

Design Guidelines for

Queensland Residential Aged Care Facilities

Section 1 Background

Section 2 General Principles

Section 3 Design Guidelines



**Design Guidelines for**

# Queensland Residential Aged Care Facilities



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The document was prepared with the assistance and cooperation of many residential aged care facility service providers throughout Queensland.

The following organisations made significant input to the guidelines:

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Rockhampton Health Service District

Bayside Health Service District

District Managers, Queensland Health

Facility Managers, Queensland Health RACF

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Project Services, Department of Public Works

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# Foreword

Aged Care is undergoing a period of major reform throughout Australia. Our population is ageing rapidly and there is an ongoing need to examine the implications of the ageing population especially in the residential aged care sector.

The Commonwealth's 1997 Aged Care Structural Reform Package introduced significant reforms to residential aged care policy. The reforms are aimed at promoting a high quality of care and accommodation for aged care residents.

Queensland Health has 20 residential aged care facilities across 14 health service districts. It was recognised that many of the Queensland Health aged care facilities would need to be upgraded to continue to deliver high quality care that considered resident's privacy and dignity while protecting their health and well being.

The development of the Building Guidelines for Queensland Residential Aged Care Facilities will assist Queensland Health in providing accommodation that enables aged persons to maintain a routine and lifestyle as close as is practicable to that of the general community. The guidelines are a benchmark to give structure and parameters to the design, design development and asset management of the facilities. Input from residents, carers and consultants will still be required in the planning of new facilities appropriate to Queensland conditions and needs.

These building guidelines will set the framework for ordered and responsive action in delivering the accommodation needs of Queensland's residential aged care services into the next century, and will ensure consistency when Residential Aged Care Facilities are developed.



Mr David Jay  
**Director**  
**Capital Works Branch**  
**Queensland Health**

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Section 1

# Background

1

# background

## Introduction to this Document

Queensland Health is a statutory approved provider of residential aged care services as defined in the Aged Care Act 1997 and the Approved Provider Principles 1997.

As an approved provider, Queensland Health has an allocation of 1,729 high care places (14% of the Queensland total for high care) which are located in 20 residential aged care facilities (RACF) across 14 health service districts.

The Commonwealth's 1997 Aged Care Structural Reform Package introduced significant reforms to residential aged care policy. Amongst other matters, the reforms were designed to:

- Promote a high quality of care and accommodation and protect the health and well-being of care recipients;
- Help care recipients enjoy the same rights as all other people in Australia; and
- Promote "ageing in place" through the linking of care and support services to the places where older people prefer to live.

The reform strategy represented a response to changing social and economic circumstances and to increasing community expectations in relation to aged care.

Further, the reforms acknowledged the deteriorating state of many residential aged care facilities - many of which need significant capital works if care standards and quality of life are to be improved for all residents.

### Queensland Health's Response to the Residential Aged Care Reform Strategy

As early as 1995, Queensland Health had recognised that some RACF accommodation was not suitable for the delivery of high quality residential aged care that considered the rights of residents and protected their health and well being.

Assessment for Building Certification purposes in 1997 highlighted the need for immediate action. In January 1998, significant funding was provided to address fire and safety issues, occupational health and safety issues, and to repair damage and deterioration to RACF infrastructure.

Completion of these capital works will ensure that all RACF's are awarded Building Certification prior to the accreditation target date of 1 January 2001.

### Purpose

These guidelines have been produced to serve as a performance based, bench marking document for the use of Queensland Health and its consultants in developing improved models of accommodation and support infrastructure for residential aged care facilities. They identify design standards that will contribute to achieving Accreditation and cost effective service delivery.

These guidelines are in no way to be construed as exhaustive or exclusive. It is envisaged that the guidelines will be used in conjunction with the recommendations and requirements of the Building Code of Australia (BCA), Australian Standards or other codes. The implementation of these guidelines in no way relieves users of their obligations to ensure such compliance and fitness for purpose in the development and design of such facilities.

It is emphasised that it is the delivery of appropriate resident care that will ensure a project's viability and such compliance is not only related to the built fabric of a facility.

### Stakeholders

For the purposes of these guidelines the following groups are to be considered the principal interest groups in respect to the application of this document. The particular requirements of specific projects may necessitate a broader consultative process and this should be confirmed with Queensland Health on a project by project basis.

Residents of RACF's  
Queensland Health  
Health Service Districts  
District Health Councils  
Commonwealth Agencies  
Regulatory, Legislative and Statutory Authorities

### Developmental Philosophy

This document expands upon the wealth of performance based, descriptive guidelines that currently exist, with a particular focus on residential aged care environments in the public health sector.

# background

These guidelines are intended to provide a more quantitative and prescriptive view of the requirements associated with the built fabric of RACF's. It should be noted, however, that it will be the model of care and anticipated resident mix that will determine the final size, layout and nature of any such facility.

A key aspect of the developmental philosophy of this document is that it will not always be necessary to have specific rooms or areas set aside exclusively for particular activities. This document assumes that there will be a degree of flexibility in respect to the multiple use of all areas, rooms and spaces referred to in this document.

## Application of this Document

As a general principle, the application of these guidelines must result in facilities that provide accommodation that enables residents to follow a routine and lifestyle as close as is practicable to that of the general community. These guidelines define a philosophical basis for the conception and development of a built form. They are not intended to replace the formal consultation process as defined by Queensland Health. They are a benchmark to give structure and parameters to the design, design development and asset management of RACF's. The guidelines are intended to form part of the planning process that establishes the Project Definition Plan - the primary briefing document for any project.

It is expected that stakeholders and their consultants will conduct their own research and develop innovative design solutions that incorporate the concepts and principles set out in this document. These guidelines are based on assumed generic conditions. The size, location, nature and operational structure of individual facilities will vary according to the specific requirements of each service's resident profile, management requirements, model of care, etc.

**It is not envisaged that all rooms, spaces, equipment and functional relationships, referred to in this document, will necessarily be relevant to or required in all residential aged care facilities. This document is to be used only as a guide to the formal development of specific project definition plans for individual facilities.**

It is envisaged that this document may be used in the following situations:

- An aide memoir for project planning.
- A guide to the manifestation and expression of planning policy in a built form.

- A design tool for Queensland Health and its consultants.
- A benchmark in cost planning exercises.
- A tool for the management and rationalisation of the project definition plan and broader planning process.

The guidelines, contained within this document, are structured on the basis of a progression from general principles of good practice to specific details of how these may be implemented.

Section 1: *Background* to the guidelines defining the reasons for the development of the document, the nature of its intended use and the key stakeholders.

Section 2: *General Principles* relating to broad and conceptual directions that designs are to follow. This section is structured to identify the desired outcomes, the strategies for achieving these outcomes and the standards that determine the performance indicators relating to the successful implementation of the strategies.

Section 3: *Design Guidelines* detailing the specific requirements of Queensland Health's three principal types of aged care facilities including information on the operational profile of the facility, design philosophy and specific design requirements.

Section 4: *Room Data Sheets* providing design objectives and implementation guidelines, references and information related to spatial and functional relationships within the care environment.

## Amendments to this Document

These guidelines have been conceived as a living document and it is anticipated that portions of it may need to be updated periodically.

Comments and feed back on the application and use of this document are welcomed.

Forward all such comments to:

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Section 2

# General Principles 2

# general principles

## Background

**The populations of Australia and Queensland are ageing rapidly - necessitating a Government response in relation to future service delivery within the aged care sector.**

The Queensland population aged over 70 in 1996 was 255,014 or 7.64% of the population. This is projected to increase to 321,210 or 8.13 % of the population by 2006 and to 435,116 or 9.55% of the population by 2016.

This growth is expected to place increased pressure on existing services and escalate the demand for additional aged care services including residential aged care services. A particular emphasis on speciality aged care services, including dementia and psychogeriatric services is envisaged.

### Commonwealth Aged Care Act 1997

The Commonwealth Government passed the Aged Care Act in 1997. The new Residential Aged Care Program is underpinned by a set of broad principles, presented in Division 2 (Objects) of the Aged Care Act 1997.

In summary, these are to:

- Promote a high quality of care and accommodation and protect the health and well-being of residents;
- Help residents enjoy the same rights as all other people in Australia;
- Ensure that care is accessible and affordable for all residents;
- Plan effectively for the delivery of aged care services and ensure that aged care services and funding are targeted towards people and areas with the greatest needs;
- Encourage services that are diverse, flexible and responsive to individual needs;
- Provide funding that takes account of the quality, type and level of care;
- Provide respite for families and others who care for older people; and
- Promote 'ageing in place' through the linking of care and support services to the places where older people prefer to live.

Currently, Queensland Health manages 14% of the State's residential aged care places, predominantly in high care, dementia and psychogeriatric settings. The 20 residential aged care facilities (RACF)

operated by Queensland Health vary in age and functionality. Whilst all RACFs complied with the Building Code of Australia (BCA) at the time of construction, future renovations will need to meet current BCA standards and the higher 2008 standards proposed by the Commonwealth in relation to privacy and space.

Future RACFs will be as domestic in scale and nature as possible and will meet the accommodation and care needs of all residents.

The design will maximise the residents abilities, life choices and independence. The design will also facilitate the provision of unobtrusive and accessible support services, while preserving the domestic nature of the facility.

The facility will be planned to maintain the residents dignity and identity. Surroundings will be familiar, safe and non-threatening.

Residents will retain contact with their local community and will be able to exercise choice (when capable) over their day-to-day lives without compromising their sense of security.

## Model of care for Residential Aged Care Facilities

The model of care will be the focal point for all RACF redevelopment and refurbishment. The model of care will be developed with the knowledge that frail aged, dementia and psychogeriatric services will continue to undergo significant changes. The model of care will be flexible and adaptable in its approach to service delivery.

The model of care will recognise that the environment and the process of care delivery are inextricably linked. The four main features of the environment, which are in constant interaction, are:

- 1 the physical characteristics within a residential aged care facility, including architecture, design, colour, lighting and space;
- 2 the provider's operating climate including policy, staffing, and the financing of care;
- 3 the personal and suprapersonal environment:
  - the personal environment includes the carers/significant others who constitute the major one-to-one social relationships of an individual (eg family, friends etc); and

# general principles

- the suprapersonal environment which may be defined as the model of characteristics of all people in physical proximity to an individual (eg similar race, age etc).
- 4 the socio-psychological environment which refers to the norms, values, activities, philosophy, attitudes and beliefs of caregivers and the personal interaction of all who are part of the facility (Kayser Jones 1991 p 31)

The Principles and Assumptions underpinning the model of care include:

- Continuity of previous lifestyle will be considered and promoted where possible and practical. Residents will be supported so that they may fulfil their life expectations
- Accreditation will be met;
- Continuity of care will be promoted and maximised;
- Liaison between facility staff, the general community, other agencies and facilities will continue and future opportunities to enhance these links will be maximised;
- Links will be promoted and maintained with teaching facilities;
- Mainstream health care will continue to shift nursing home care from a medical model to a social model;
- Appropriate staff education will be provided to assist staff to function effectively within the model of care;
- Staff and facilities necessary to create a home-like family environment should be located close to residents where possible;
- Devolution of responsibility and accountability will occur to enable staff to make decisions about resident care, case management and to maximise resource efficiency; and
- The residential aged care facility should have the structural and resource flexibility to enable it to respond rapidly to future demands.

## Philosophy of Residential Aged Care Service Provision

The following points summarise Queensland Health's current policy position and approach to the provision of residential aged care services. These issues will be confirmed on a project by project basis.

- Achievement of Accreditation at each RACF within the context of the Aged Care Act 1997;

- Implementation of the Queensland Health Certified Agreement (No3) 1998;
- Achievement of budget integrity; and
- Implementation of a safe environment through the installation of fire and smoke alarms; appropriate signage; endorsed fire and safety policies and procedures; and well managed evacuation procedures.

