.

The controls apply primarily to non-residential uses.

Objectives

- To ensure development minimises risk to the locality in relation to human health, life or property, or to the natural environment and that activities within buildings and on sites are kept to a minimum.
- To ensure traffic generation, parking demand, noise, air and water discharges, waste storage and removal, working hours and storage of dangerous goods and hazardous chemicals will not have a detrimental effect on environmental amenity.

Performance criteria

Construction and building work

Construction and building work is adequately managed so as to minimise disruption to the local community and the environment.

Working hours

The hours of operation are managed to ensure residential amenity is protected.

Noise

The use of a premises, any plant, equipment and building services associated with a premises does not create an offensive noise or add significantly to the background noise level of the locality, as determined by Council. Council may require submission of a statement of compliance with this criteria from a qualified acoustical consultant if there is doubt about whether the criteria can be satisfied.

Where the proposed activity adjoins a residential use, the use of mechanical plant and equipment is restricted and has acoustical insulation to comply with the above criteria.

Council is conducting a background noise survey to determine background noise levels in industrial and commercial zones bordering residential areas.

Traffic generation

The development is designed so that traffic generated by its operations:

- is conditional on the environmental capacity of the area; and
- has minimal impact on the amenity of adjacent residential properties.

Air pollution

Any machinery used, or process, does not create air pollution emissions that have a detrimental impact on the environment.

Water pollution

Development incorporates discharge systems designed to minimise the discharge of pollutants into the waste water and stormwater system.

All building and construction sites implement sediment controls appropriate to the local conditions and with Council approval. Refer to Sydney Coastal Councils' Stormwater Pollution Control Code for Local Government.

Waste storage and removal

Adequate storage for waste materials is provided on-site.

Dangerous goods/hazardous chemicals

Development incorporates measures needed to protect the community from dangerous or hazardous goods storage and dangerous or hazardous processes or uses.

Controls

Construction and building work

Where required, prior to commencing excavation and/or building work, a site construction management plan is submitted to Council for approval. The plan details: the stages in which the work is going to be undertaken; what on-site facilities are being provided for delivery and storage of materials and equipment, pumping of concrete, provision of vehicle wash down areas, and provision of silt traps and settling ponds.

Where sandblasting and paint stripping are proposed, adequate screening is to be provided to trap all airborne material. Dry cleaning methods, e.g. sweeping and vacuuming, are to be utilised to collect the waste for disposal in an appropriate manner.

Working hours

Where development contains residential uses or adjoins a residential zone, the non-residential activities operate only between 7am to 6pm Monday to Friday and 7am to 1pm on Saturdays,

and are not used on Sundays or public holidays.

Development operating outside the above hours demonstrates that no detrimental impact will result to the amenity of residential uses.

Noise

The use of premises, any plant, equipment or building services associated with a premises shall not give rise to an 'offensive noise' as defined under the terms of the Noise Control Act 1975 and Regulations.

Machinery or activities including building work likely to create a noise nuisance are adequately sound-proofed in accordance with the provisions of the Noise Control Act 1975, before premises are occupied.

Traffic generation

Council may require with a development application, a statement of potential traffic impacts caused by the development on the immediate locality of the site, and measures taken to reduce any impacts.

All servicing for a site, including garbage collection, is to be carried out wholly within a site at all times.

All loading docks, parking spaces and driveways are to be kept clear of goods and are not to be used for storage purposes including garbage storage.

Access to loading areas is to be clear at all times, i.e. no security gates to prevent access, especially for garbage collection.

Air pollution

The use of the premises and any machinery will not cause the emission of air impurities that are contrary to the Clean Air Act and Regulations, 1961.

Details of any equipment or processes and air pollution control/monitoring equipment are submitted to Council before installation.

Any process that emits heat, excessive moisture, dangerous or noxious gases fumes or aerosols require the installation of a mechanical exhaust ventilation system.

All spray painting shall be carried out in a 'spray booth' constructed and ventilated in accordance with the Occupational Health and Safety Act 1983.

Water pollution

The pollution of any waters is prohibited; the discharge from a premises of any matter, whether solid, liquid or gaseous into any waters conforms with the requirements of the Clean Waters Act 1970 and its Regulations.

Any discharges, other than stormwater, do not enter Council's stormwater system, waterways or catchments.

Stormwater from rooftops may discharge directly to stormwater drains provided the system is not contaminated by other waters such as air

conditioning or cooling tower waste water.

All stormwater from parking lots and open areas are to discharge to the stormwater drainage system via a Council approved treatment device capable of removing litter and sediment. Refer to Sydney Coastal Council's Stormwater Pollution Control Code for Local Government.

Water used to clean food preparation and eating areas is not to be discharged to the stormwater drainage system.

For industrial developments such as mechanical repair workshops and garages, pollution control/monitoring equipment eg. retention pits, traps, bunding are used to the satisfaction of Council, to control the discharge of pollutants into the stormwater system.

Sydney Water should be contacted to ascertain any approval or license required to discharge liquid or solid wastes to the Sewerage System.

Waste storage and removal

Arrangements for the recycling and removal of waste are provided for Council consideration.

Waste materials are collected during normal working hours. Refer to Working hours above.

Rubbish skips used to store food are to be covered at all times to prevent the entry of stormwater or dispersal by wind, and are to be sealed to prevent leakage.

Dangerous goods and hazardous chemicals

For development proposals which can potentially pose risk to the locality or discharge pollutants, consideration is given to:

- current circulars and guidelines published by the Department of Urban Affairs and Planning relating to hazardous or offensive development;
- whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply;
- any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application; and
- any likely future use of the land surrounding the development.

For potentially hazardous industry or storage establishments, a preliminary hazard analysis is to be submitted with the application. The purpose of the analysis is to identify potential hazards in the proposal, to assess proposed safeguards and to ensure that the proposal does not involve any risk to the locality.

Details are provided with the application of the name, quantity, location and method of storage and packaging of dangerous goods to be licenced by the WorkCover Authority.

Businesses generating dangerous waste are to dispose of it correctly in accordance with the Dangerous Goods Act and Regulations.

Businesses with storage tanks for oil or dangerous

goods outside the building, are to submit an emergency spill contingency plan to Council and consult with the Environmental Protection Authority and WorkCover Authority.

Refer to:

- Part E – 1.6 Parking, access and servicing
- Part E – 1.7 Stormwater drainage
- Part E – 1.9 Site facilities