In addition, the following points are to be noted.

- Air conditioning is not mandatory; and
- No generic model of care is endorsed.

## General Design Principles - Strategic Outcomes

### Resident

Queensland Health recognises the importance of quality of life and care issues to all residential aged care residents. To that end, achievement of the Residential Care Standards in all RACFs is a priority of the Department and health service districts.

Self-assessment against the Residential Care Standards is on going. Where necessary, RACFs have prepared action plans to ensure the forty-four expected outcomes will be met within agreed timeframes.

### Corporate

Queensland Health is committed to each RACF being awarded Accreditation by the Aged Care Standards Agency by the target date of 1 January 2001. The Department's RACFs are implementing a reform agenda, which will enable applications for Accreditation to be made prior to the 31 March 2000 deadline.

### Operational

It is Queensland Health policy that all RACFs maximise efficiency, increase productivity and contain costs. Budgets of RACFs are formed by the application of a funding model that recognises the critical impact of recurrent costs on budget integrity.

Queensland Health acknowledges the impact of building size and design on recurrent costs. Factors such as resident intensity (square metres per resident) and the design of the grounds and gardens impact on cleaning, maintenance and replacement costs and on the level of energy consumption.

# general principles

Future RACF design, size and site improvements will pay rigorous attention to these factors. Queensland Health seeks to achieve a balance between the agreed model of care within a RACF, which impacts on all residents and all staff, and on the minimisation of recurrent costs.

## **Unit Description**

All RACFs are required to enable an elderly person to age in a single residential aged care setting. Depending on circumstances, future RACFs will be designed to support a range of conditions, including specialised care for dementia-related illnesses, psychiatric disorders of old aged as well as high dependency care for the frail aged.

Residents with dementia who are ambulatory and have challenging behaviours may receive care in a dementia specific unit, separately from other residents. Similarly, a specific unit may be necessary for the care of psychogeriatric residents.

This approach will enable special attention to be given to residents with special accommodation and care needs while minimising any impact on other residents.

Such units may require additional security measures to ensure compliance with the Queensland Mental Health Act.

All other residents, including ambulatory and non-ambulatory frail aged will be accommodated elsewhere in a facility.

All RACFs will be expected to meet Building Certification and Accreditation and include some flexibility in design. This approach will facilitate adjustment to any future changes in building and service standards.

Of the four Accreditation Standards - *Physical Environment and Safe Systems* in the most important in relation to these design guidelines.

# general principles

# general principles

## 1.0 General Design Issues

### Design Objectives

#### 1.1 Legislative and regulatory standards

##### 1.1.1 To achieve accreditation appropriate to the facility

##### 1.1.2 To provide safe, hygienic buildings

##### 1.1.3 To utilise life cycle costing principles for affordable, sustainable facilities

##### 1.1.4 To avoid building systems with high risk to long-term maintenance

### Design Guidelines

The building and surrounds shall be designed to facilitate compliance with the Commonwealth Accreditation Standards and in conjunction with Queensland Health policy.

All built form and fit-out shall achieve compliance with the Building Certification Assessment Instrument in conjunction with Queensland Health policy.

Comply with the Building Act 1975 and Sewerage and Water Supply Act 1998 and associated subordinate legislation including the Building Code of Australia.

Comply with all mandatory standards referenced by the Building Code of Australia.

Adopt the principles of all relevant non-mandatory building standards consistent with these guidelines.

Choose building systems, materials, finishes, furnishings and equipment, which minimise recurrent and replacement costs within the constraints of the capital budget.

Utilise low-maintenance building forms, construction techniques and materials.

Particular attention is required to prevent water penetration into buildings.

Direct stormwater collection away from buildings, eg. avoid box gutters.

Ensure that all structural and finishing timber is adequately protected from attack by subterranean termites. Consider the use of treated timber to counter the high risk associated with the close proximity of floor levels and external paving and ground levels.

# general principles

## Design Standards and Policies

## Design Diagrams

### 1.1.1 *Aged Care Act 1997*

Accred Stds: Standards & Guidelines for Residential Aged Care Services, Commonwealth Dept of Health & Family Services, Aged & Community Care Division, 1998

Building Certification requirements:  
prerequisite for Accred Stds assessment by the Accreditation Agency

### 1.1.2 Building Act 1975

Building Code of Australia  
Australian Standards  
*Sewerage and Water Supply Act 1998*  
Food Hygiene Regulations  
Standard Building Regulation 1993  
*Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
AS 4083 Planning for emergencies - Health care facilities  
Certification Assessment - Section 1 Safety  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety  
Accred Std 4.6 - Fire, Security and Other Emergencies  
Accred Std 4.7 - Infection Control  
Accred Std 4.8 - Catering, Cleaning and Laundry Services

AS 3500 4 Hot Water Installation

### 1.1.3 The Royal Australian Institute of Architects - Practice Notes

### 1.1.4 AS 3660 Protection of buildings against subterranean termites

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 1.2 Environmental and heritage issues

#### 1.2.1 To maximise energy efficiency

#### 1.2.2 To conserve designated buildings in accordance with government heritage policies

#### 1.2.3 To extend useful and functional life of buildings

## Design Guidelines

Plan to reduce demand on non-renewable energy resources.

Buildings should be designed, constructed, equipped and managed to optimise energy savings.

Site, orientate, and utilise buildings to optimise environmental advantages.

Uphold the principles of the Burra Charter.

Preserve unique and significant built environments in the custody of the Queensland Government.

Minimise removal of and damage to existing building fabric of heritage value.

Building design shall maximise the use of various spaces for multiple purposes, wherever practical.

Minimise the use of internal load-bearing walls to allow for future flexibility.

Building services shall be routed in easily accessible locations where practical, to allow for future modifications.

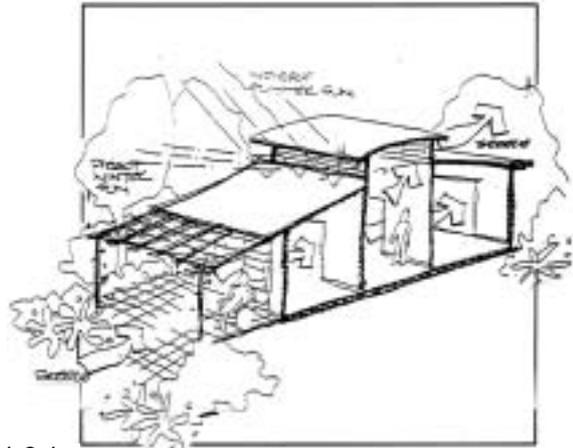
# general principles

## Design Standards and Policies

**1.2.1** The Royal Australian Institute of Architects -  
Environment Design Guide  
*Environmental Protection Act 1994*  
Environmental Protection Regulations 1998  
Environmental Protection  
Water/Noise/Air/Waste Policies

**1.2.2** *Queensland Heritage Act 1992*  
Queensland Heritage Regulations 1992  
Burra Charter  
Local Town Plan and Development Control  
Plans for Heritage Policy

## Design Diagrams



1.2.1

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 1.3 Equitable access

**1.3.1 To allow to accommodate residents from a wide range of socio-economic and cultural backgrounds**

**1.3.2 To provide barrier free access for mobility and sensory impaired staff and visitors**

**1.3.3 To minimise barriers to the access and care of mobility impaired residents**

## Design Guidelines

Aesthetic themes should appeal to a wide range of residents.

Incorporate the need of special groups such as Aboriginal or Torres Strait Islander people, and people from non-English speaking (NES) backgrounds.

Do not design facilities that are so specific as to exclude acceptance by particular ethnic or cultural groups.

Provide the same opportunities and choices for disabled staff and visitors that ambulant persons enjoy.

Provide adequate space for the manoeuvring of a wide range of mobility aids, resident lifting equipment and for staff to assist residents with all activities.

Consideration must be given to the requirements of the Disability Discrimination Act. Note that at this stage there is no aged care specific Australian Standard. Refer to AS1428, but utilise only those principles contained within that standard which are relevant to the access requirements of residential aged care facilities.

# general principles

## Design Standards and Policies

## Design Diagrams

- 1.3.1** Accredited Std 3.8 - Cultural and Spiritual Life.  
Concessional Ratio: sets out to provide a level of equality of access to appropriate aged care services regardless of the residents financial circumstances. (There is a different quota for each of the 67 planning regions around Australia - with a 27% overall quota nationally)  
*Anti-Discrimination Act 1991*
- 1.3.2** Accredited Std 4.4 - Living Environment  
*Disability Discrimination Act 1992*  
Accredited Std 2.14 - Mobility, Dexterity and Rehabilitation  
Accredited Std 3.5 - Independence  
Accredited Std 3.9 - Choice & Decision-Making
- 1.3.3** Accredited Std 4.4 - Living Environment  
Accredited Std 2.14 - Mobility, Dexterity & Rehabilitation  
Accredited Std 2.16 - Sensory Loss  
*WPH&S Act 1995*  
WPH&S Regulations 1997  
WPH&S: Code of Practice Manual Handling 1991  
WPH&S Code of Practice Manual Handling of People, 1992  
AS 1428 Design for Access and Mobility

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 1.4 Living environment

- 1.4.1 To provide a domestic ambience to all resident use spaces
- 1.4.2 To avoid an institutional character
- 1.4.3 To minimise the intrusion of therapy and utilities functions into resident use spaces
- 1.4.4 To facilitate personalisation of residents private spaces
- 1.4.5 To create a welcoming, comfortable environment to encourage visitors

## Design Guidelines

The facility is 'home' to its residents and should therefore display a character consistent with a homelike environment which engenders a sense of belonging, familiarity, safety, comfort and care.

Although it is essential that the environment be therapeutic and facilitate resident care, its ambience should de-emphasise any associated institutional characteristics.

The interface between staff-only use spaces and resident use spaces shall be designed to emphasise a 'homelike' living environment.

Rooms and spaces used specifically for staff and utilities functions, therapies, storage of equipment, etc., should not be exposed directly to resident use spaces.

Maximise the limited opportunities for residents to personalise their private spaces.

Bedrooms should include facilities for display of personal pictures, photographs, ornaments, etc.

Visitors need to be able to sense that they are welcomed into a 'home' rather than an institution. This should engender a relaxed and friendly attitude which is helpful to the well-being of residents and encourages increased visitation.

Public entrances to the grounds and buildings need to reflect a low-key residential character rather than commercial. 'First impressions' given by the entry areas should emphasise a caring and secure domestic environment.

# general principles

## Design Standards and Policies

**1.4.1** Accred Std 4.4 - Living Environment  
Accred Std 3.0 - Resident Lifestyle

**1.4.2** Accred Std 2.0 - Health and Personal Care  
Accred Std 3.0 - Resident Lifestyle

**1.4.3** Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment  
*Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*

**1.4.4** Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment

**1.4.5** Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment

## Design Diagrams



1.4.4



1.4.5

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 1.5 Way finding

**1.5.1 To provide a logical progression and flow between different spaces**

**1.5.2 To ensure various sub-units of the building are easily identifiable and unique**

**1.5.3 To introduce signage and cueing elements to enhance way finding**

## Design Guidelines

Ensure a spatial hierarchy is established to clearly define public and private, and vehicular and pedestrian space.

Ensure pathways are well delineated, wide enough for two people to pass and located to preserve privacy of interior spaces.

Differentiate similar sub-units from each other with some unique treatment.

Communal outdoor space for each sub-unit should be specifically expressed.

Externally, vary roofs and building forms and express entry points.

Internally, vary spatial design and finishes to emphasise transition points.

As much as is practical, introduce cues to differentiate between sub-units, entrances and corridors. Cues include different building forms and spatial design, finishes, colour, decoration, furnishings and artwork, which can stimulate sight, touch, smell and hearing.

Provide all signage as necessary to give clear directions to residents, staff and visitors. Limit the use of signage so as to minimise an institutional character.

# general principles

## Design Standards and Policies

**1.5** Certification Assessment - Section 4 Access, Mobility and Occupational Health and Safety

**1.5.1** Accredited Std 3.6 - Privacy & Dignity  
Accredited Std 4.4 - Living Environment

**1.5.2** Accredited Std 2.16 - Sensory Loss  
Accredited Std 4.4 - Living Environment

**1.5.3** AS 1428 Part 1, Design for Access and Mobility  
Accredited Std 2.4 - Clinical Care (Dementia Care)  
Accredited Std 2.16 - Sensory Loss  
Accredited Std 4.5 - Occupational Health & Safety  
Accredited Std 3.0 - Resident Lifestyle  
*Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*  
*Workplace Health & Safety - First Aid Advisory Standards 1999 for signage*  
*Food Safe Plus: Food Safety Program developed by Australian Institute of Environmental Health 1998, for hazard analysis critical control points signage in Kitchens*

## Design Diagrams



1.5

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 1.6 Security privacy and permeability

**1.6.1 To engender a feeling of security and a sense of community**

**1.6.2 To facilitate the easy access of residents, staff and visitors**

**1.6.3 To restrict the access of unauthorised persons**

**1.6.4 To clearly delineate public space, community space and private space**

**1.6.5 To provide privacy levels appropriate for various activities and cultural norms**

## Design Guidelines

Staff and residents need to be confident with the system and procedure for securing themselves and others in dangerous situations.

Security installations should be undetectable or discreet within user spaces.

Site entry and the front door should be clearly recognisable and located by the most logical and direct path of travel.

Boundaries of private property should be clearly defined and deter undesirable entry after visiting hours.

Introduce way finding cues and signage to indicate the transition between different spaces for public, community and private use.

Provide sufficient amenities, taking into consideration various cultural backgrounds of residents.

Private activities may include sleeping, undisturbed reading, time with relatives, sessions with consultants and therapists etc.

# general principles

## Design Standards and Policies

- 1.6.1** Certification Assessment - Section 7 Security
  - Accred Std 4.5 - Occupational Health & Safety
  - Accred Std 4.6 - Fire, Security and Other Emergencies
  - AS 4083 Planning for Emergencies - Health Care Facilities
  - AS 3745 Emergency Control Organisation and Procedures for Buildings
  - Workplace Health & Safety Act 1995*
  - Workplace Health & Safety Regulations 1997
  - AS 4485 Security for health care facilities
  
- 1.6.2** Accred Std 3.6 - Privacy & Dignity
  - Accred Std 4.4 - Living Environment
  - Accred Std 3.10 - Resident Security of Tenure and Responsibilities
  
- 1.6.3** Accred Std 3.0 - Resident Lifestyle
  - Accred Std 4.6 - Fire, Security and Other Emergencies
  
- 1.6.4** Accred Std 3.6 - Privacy & Dignity
  - Accred Std 3.10 - Resident Security of Tenure and Responsibilities
  
- 1.6.5** Certification Assessment - Section 3 Privacy
  - Accred Std 3.0 - Resident Lifestyle

## Design Diagrams



1.6.2



1.6.4

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## 2.0 Contextual issues

### Design Objectives

#### 2.1 Social environment

##### 2.1.1 To respond appropriately to the local social environment

##### 2.1.2 To reflect local community and user cultural values

##### 2.1.3 To provide opportunity for interaction with the local community and community services

#### 2.2 Streetscape

##### 2.2.1 To blend new development with the existing streetscape

#### 2.3 Access from the community

##### 2.3.1 To provide convenient pedestrian and vehicular access into the facility

#### 2.4 Access to community services

##### 2.4.1 To facilitate convenient access to shops, services, transport and community facilities

### Design Guidelines

Consider carefully the interface between the new facility and the local social character and neighbourhood community.

Present an appropriate image within the local community to encourage community acceptance and harmony.

Identify and consider prevalent social problems that may threaten the safety and quality of life for residents and staff.

Social behaviours and attitudes peculiar to the local culture should be respected and appropriately reflected in the design of the built environment.

Encourage community visitation and involvement with the facility by providing appropriate outdoor and indoor spaces for community activities.

Facilitate easy access to regional shopping centres, local communities, and essential services like public transport, hospitals, banks, pharmacies, dentists and libraries, for easy access.

Distinct elements of an existing streetscape, ie. building forms, materials, colours, landscape, should be referenced in the new design to allow it to fit within the surrounding neighbourhood character.

Ensure sufficient turning space for site access to and egress from the road servicing the site.

Public transport, where possible, should be conveniently accessible.

Provide separate designated pedestrian and vehicular circulation paths. Accommodate electric wheelchairs and scooters on pedestrian footpaths.

Paths of circulation should be well illuminated.

Link into existing and proposed pedestrian, vehicular and public transport networks beyond the boundaries of the site.

# general principles

## Design Standards and Policies

2.1.1 Accredited Std 3.0 - Resident Lifestyle

2.1.2 Accredited Std 3.0 - Resident Lifestyle

2.1.3 Accredited Std 3.0 - Resident Lifestyle

2.2.1 Local Town Plan and Development Control Plans for streetscape prescriptions.

2.3.1 Accredited Std 2.14 - Mobility, Dexterity and Rehabilitation  
Accredited Std 3.0 - Resident Lifestyle

2.3.1 Accredited Std 3.0 – Resident Lifestyle

## Design Diagrams



2.1



2.2



2.4

Note:  
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# general principles

## Design Objectives

### 2.5 Orientation and Climatics

**2.5.1 To ensure that building design and orientation is appropriate for the regional climate**

### 2.6 Adjacent Development

**2.6.1 To maximise sharing of mutually beneficial features of adjacent development**

**2.6.2 To minimise the impact of conflicting features of adjacent development**

### 2.7 Future Development

**2.7.1 To take into account all known proposals for adjacent future development**

**2.7.2 To ensure that the proposed facility conforms with future proposed developments on the site**

## Design Guidelines

Optimise the use of daylight. Orientate buildings to maximise desirable direct sunlight and daylight to reach the interior of the building. Minimise undesirable direct sunlight from penetrating the buildings. Direct sunlight is generally desirable during winter in living spaces and undesirable during summer.

Avoid large openings in external walls facing west.

Site buildings to capture prevailing summer breezes, and be sheltered from winter winds and storms, thereby optimising the use of natural ventilation in lieu of mechanical cooling and heating.

Provide daylight and ventilation to the centre of the buildings by having shallow room widths, or providing clerestory windows or roof lights, where appropriate.

Lounge, dining and communal spaces are more suited to the northern side of buildings.

Shared community spaces and function rooms should encourage community interaction.

Site planning and building design should encourage strong visual connections with external public spaces which allow spectator participation.

Undesirable noise and views of neighbouring developments should be minimised as much as possible.

Strategically position windows, fences and planting to maintain privacy with neighbouring properties.

Site circulation and points of access and egress can be seriously affected by near-by future developments and roadways and should be factored into the site planning as much as is practical.

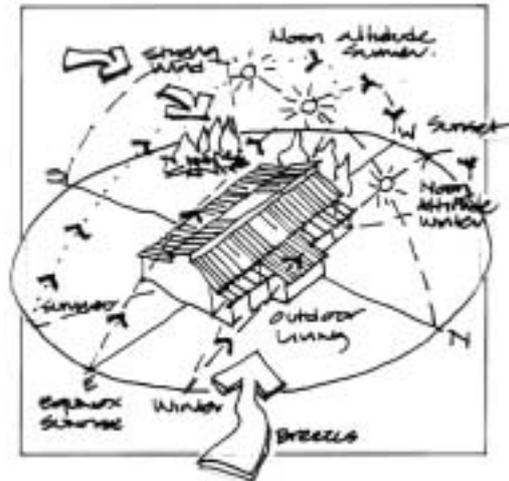
Refer to current strategic plan and/or master plan for the site and factor any other proposed development into the site planning.

# general principles

## Design Standards and Policies

- 2.5.1 Royal Australian Institute of Architects - Environment Design Guide Certificate Assessment - Section 5 Heating and Cooling  
Accred Std 4.4 - Living Environment  
Local and State Guidelines on sustainable development

## Design Diagrams



2.5.1

- 2.6.1 Accred Std 3.0 - Resident Lifestyle

- 2.6.2 Certification Assessment - Section 3 Privacy  
Accred Std 3.0 - Resident Lifestyle  
Accred std 3.6 - Privacy & Dignity

- 2.7.1 Contact the Local Town Planning Authorities to discuss future development and infrastructure plans for the area.

Note:  
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# general principles

## 3.0 Site Considerations

### Design Objectives

#### 3.1 Terrain

##### 3.1.1 To optimise utilisation of the site within topographical constraints

### Design Guidelines

Utilise site features as design elements, eg. views, vegetation, aspect etc.

Well considered site planning will contribute to an energy efficient facility, property security and personal safety.

Utilise landscape buffers and earth mounds to deflect external sources of nuisance, adverse climate and noise conditions away from the building.

Significant changes in terrain level should be avoided to ensure efficient and cost effective site circulation which is totally accessible by people with disabilities.

Retain significant, existing safe trees, rocky outcrops and vegetation where possible.

Ensure stormwater run off is adequately drained from the site.

# general principles

## Design Standards and Policies

- 3.1 Design to site specific Geotechnical Report recommendations and current site survey.
- 3.1.1 Accred Std 2.14 - Mobility, Dexterity & Rehabilitation  
Accred Std 3.0 - Resident Lifestyle

## Design Diagrams



3.1.1

Note:  
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The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 3.2 Vehicular access and parking

**3.2.1 To provide convenient, parking with safe access, for visitors and after-hours staff.**

**3.2.2 To provide access and discreet parking for service and emergency vehicles**

**3.2.3 To provide undercover pick up and set down for people and goods**

## Design Guidelines

Provide well-lit car parks and access paths to buildings.

Assess the security risks and locate and treat carparking areas and access paths accordingly. Give particular attention to the safety of after-hours staff and visitors.

Provide effective turning, vision lines and adequate directional signage.

Provide trees for shading where practical.

Locate car parks as close as practical to building entrances.

Locate car parks away from sleeping areas and outdoor communal areas.

Soften the visual impact of car parks with planting.

Ensure that local authority requirements for off-street parking are satisfied.

Provide designated parking spaces for service vehicles and emergency service vehicles with appropriate turning circles and clearances.

Provide designated access to and egress from the building which is visually and acoustically separated from public spaces eg. for transfer of residents into ambulances.

Provide access for refuse collection vehicles with appropriate turning circles and clearances.

Ensure that local authority and emergency services requirements are met.

Protect people and goods from inclement weather while transferring to and from vehicles, where practical.

Consider access to bus transport for residents outings.

Overhanging roofs, projecting verandahs, carports, etc. which shed water away from users are appropriate.

A formal porte-cochere is not required.

# general principles

## Design Standards and Policies

- 3.2** Local Town Plan and Development Control Plans for carparking policies.  
Control of the obtrusive effects of outdoor lighting.  
AS 4282 Control of the obtrusive effects of outdoor lighting  
AS 2890 Parking Facilities  
AS 1158 Road Lighting  
Certification Assessment - Section 7 Security  
*Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*

## Design Diagrams



3.2.1



3.2.3

**Note:**

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# general principles

## Design Objectives

### 3.3 Pedestrian access and circulation

#### 3.3.1 To provide convenient, safe and purposeful access for pedestrians

## Design Guidelines

Standard traffic rules should apply where traffic give way to pedestrians.

Road crossings should be clearly recognisable.

Where practical, 'level crossings'/'speed tables' should be used where pedestrian/wheelchair traffic crosses vehicular traffic.

Provide even-surfaced paths along all designated pedestrian routes.

Ensure that gradients of paths and ramps suit the mobility impaired.

Paths used at night shall be well-lit.

Provide seats as 'rest stops' adjacent to paths where appropriate.

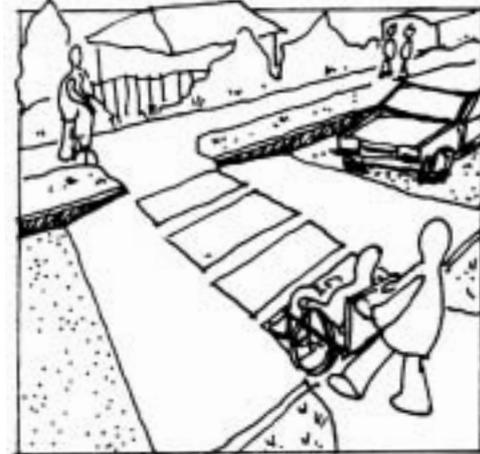
Important identified links between buildings should be roofed and/or enclosed as may be appropriate to their use. Give particular attention to the safety of after-hours staff.

# general principles

## Design Standards and Policies

- 3.3** AS 1428  
Certification Assessment - Section 4 Access,  
Mobility, and Occupational Health & Safety  
Accred Std 3.0 - Resident Lifestyle  
*Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997

## Design Diagrams



3.3.1

**Note:**

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# general principles

## Design Objectives

### 3.4 Soft and hard landscaping

**3.4.1 To provide a variety of accessible and inaccessible landscaped areas for personal and therapeutic use, sensory appreciation, screening, climate control and way finding**

**3.4.2 To allow all residents to experience plants**

**3.4.3 To provide shaded sitting and activity areas within or adjacent to gardens**

**3.4.4 To provide planting appropriate to purpose, site conditions, and accepted norms**

## Design Guidelines

A balance of private and semi-public planted and grassed areas should be provided.

Landscape design should incorporate a balance of sun penetration, shading, and wind screening. Provide seasonal variations to ensure interest and interaction with the landscape is maintained all year.

Consider the introduction of artwork into landscape design in conjunction with Queensland Government policy.

Provide easy viewing of and access into garden areas from the buildings.

Plants should encourage use of residents sensory functions eg. touch, sight, smell, hearing.

Raised planter boxes may be appropriate for residents who wish to tend gardens.

Provide choices of comfortable seating in sunny, shaded and covered areas for private sitting and communal activities.

Built forms should be a continuation of the building's design theme.

Raised planter boxes may be appropriate for people with disabilities.

Appropriate scale and cultural preferences should be considered.

Introduced landscape should complement the vegetation naturally occurring in the area, be of good quality, easy to maintain, appropriate for the climate, enduring and non-toxic.

Conserve established vegetation where practical, giving particular attention to safe, large trees.

# general principles

## Design Standards and Policies

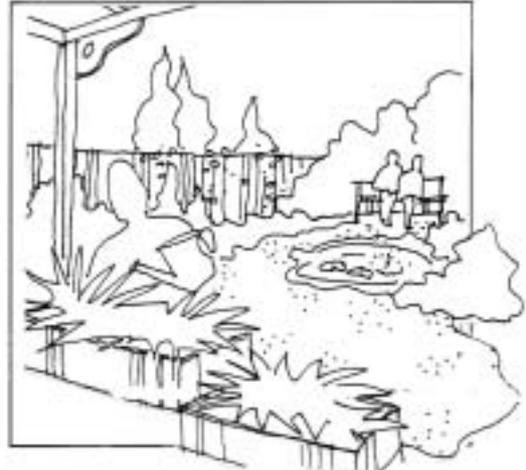
- 3.4 AS 1428  
Queensland Public Art Policy
- 3.4.1 Accred Std 2.14 - Mobility, Dexterity & Rehabilitation  
Accred Std 2.16 - Sensory Loss  
Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety

- 3.4.2 Accred Std 2.16 - Sensory Loss  
Accred Std 3.0 - Resident Lifestyle

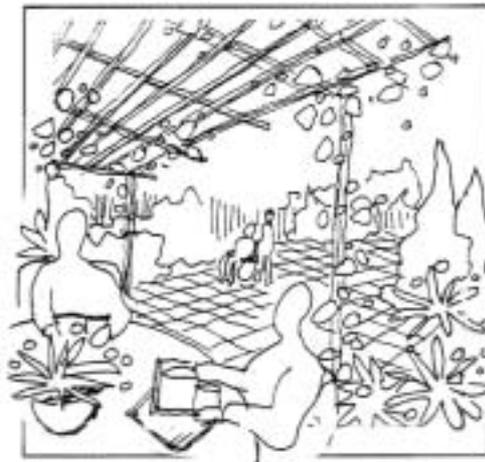
- 3.4.3 Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.5 - Occupational Health & Safety

- 3.4.4 Workplace Health & Safety Act 1995  
Workplace health & Safety Regulations 1997  
Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.5 - Occupational Health & Safety

## Design Diagrams



3.4.1



3.4.1

**Note:**

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# general principles

## Design Objectives

### 3.5 Security privacy and permeability

**3.5.1 To facilitate the easy access and flow of residents, staff, and visitors**

**3.5.2 To restrict the access of unauthorised persons**

**3.5.3 To restrict the unsafe egress of confused wandering residents**

**3.5.4 To avoid images of confinement and incarceration**

### 3.6 Hazards

**3.6.1 To minimise hazards to all persons within the site**

**3.6.2 To prevent residents and visitors from entering unsafe areas**

## Design Guidelines

Distinct nodal points should be established to assist and control the circulation flow of visitors and regular users.

Ninety degree corners in paths of circulation deny visual connections to adjacent spaces and should be avoided.

Access of unauthorised persons to the site should be restrained to the public entry area only, to ensure resident safety and security in both indoor and outdoor areas.

Outdoor areas for resident use should be encapsulated by building, fences and similar barriers to egress.

Utilise pool type fences and gates with suggested height of 1.8m.

Utilise distant serene outlooks where available and practical.

Boundaries should be softened with planting and soft scape elements.

Locate fences within gardens where practical.

Avoid the use of steps, except where provided for the convenience of ambulant persons.

Note that the slightest irregularity in paths, etc, can be a trip hazard to an elderly person who shuffles or has an unsteady gait.

Ensure footpaths (uncovered and covered) do not pond water or collect leaves and form slip hazards.

Provide handrails and/or balustrades and wheelchair barriers to prevent people from falling down, at changes in levels or from entering uneven ground adjacent to paths and paved areas.

Kerbs adjacent to pathways should not be 'roll-over' type.

Clearly define the boundaries of safe spaces from unsafe spaces with railings, fences, landscape elements, signs and/or visual barriers etc.

Utilise fences, gates and similar barriers to prevent access to high risk areas.

# general principles

## Design Standards and Policies

- 3.5 Certification Assessment - Section 3 Privacy  
Certification Assessment - Section 7 Security

- 3.5.2 AS 1725 Galvanised rail-less chainwire security fences and gates  
Workplace Health & Safety Act 1995  
Workplace Health & Safety Regulations 1997  
Accred Std. 1.9 - External Services  
Accred Std 4.6 - Fire, Security and Other Emergencies  
AS 4083 Planning for Emergencies - Health Care Facilities

- 3.5.3 Accred Std 2.4 - Clinical Care (Dementia Care)  
Accred Std 2.13 - Behavioural Management  
Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.5 - Occupational Health & Safety

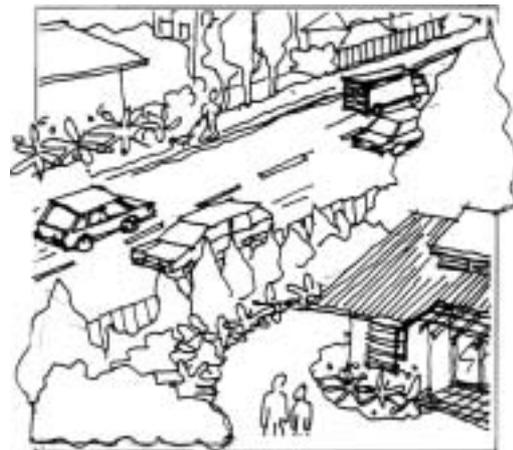
- 3.5.4 Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.5 - Occupational Health & Safety

- 3.6 BCA  
AS 1428  
Certification Assessment - Section 2 Hazards

- 3.6.1 Workcover Act 1997  
*Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety

- 3.6.2 Accred Std 4.5 - Occupational Health & Safety

## Design Diagrams



3.5.3

**Note:**

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# general principles

## 4.0 Building Exterior

### Design Objectives

#### 4.1 Architectural character

**4.1.1 To reflect a caring and nurturing image of home**

**4.1.2 To emphasise a residential aesthetic with domestic symbolism**

#### 4.2 Articulation of mass

**4.2.1 To break up building bulk into domestic scale sub-units**

#### 4.3 Manipulation of form

**4.3.1 To modify building form to identify and emphasise separate sub-units**

### Design Guidelines

Elements of typical residential design and construction can be incorporated into the architecture to create an identity and feeling of a 'home-like' living environment for residents.

Emphasise images of comfort, security, privacy, interaction, enjoyment and freedom of light and airy domestic character. Construction details and scale should be portrayed in the architecture to engender a sense of 'home'.

Provide pleasant and serene domestic garden settings to reinforce and compliment the imagery of the building.

Generic cultural residential symbols which typically characterise 'home' are more likely to create a sense of homeliness to a broad spectrum of users.

Entry porches and covered outdoor areas like verandahs are important residential elements which provide transitional spaces between indoor and outdoor areas.

Arranging typically local residential roof forms into clusters are more likely to create a sense of residential community.

Introduce decorative elements to engender a residential scale and character.

Articulate the external facade of a building to express its differing internal functions and spatial types to assist users in way finding and developing a personal affinity with the building and its functions.

Break the building mass into tangible blocks to help create residential scale and an interesting aesthetic.

Reinforce each individual external expression of function with some variety of spatial dimensions, geometry, proportions, roof forms, opening sizes, rhythm and pattern.

Forms sympathetic to the street scape and neighbourhood context, which are environmentally appropriate, should be adopted, particularly for dominant design elements such as roof pitches, building heights, fences, landscape treatments etc.

# general principles

## Design Standards and Policies

### 4.1.1 Accredited Std 3.0 - Resident Lifestyle

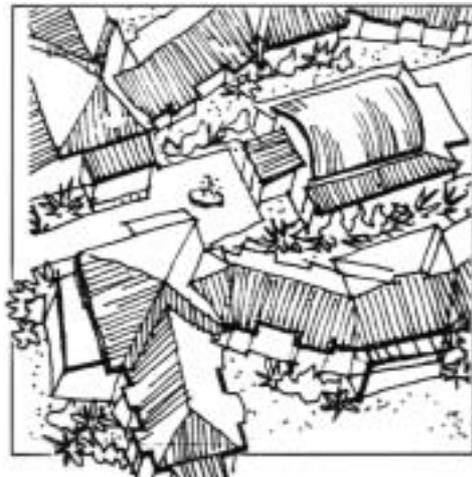
### 4.1.2 Accredited Std 3.0 - Resident Lifestyle

### 4.2.1 Comply with BCA exit and fire protection requirements.

## Design Diagrams



4.1.1



4.1.1

Note:  
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# general principles

## Design Objectives

### 4.4 Passive climate control

#### 4.4.1 To provide appropriate building elements for beneficial control of climate

#### 4.4.2 To reduce heating and cooling loads

## Design Guidelines

Capture and maximise natural ventilation air currents that cross through the building.

High level clerestory windows and fanlights allow for uninterrupted cross flow of air through the building for cooling in summer. Avoid draughts.

Minimise exposure of West and East facing facades to the sun. Avoid West facing walls from becoming heat-sinks which radiate undesirable heat into the building at night.

North facing facades should be appropriately protected, eg. with overhanging eaves, trees and pergolas.

Roof spaces should be well vented and ceilings thermally insulated.

Note: Avoid the use of fibreglass products in unsealed situations.

Insulate walls where exposed to undesirable thermal loads.

Shade window openings to exclude direct sunlight. Where appropriate, winter sun should be permitted to penetrate the building on a controllable basis.

Where appropriate, walls should have good thermal mass properties which, when shaded in summer, keeps the building cool and when heated by the sun in winter, warms the building at night.

# general principles

## Design Standards and Policies

4.4 Royal Australian Institute of Architects -  
Environment Design Guide

4.4.1 Accredited Std 4.4 - Living Environment

4.4.2 AS 2627.1 Thermal insulation of roof/ceilings  
and walls in dwellings  
Accredited Std 4.4 - Living Environment

## Design Diagrams



4.4.1

**Note:**

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# general principles

## Design Objectives

### 4.5 Materials, finishes and colour

**4.5.1 To choose a range of durable materials and finishes of domestic appearance**

**4.5.2 To use variety and colour to create interest, emphasise a residential aesthetic and to identify separate sub-units**

**4.5.3 To ensure that path surfaces are compatible with pedestrian and trolley traffic**

## Design Guidelines

Grouping the various external expressions of materials, finishes and colours into themes increases the amount of tangible information users receive about the building and assists with functions like way finding.

Low maintenance materials should be used to keep maintenance costs to a minimum and to maintain a good quality appearance for long periods of time.

Utilise materials of residential character.

Materials and finishes typically used in institutional buildings are to be avoided.

Appropriateness to the environment character of neighbourhood is required.

Vary materials, finishes and colour for each building sub-unit.

Colours which may potentially become very unpopular as fashions change should be restricted to non-permanent materials, eg. paint.

Timeless colours like that which are found in nature and compliment the surrounding neighbourhood are more appropriate.

Avoid noisy clatter of trolley wheels close to resident areas.

Trolley selection needs to be co-ordinated with path surface selection.

Uneven surfaces must be avoided.

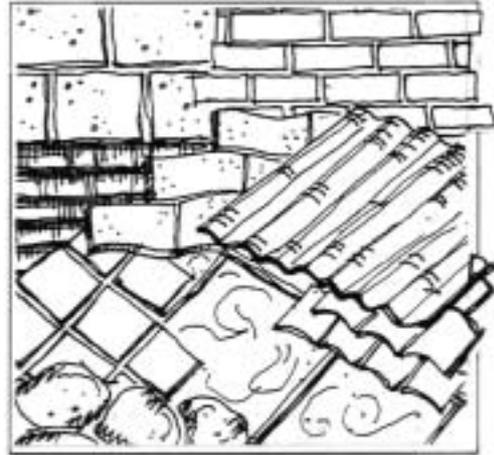
All path surfaces shall have a slip-resistance appropriate to their use and have gentle gradients in compliance with AS 1428.1.

# general principles

## Design Standards and Policies

- 4.5.1** AS 3660 Protection of buildings against subterranean termites  
Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment

## Design Diagrams



4.5.1

- 4.5.3** Accred Std 1.7 - Inventory & Equipment  
Accred Std 4.5 - Occupational Health & Safety  
AS/NZS 3661 Slip resistance of pedestrian surfaces  
AS 1428.1 - General requirements for access - Buildings plus Supplement 1

**Note:**

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# general principles

## 5.0 Building Interior - Functional

### Design Objectives

#### 5.1 Spatial planning and adaptability

**5.1.1 To facilitate quality care delivery and maximise operational efficiency**

**5.1.2 To minimise resident and staff travel distances throughout the facility**

**5.1.3 To ensure adequate volumes for peak occupancy and care provision**

**5.1.4 To provide a logical and legible progression between different use spaces**

**5.1.5 To minimise internal loadbearing structure to maximise future adaptability**

### Design Guidelines

The Project Definition Plan (PDP) needs to identify the detailed model of care, including a 'time and motion' summary of staff activities.

The layout of rooms shall allow for logical and efficient staff work patterns.

Spaces frequented daily by residents should be reasonably close to encourage independent travel where possible and reduce staff time in assisting the less mobile.

Bedroom-Bathroom-Dining-Lounge Room proximity relationships are critical.

The PDP needs to estimate the maximum numbers of residents and others to concurrently inhabit common spaces, lounge rooms, dining rooms and sanitary facilities, eg. estimate the percentage of residents who will leave their bedrooms to eat meals in the dining room and staff/visitor number who will attend.

Allow sufficient space for residents with mobility aids, and assistive devices, and those seated in wheel chairs and wheeled lounge chairs.

Where large spaces are required for interim use, provide room-dividing facilities for greater flexibility and more domestic scale.

Larger spaces require proportionally higher ceilings.

Rooms with ceiling fans require 2700mm minimum ceiling height.

Locate rooms in a domestic relationship which moves from private to semi-private to communal to public.

Transition between different use spaces should be emphasised by design features, eg. colour, finish, decorative trims, ceiling height, furnishings, etc.

Internal partitions should be non-structural and constructed out of lightweight materials for easy future removal.

# general principles

## Design Standards and Policies

## Design Diagrams

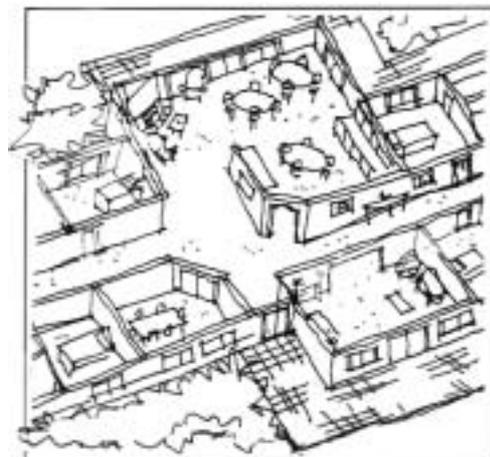
5.1.1 Certification Assessment - all sections

5.1.2 BCA  
Certification Assessment – Section 1 Safety

5.1.3 BCA  
AS 1428



5.1.3



5.1.4

Note:  
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The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 5.2 Security and privacy

#### 5.2.1 To restrict the access on unauthorised persons

#### 5.2.2 To provide discreet barriers to restrict unsafe wandering of confused residents

#### 5.2.3 To inhibit intrusion into private spaces

## Design Guidelines

The PDP shall identify the day-time level of security needed in this facility, eg. key controlled access/door bell linked to emergency call system, control/level of staff control and surveillance.

Access between buildings for staff must be secure, particularly at night.

The building shall be capable of being completely locked up at night with entry controlled by staff.

Allow facilities for staff to view (and preferably speak to) visitors before opening entry doors.

Electronic surveillance systems to alert staff of intruders and on status of building security should be considered.

Restrict unauthorised access to areas in which classified information (resident, staff and organisational records), drugs, currency and vital or attractive property are stored or handled.

Keys to rooms for drug storage and property of high value should not be placed on a master key system.

Provide secure storage for excess property of residents and temporary holding of deceased residents' property.

Archived records (residents, staff and organisation) must be stored in a secure (locked) location free from the possibility of defacement, vermin, deletions etc.

Controlled access doors shall be provided, where necessary to prevent confused residents from wandering into unsafe areas.

Avoid placing controlled access doors where residents frequent.

Use decor and planning elements to attract residents attention away from controlled access doors; where possible provide an alternative route to a safe place of interest.

Use decor, planning elements and signage to emphasise the private nature of entrances to bedrooms and other private spaces.

Where practical, allow for some personalisation of doorways to bedrooms.

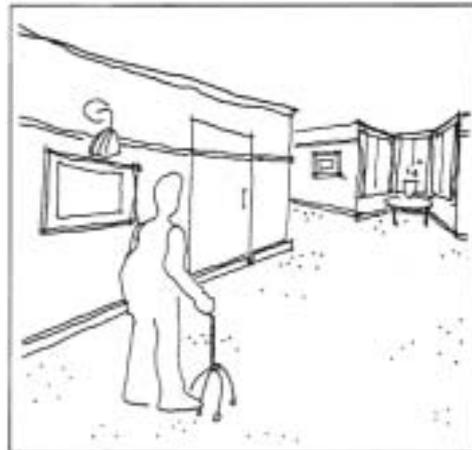
# general principles

## Design Standards and Policies

**5.2** Certification Assessment - Section 3 Privacy and Section 7 Security  
BCA - Part D

**5.2.1** *Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
Accred Std 1.9 - External Services  
Accred Std 4.6 - Fire, Security and Other Emergencies  
AS 4083 Planning for Emergencies - Health Care Facilities  
AS 4485

## Design Diagrams



5.2.1

**5.2.2** Accred Std 2.13 - Behavioural Management  
Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety

**5.2.3** Inhibit intrusion into private spaces  
Accred Std 3.6 - Privacy and Dignity



5.2.3

**Note:**

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# general principles

## Design Objectives

### 5.3 Circulation

**5.3.1 To facilitate easy circulation by residents to and within all resident-use space**

**5.3.2 To facilitate easy circulation by staff and trolleys**

**5.3.3 To allow for extensive use of mobility aids and lifting equipment**

**5.3.4 To provide adequate emergency egress**

**5.3.5 To provide convenient views and access to outdoor spaces**

## Design Guidelines

Avoid complicated routes between resident-use spaces.

Allow sufficient space in corridors and doorways for staff to easily manoeuvre and temporarily park trolleys without impeding resident circulation.

Provide separate circulation corridors for deliveries in high use areas.

Allow sufficient manoeuvring and temporary parking space for walking aids, wheelchairs, resident lifting equipment, etc.

Allow space for staff to assist residents with all activities of daily living (washing/dressing/manual handling) whilst utilising hoists and other assistive devices.

Ensure compliance with the Building Code of Australia.

Provide additional manoeuvring space where needed for equipment used in evacuation procedures, eg. wheelchairs and stretchers.

All resident bedrooms, dining rooms, and lounge/sitting rooms should have views to the outside.

Each main common area should have direct or easy access to outdoor spaces.

Minimise horizontal glazing bars and other obstructions to outside views from seated and lying positions, including lounge and dining chairs, wheelchairs, semi-reclining chairs and beds.

# general principles

## Design Standards and Policies

**5.3** BCA  
AS 1428  
Certification Assessment - Section 4 Access,  
Mobility and Occupational Health and Safety

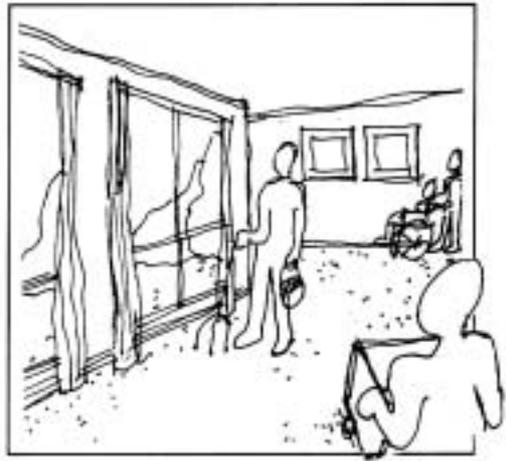
**5.3.1** Accredited Std 3.4 - Clinical Care (Dementia  
Care)

**5.3.2** Accredited Std 3.0 - Resident Lifestyle

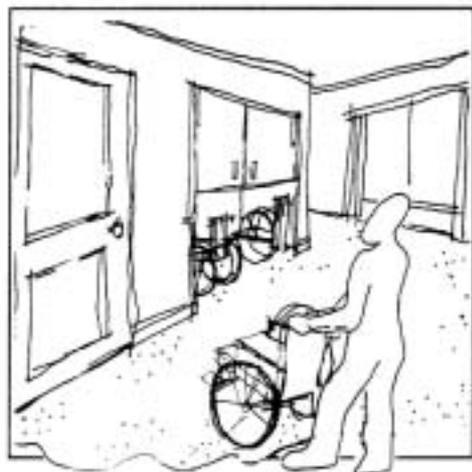
**5.3.4** *Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
AS 4083 Planning Emergencies - Health  
Care Facilities  
Accredited Std 4.4 - Living Environment  
Accredited Std 4.5 - Occupational Health &  
Safety  
Accredited Std 4.6 - Fire, Security and Other  
Emergencies

**5.3.5** Accredited Std 3.0 - Resident Lifestyle  
AS 1288 Part 1, Safety Glazing material for  
framed glass doors and framed glass slide  
panels for non-domestic occupancy

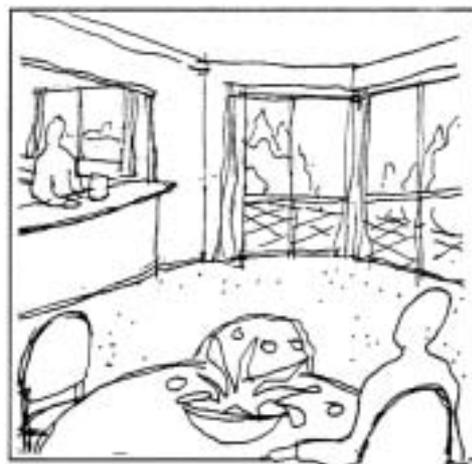
## Design Diagrams



5.3.2



5.3.3



5.3.5

**Note:**

The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 5.4 Amenity

**5.4.1 To fit out all resident-use spaces to suit basic daily activities**

**5.4.2 To maximise domestic features for reasonably comfortable living**

**5.4.3 To minimise institutional features**

**5.4.4 To allow for assistance and care to be efficiently provided in a dignified manner**

### 5.5 Support areas

**5.5.1 To facilitate efficient, quality care practices**

## Design Guidelines

Provide a range of rooms normally found in houses.

Provide additional fit-out as needed for aids for the physically impaired.

Allow space for staff assistance with all activities.

Room sizes, shapes and elements must allow for varied furniture arrangements.

Emphasise those design elements normally found in houses.

Provide opportunities as appropriate to personalise some spaces, especially within bedrooms.

Features of the building related to mobility aids and staff use should be kept subtle, disguised or hidden away where possible.

Fire hosereels, extinguishers and similar equipment should be housed in suitable signed discreet cabinets.

Accommodate a maximum of 2 residents in each bedroom.

Provide sufficient space for easy staff assistance.

Ensure that privacy can be maintained during all care procedures.

Provide visual and acoustic separation between bedroom/bathroom areas and communal/public spaces.

Locate all support rooms as close as practical to related activities.

Fit-out support rooms to suit efficient workflow patterns.

Provide all equipment, fixtures, fittings and furnishings to suit the function of support rooms.

The appropriate provision and location of staff toilets is to be addressed.

Provide adequate staff amenities separated from residents areas, including access to external areas.

# general principles

## Design Standards and Policies

**5.4.1** Accredited Std 3.0 - Resident Lifestyle  
Accredited Std 4.4 - Living Environment

**5.4.2** Accredited Std 3.0 - Resident Lifestyle  
Accredited Std 4.4 - Living Environment

**5.4.3** Accredited Std 3.0 - Resident Lifestyle  
Accredited Std 4.4 - Living Environment

**5.4.4** Accredited Std 3.6 - Privacy and Dignity

**5.5.1** Hairdresser's Regulations  
*Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*

## Design Diagrams



5.4.1



5.4.4



5.5.1

**Note:**

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# general principles

## Design Objectives

### 5.6 Service areas

#### 5.6.1 To provide adequate and reasonably accessible housing of service equipment

### 5.7 Storage

#### 5.7.1 To provide conveniently located, adequate storage spaces

### 5.8 Fixtures and fittings

#### 5.8.1 To provide durable fixtures and fittings which satisfy user requirements

#### 5.8.2 To select typically domestic items for resident use

## Design Guidelines

Ensure that all equipment, valves, switches and the like are located in areas where service personnel can safely and reasonably efficiently carry out repairs and maintenance.

Prevent residents and unauthorised personnel from entering service areas.

Resident storage areas for clothing and personal effects should be located within bedrooms and include a cupboard and lockable drawer.

Resident excess personal storage may be provided in a 'resident property store', if required.

Provide storage and recharging areas for all mobility aids and lifting equipment close to bedrooms and/or common rooms.

Consider where wheeled lounge chairs will be parked at night.

All trolleys require designated parking places in related areas.

Distribute store rooms throughout the facility according to requirements and locate close to the areas they serve.

Minimise the need for double handling of stored items.

Secure store rooms and cupboards as appropriate to their contents.

Ensure that hazardous substances and chemicals are stored in a safe, secure location in accordance with WH&S regulations.

Ensure that medications are correctly stored in a safe and cool location, preferably under 25 degrees Celsius (avoid extremes in temperature).

In all areas choose easily cleaned and maintained commercial duty fixtures and fittings.

In resident use areas choose fixtures and fittings with a domestic appearance, but commercial duty.

# general principles

## Design Standards and Policies

## Design Diagrams

**5.6.1** AS 1657 Fixed platforms, walkways, stairways and ladders - Design, construction and installation

AS 2865 Safe working in confined space

Accred Std 1.7 - Inventory & Equipment

Accred Std 1.9 - External Services

*Workplace Health & Safety Act 1995*

**5.7.1** AS 1940 The storage and handling of flammable and combustible liquids

Accred Std 1.7 - Inventory & Equipment

Accred Std 3.0 - Resident Lifestyle

Accred Std 4.4 - Living Environment

Accred Std 4.5 - Occupational Health & Safety

Accred Std 4.8 - Catering, Cleaning and Laundry Services

*Workplace Health & Safety Act 1995*

Workplace Health & Safety Regulations 1997

Hazardous Substances advisory standard 1998

**5.8.1** Accred Std 1.7 - Inventory & Equipment 5.8.1

**5.8.2** Accred Std 3.0 - Resident Lifestyle

**Note:**

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# general principles

## Design Objectives

### 5.9 Equipment

**5.9.1 To provide efficient, reliable, low-maintenance, space-saving equipment to meet all service and care provision needs.**

**5.9.2 To choose equipment with low sensory impact**

### 5.10 Hazards

**5.10.1 To minimise hazards to all persons within the facility**

**5.10.2 To prevent residents and visitors from entering unsafe areas**

## Design Guidelines

Ensure choice of equipment is ideal for the intended purpose and within constraints of selection criteria and meets Australian Standards where applicable.

Avoid noisy, odorous and unsightly equipment which could impact upon residents.

Trolleys with cushioned rubber tyres are preferred.

Avoid design features which present the risk of injury to residents and staff, eg. protruding or sharp corners, steps or humps in floor thresholds, slippery surfaces and obstructions - particularly at head height.

Minimise changes in finished floor levels. Note that the slightest irregularity can be a trip hazard to an elderly person who shuffles or has an unsteady gait.

Avoid bold patterns and abrupt changes in floor colours which could be perceived by residents as steps or 'holes' in the floor (especially in dementia care areas).

Where possible ensure that all persons have reasonable views of 'on-coming-traffic', particularly through viewing panels in doors.

Provide barriers to restrict access to staff-only areas.

Minimise the potential for residents to be tempted to explore unsafe areas.

Discourage residents from using 'unsafe' doors by painting them the same as the adjoining walls.

Discourage residents from using service corridors by using uninteresting finishes, colours and lighting.

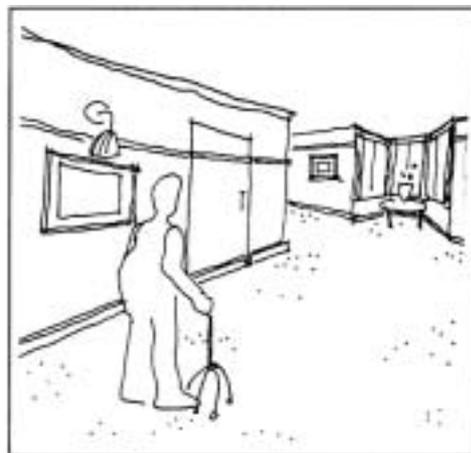
Chemicals and hazardous substances must be stored in a secure storage area, away from heat sources and fuse boxes. Flammable liquids must be stored in a flameproof cupboard.

# general principles

## Design Standards and Policies

- 5.9** AS 4146 Laundry Practice  
AS 2437 Flusher/sanitizer for bed pans and urine bottles  
AS 2569 Guide to lifting and moving of patients  
AS 2999 Alarm systems for the elderly and other persons at risk  
AS 3696 Wheelchairs
- 5.9.1** Accred Std 1.7 - Inventory & Equipment  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety
- 5.9.2** Accred Std 4.5 - Occupational Health & Safety  
Workplace Health & Safety Act 1995  
*Workplace Health & Safety Regulations 1997*  
Department of Education Training & Industrial Relations Guide for Dry cleaning and Laundry Workplaces  
Department of Education Training & Industrial Relations - Advisory Standard for Noise 1999  
AS 1055.1 Acoustics - Description and measurement of Environmental Noise  
Australian & New Zealand Std 1998  
Occupational Noise Management - Noise Control Management
- 5.10.1** AS 1470 Health and Safety at work - principles and practices  
Certification Assessment - Section 2 Hazards  
*Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*  
Workcover Act 1997  
Accred Std 4.4 - Living Environment  
Accred Std 4.5 - Occupational Health & Safety
- 5.10.2** *Workplace Health & Safety Act 1995*  
*Workplace Health & Safety Regulations 1997*  
Accred Std 2.4 - Clinical Care (Dementia Care)  
Accred Std 4.5 - Occupational Health & Safety  
AS 1940 The storage and handling of flammable and combustible liquids

## Design Diagrams



5.10

**Note:**

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# general principles

## 6.0 Building Interior - Ambience and Environment

### Design Objectives

#### 6.1 Lighting

##### 6.1.1 To maximise natural lighting

##### 6.1.2 To minimise glare and strong contrast

##### 6.1.3 To provide suitable artificial lighting for non-daylight conditions

### Design Guidelines

Minimise the need for artificial lighting during normal daylight conditions.

Provide windows in external walls of all rooms where practical.

All bedrooms, lounge and dining rooms should have windows where possible.

Introduce skylights, if possible, to internal rooms or where windows are distant.

Avoid single point sources of bright light, particularly in corridors.

Provide internal and/or external shading, blinds, curtains or other devices to diffuse bright sunlight.

Where possible locate windows so as to provide multiple sources of light.

Ensure that all areas receive the levels of lighting appropriate to their use.

Allow users to manipulate lighting to suit task.

Provide subtle variation in lighting to emphasise the importance of spaces.

Use light fittings of domestic appearance and domestic quality of soft light in resident-use areas.

Avoid harsh commercial lighting solutions in resident use areas.

Allow resident control of personal area lighting which can be easily operated by resident with poor manual dexterity.

# general principles

## Design Standards and Policies

- 6.1 AS 1680 Interior Lighting  
Certification Assessment - Section 6  
Lighting/Ventilation

## Design Diagrams



6.1.3

Note:  
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The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 6.2 Ventilation

#### 6.2.1 To promote effective methods of natural ventilation

### 6.3 View

#### 6.3.1 To provide views to outside areas for resident appreciation and surveillance

## Design Guidelines

Use openable windows for all spaces where possible.

Provide effective cross ventilation, responsive to local climate.

Avoid wind tunnel effects.

Avoid reliance upon artificial ventilation except for sanitary and utilities rooms.

Provide user-friendly window operating mechanisms.

Provide insect screens across all window and door openings.

Fit suitable security screens to window and door openings through which intruders could enter or distressed residents exit.

Position windows in suitable locations and configure frames for standing, sitting and lying residents to take advantage of views of outdoors. Sitting positions include lounge and dining chairs, wheelchairs and semi-reclining chairs.

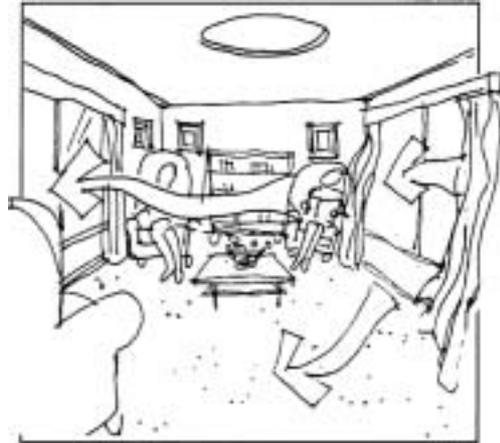
Maximise staff surveillance of resident-use outdoor spaces through careful positioning of windows.

# general principles

## Design Standards and Policies

- 6.2 BCA  
Certification Assessment - Section 6  
Lighting/Ventilation  
Department of Education, Training and  
Industrial Relations (November 1995), **Indoor  
Air Quality - Guide**  
*Workplace Health & Safety Act 1995*  
Accred Std 4.5 - Occupational Health & Safety

## Design Diagrams



6.2.1

### 6.3.1 Accred Std 3.0 - Resident Lifestyle



6.3.1

**Note:**

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# general principles

## Design Objectives

### 6.4 Acoustics

#### 6.4.1 To promote reduced ambient noise levels

## Design Guidelines

Reduce noise generated by trolleys and from within sanitary and utility rooms.

Reduce the impact of noisy residents upon others.

Reduce noise generated by the preparation, serving and eating of meals.

Reduce reverberant background noise in common areas.

Use carpet or acoustically absorbent vinyl finishes on corridor and common area floors.

Utilise low-maintenance absorptive surfaces, eg. acoustic ceilings in areas where acoustic absorption of flooring and furnishings is inadequate.

Select ceiling, wall, partition and door types to minimise the transfer of noise between rooms.

Accessories such as grilles and recessed electrical fittings must not reduce the acoustic performance of ceilings, walls, etc.

# general principles

## Design Standards and Policies

- 6.4 BCA
  - AS 2107 Design sound levels for building interiors
  - AS 3671 Traffic noise intrusion in buildings
  - Accred Std 3.0 - Resident Lifestyle
  - Accred Std 4.4 - Living Environment
  - Accred Std 4.5 - Occupational Health & Safety
  - Department of Education Training & Industrial Relations - Advisory Standard for Noise 1999.
  - AS 1055.1 Acoustics - Description and measurement of Environment Noise
  - Australian & New Zealand Std 1998
  - Occupational Noise Management - Noise Control Management

## Design Diagrams

Note:  
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The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 6.5 Colour and texture

#### 6.5.1 To use colours and textures which impart a comfortable, domestic atmosphere

#### 6.5.2 To promote a sense of well-being through use of mood uplifting colours

## Design Guidelines

Choose colours and textures sympathetic with a domestic environment.

Be aware of sensory needs of resident with sensory losses (ie. low vision) in relation to colour and texture of internal environment building, fittings and fixtures.

Note that yellowing of vision in aged people will reduce perception of cream colours and turn pinks slightly brown.

Use different themes, colours and textures to provide subtle delineation of functional areas and accommodation clusters.

Accentuate contrast between colours for the benefit of the visually impaired, but avoid juxtaposition of strong colours.

Colour changes and patterns in flooring should be subtle only to avoid the perception of 'steps' or 'holes' in the floor (especially in dementia care areas).

Ensure that built-in colours compliment loose furnishings.

Use colour for therapeutic effect.

Avoid other than subtle use of black, red and purple.

Avoid large expanses of strong colours (particularly dark blue) in resident use areas, especially bedrooms.

# general principles

## Design Standards and Policies

- 6.5.1** Accredited Std 2.16 - Sensory Loss  
Accredited Std 3.0 - Resident Lifestyle

## Design Diagrams



6.5.1

- 6.5.2** Accredited Std 3.0 - Resident Lifestyle

Note:  
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# general principles

## Design Objectives

### 6.6 Finishes

#### 6.6.1 To use durable, easily maintained finishes with domestic character

## Design Guidelines

Choose materials sympathetic with a domestic environment.

Ensure that finishes comply with fire safety requirements.

All surfaces must have reasonably low-maintenance cleaning properties.

Finishes in areas prone to damage require special protection or built-in damage-resistant properties.

Damage to walls and doors is typically incurred by the movement of any loose furniture or equipment, most by wheelchair footplates, lifting equipment castors, feet and arms, trolley castors and upper edges and bed heads.

Most damage occurs at corners, doorways, walls against which furniture or equipment is placed and along corridors below handrails.

Damage-resistant wall surfaces include fibrous cement, plywood and laminated plastic.

Coloured plastic mouldings and sheeting are suitable for door jamb and corner protection. Stainless steel is not appropriate for domestic areas.

Pressed metal door frames are ideal and can be given a domestic appearance with the addition of suitable architrave mouldings.

Timber mouldings when fabricated out of hard timber species are moderately damage resistant and can be suitable for handrails and chair rails, etc.

Floor surfaces shall have a slip-resistance appropriate to their use. Highly polished floors are not acceptable.

Vinyl flooring should be commercial type with domestic appearance and welded joints for impervious finish.

Carpet should be of domestic appearance with dense low profile pile, impervious type resistant to spills (including urine). Seal joints. Use a surface which is reasonably trafficable by wheelchairs, trolleys and other wheeled equipment.

# general principles

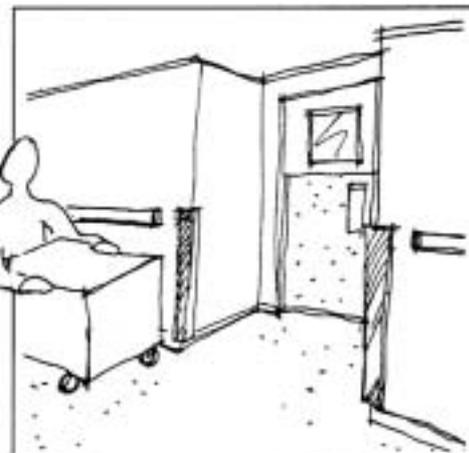
## Design Standards and Policies

- 6.6.1 AS/NZS 2208 Safety glazing materials in buildings
- AS/NZS 3661 Slip resistance of pedestrian surfaces
- Accred Std 3.0 - Resident Lifestyle

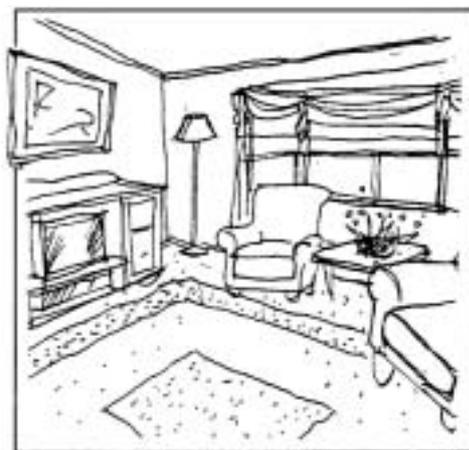
## Design Diagrams



6.6.1



6.6.1



6.6.1

Note:  
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should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 6.7 Furnishings, signage, decoration and art

#### 6.7.1 To provide adequate, conveniently located, functional furnishings of domestic appearance

#### 6.7.2 To ensure that each emergency service is readily identifiable

## Design Guidelines

All furnishings should be robust and of domestic appearance in a variety of materials, textures and colours.

Locate all furnishings in locations to optimise usefulness.

Minimise use of fixed furnishings to allow for flexibility.

Provide a variety of loose furniture to suit various care needs.

All furnishings must be consistent with good workplace health and safety principles for both residents and staff. Staff must be able to easily and safely transfer residents to and from furniture.

Chair selection should consider stability, posture, ease of use and must be easily cleaned, taking incontinence into account.

Curtains and fabrics should emphasise domestic character, be easily cleaned, and where considered a fire hazard, should be made of innately fire retardant material.

All fire safety and other emergency equipment should be appropriately labelled including rooms or cabinets in which they are housed.

Provide clear delineation of circulation routes to emergency exits.

# general principles

## Design Standards and Policies

## Design Diagrams

### 6.7.1 AS1428

Accred Std 3.0 - Resident Lifestyle  
Accred Std 4.4 - Living Environment  
*Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
Workplace Health & Safety Code of Practice  
Manual Handling 1991  
Workplace Code of Practice Manual Handling  
of People, 1992

### 6.7.2 *Workplace Health & Safety Act 1995*

Workplace Health & Safety Regulations 1997  
Accred Std 4.5 - Occupational Health & Safety  
Accred Std 4.6 - Fire, Security & Other  
Emergencies  
AS 4083 Planning for Emergencies - Health  
Care Facilities  
AS 3745 Emergency Control Organisation  
and Procedures for Buildings

**Note:**

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should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**6.7.3 To ensure that addresses can be easily found within the facility**

**6.7.4 To contribute to the domestic ambience and well-being of residents by providing suitable decoration and artworks that are culturally appropriate and therapeutic**

## Design Guidelines

Provide adequate signage to clearly direct residents, visitors and staff, including visually impaired persons to each separate accommodation cluster and administration area.

Minimise the need for signage within accommodation clusters by use of other identification features, eg. colour, finish, decorative mouldings, character treatment, furnishings and artworks.

Identify each resident's bedroom.

Provide subtle signage to identify the various staff-use rooms.

Resident-use signs must be easily legible and have good contrast between darker letters on a light background.

Choose names and symbols that can be easily remembered by users from diverse cultural backgrounds.

Allow for flexibility in the provision of a variety of artworks throughout the facility.

Choose images and themes which generate favourable psychological responses in the occupants of the particular space.

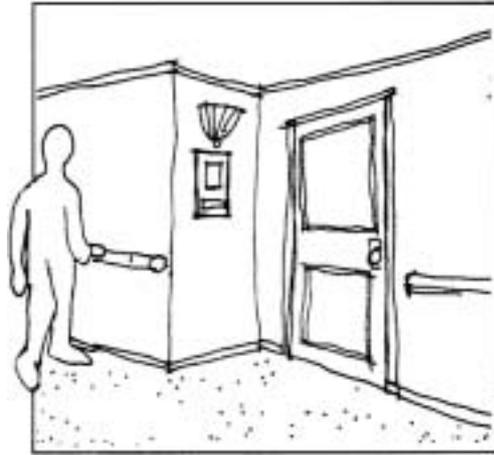
Avoid images or themes which may be offensive to any of the various cultures represented by the residents.

# general principles

## Design Standards and Policies

- 6.7.3 AS 1428
- AS 2786 Symbols - Health Care in Hospitals
- Accred Std 2.16 - Sensory Loss
- Accred Std 3.0 - Resident Lifestyle
- Accred Std 4.4 - Living Environment

## Design Diagrams



6.7.3

- 6.7.4 Queensland Public Art Policy
- Accred Std 3.0 - Resident Lifestyle



6.7.4

Note:  
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should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## 7.0 Building Systems

### Design Objectives

#### 7.1 Climatic Control Ventilation

**7.1.1 To provide mechanical services designed and installed in accordance with relevant Codes and Standards and provide internal climatic conditions that satisfy the requirements of Queensland Health**

**7.1.2 To provide adequate fresh filtered air and air movement**

### Design Guidelines

A registered professional engineer shall design the mechanical services and witness all relevant tests.

The mechanical contractor shall certify that the installation complies with the documentation and statutory requirements.

Air conditioning: In geographic locations where Queensland Health approves its installation, air conditioning shall be provided to the following areas;

- All administrative areas,
- Resident support areas,
- Bedrooms,
- Staff support areas including offices, resource rooms, serveries and clean utility room.

In addition, the provision of relief ventilation may be considered for kitchens and regions where high ambient temperatures may be encountered, as well as in areas where it may be operationally desirable; for example to the soiled linen store room (to control odours).

Air conditioning systems shall be designed for energy efficient operation. Systems shall be separated or zoned so that systems serving unoccupied areas, eg. Unoccupied rooms or administrative areas at night, may be shut down.

Life cycle costing analysis must be carried out to determine the type of air conditioning/heating system to be installed. This may include ducted or split system/ electric, gas or reverse cycle heating systems. Consider particularly the life of domestic split systems compared with ducted systems together with operating costs.

Air filters for all systems shall be extended surface deep bed filters.

Ensure the positive introduction of filtered fresh air to all air conditioning and heating systems.

# general principles

## Design Standards and Policies

### 7.1.1 Registered Mechanical Engineer, Queensland

Mechanical installation shall comply with Australian Standards, Building Code of Australia (BCA), and Queensland Health Capital Works Guidelines - Infection Control

Under normal circumstances, air conditioning systems shall be capable of maintaining internal temperatures at 24 deg C, +/- 1 deg C. However in regions where extremely high ambient temperatures are experienced, it may be more desirable to maintain internal temperatures some 7 to 10 degrees C below the outdoor temperature. Follow Workplace Health & Safety (WH&S) Advisory Standards where practicable.

Systems shall be designed to satisfy all relevant Q-Mech Standards, Australian Standards and Codes of Practice.

Air handling systems shall comply with the requirements of AS 1668 Part 1. Where systems fall outside the jurisdiction of this standard, all supply air systems, except for unitary equipment, shall automatically shut down on any fire alarm signal in the area served by that system.

### 7.1.2 Extended surface filters shall have a minimum 70% efficiency to No 4 Duct as specified in AS 1132

Air conditioning systems shall be designed to introduce out door air into all areas to satisfy the requirements of the BCA and AS 1668 Part 2.

**Note:**

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## Design Diagrams



7.1.1

# general principles

## Design Objectives

**7.1.2 To provide adequate fresh filtered air and air movement (cont.)**

**7.1.3 To locate plant and ensure adequate access for maintenance**

**7.1.4 To provide location of controls**

## Design Guidelines

Ensure adequate air movement to all areas without the introduction of drafts. Special attention is required relative to the location of air conditioning, indoor cooling units and supply air outlets.

Air movement within occupied spaces may be enhanced by the use of ceiling fans or wall mounted oscillating fans. This would be especially relevant between seasons and may prolong the periods when cooling is not required.

Consideration must be given in the design of systems to utilise full fresh air cycles to achieve operating economy between seasons or during evenings when cooling may not be required. Such provisions may assist in the control of odours by providing a purging effect.

Consideration should be given to maintenance provisions in regard to type of plant selected and where facility is located.

In order to facilitate maintenance access and limit noise emissions from air conditioning systems consider the use of ducted systems with air handling units located in plantrooms.

Where ducts are insulated, consider the selection and location of insulation. Special care should be taken to limit the possibility of fibre glass insulation particles entering resident areas.

Ducts should be concealed above ceilings or furred against ceilings/walls.

The location of services (predominantly in ceilings and plantrooms) should be coordinated to optimise the utilisation of available space and access for cleaning and maintenance.

All air conditioning plant controls shall be located in a secure area where only staff are able to access.

Residents must have the ability to control the operation of air conditioning/ventilation within their own bedrooms including the ability to switch off the air conditioning/vents serving that room without affecting other areas.

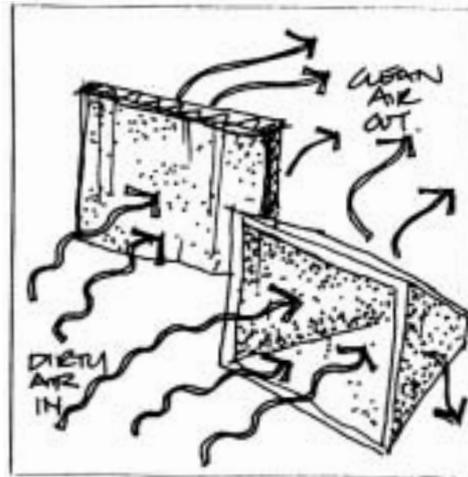
Consider the desirability and cost of providing individual room temperature control.

# general principles

## Design Standards and Policies

**7.1.2** Systems shall provide outside air at not less than the rate of 7.5 l/s per person. Outdoor air intakes shall be located in accordance with AS 1668 Part 2 Clause 2.2 to ensure the supply is of adequate quality.

## Design Diagrams



7.1.2

**7.1.3** Ductwork shall comply with the requirements of the BCA, AS 1668 Part 1 and AS 4254.

Controls for residents bedrooms shall be simplified so that frail elderly residents may be able to operate them. Controls shall include an on/off switch and a means of adjusting the temperature set point.



7.1.4

Note:  
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# general principles

## Design Objectives

### 7.1.5 To exercise care in the selection of an Evaporative Cooling System

To ensure absolute control of Legionella

### 7.1.6 To provide condensate drainage

### 7.1.7 To provide ventilation systems where required

## Design Guidelines

Electric reheat zone control (heating, fighting, cooling) to be avoided to conserve energy.

Evaporative cooling may be considered for Western Queensland areas. Ensure design and maintenance provisions facilitate control of legionella. Also ensure provisions are made to enable closing of openings during winter heating.

If cooling towers are considered in the design of large central plant systems special attention to be paid to system design to control legionella.

Provide drains for condensate to external condensers. Provide condensate drainage to all cooling units. Condensate drains shall be accessible for cleaning and trapped where connected to drainage systems.

Ensure provision made to “deice” outside reverse cycle heating where winter temperatures fall towards zero without compromising heating.

In selected geographic locations, (southern Queensland) a combination of natural ventilation and mechanical ventilation/air conditioning may be utilised to provide climatic control.

Spaces continually occupied (not air conditioned) shall be provided with resident operated ceiling fans or wall mounted oscillating fans to enhance air movement within the room.

The particular location of facilities (adjacent shorelines) where rooms have external walls and windows may utilise natural ventilation where it is possible to obtain adequate air movement to achieve climatic control.

Where natural ventilation is not adequate, use supplementary mechanical ventilation or localised ceiling or wall mounted oscillating fans.

Internal rooms must be mechanically ventilated. This may be accomplished by exhaust ventilation where the makeup air is not contaminated. Where this is not possible, then the space shall be positively ventilated by means of a supply air system.

# general principles

## Design Standards and Policies

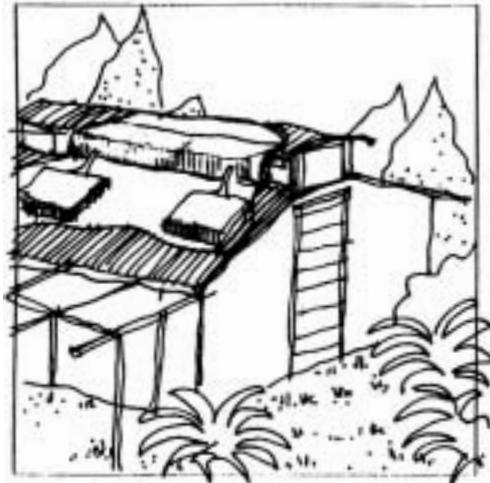
**7.1.7** Blades of ceiling fans shall be 2400mm above the floor. Wall mounted fans shall be not less than 2100mm above the floor and shall be well guarded to prevent contact with the blades.

Refer to Workplace Health & Safety Advisory Standards and AS1668, Part 2

Refer to the BCA requirements for borrowed air. All systems shall be designed to introduce outdoor air into all areas to satisfy the requirements of the BCA and AS 1668 Part 2. Systems shall provide outside air at not less than the rate of 7.5 l/s per person.

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

## Design Diagrams



7.1.7



7.1.7



7.1.7

# general principles

## Design Objectives

**7.1.8 To carefully select type of heating systems to be provided**

**7.1.9 To provide exhaust ventilation**

## Design Guidelines

Provide a heating system for all occupied areas where inside temperatures can be expected to fall below accepted comfort levels and it is Queensland Health policy to do so.

Where infra-red heating devices are installed in bathrooms, consider linkage to motion/occupation detectors to automatically turn on/off.

Where air conditioning is installed, the required heating system shall be integral with the air conditioning system, either by utilising reverse cycle systems or by utilising electric heater banks within ductwork or within the air handling unit.

Where air conditioning is not provided and a mechanical ventilation system utilising ducted supply air is to be installed, then consideration may be given to the installation of duct mounted electric duct elements.

Otherwise provide heating by means of low surface temperature radiators, e.g. floor mounted radiant units.

Select and locate radiant heaters for bathrooms carefully to avoid any possibility of fire risk or injury.

In bedrooms, the heater controls shall be accessible and easily operable by frail elderly residents.

**Exhaust Ventilation:** Exhaust ventilation shall be provided to all toilets, bathrooms, ensuites, dirty utility rooms, food preparation areas, cleaners rooms, store rooms, soiled linen cupboards and soiled linen holding rooms.

The exhaust ventilation systems serving bathrooms and ensuites shall be preferably designed to provide two ventilation rates within those compartments - base and boost (purge).

For bathrooms used by elderly provide an additional low speed fan selection for exhausts to minimise chills to wet skins. The boost may be activated by means of a push button within the compartment and operate under the control of an adjustable run timer.

# general principles

## Design Standards and Policies

**7.1.8** The heating system shall be capable of maintaining internal temperatures at 21 deg C + 10C.

The design and installation shall satisfy the requirements of As 1668 Part 1.

Radiators located where residents may come into contact with them shall be guarded to help prevent the residents receiving burns.

Controls for residents bedrooms shall be simplified so that frail elderly residents may be able to operate them.

Controls shall include an on/off switch and a means of adjusting the temperature set point.

**7.1.9** Ventilation rates shall be not less than those provided for in AS 1668 Part 2, Table B1.

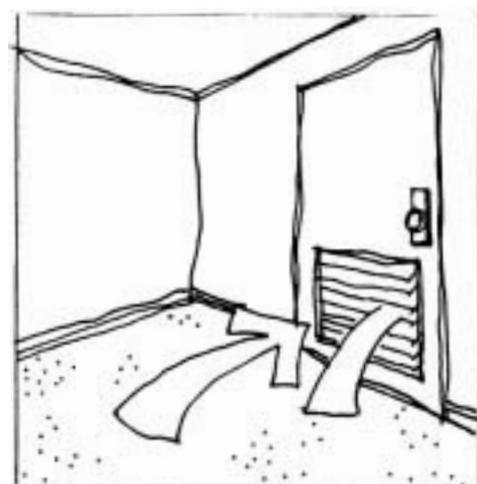
A base ventilation rate when satisfies AS 1668 code requirements and which will be in operation for the majority of the time.

A high ventilation or boost rate equal to 25 l/s per square metre.

## Design Diagrams



7.1.8



7.1.9

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.1.9 To provide exhaust ventilation (cont.)**

**7.1.10 To limit noise emission from ventilation, heating and air conditioning systems**

## Design Guidelines

Provide relief air for ventilated compartments by means of door grilles or door undervents. Where acoustic privacy is required, consider acoustic transfer ducts.

For ensuites or bathrooms, it is preferable for the relief air to enter the compartment at low level.

Separate exhausts to be provided for separate enclosures.

Enclosures that are similar in nature and use may be served by common exhaust systems.

Carefully select plant and air systems to limit noise level emissions to staff and resident areas. Locate plant that may create acoustic problems remote from residents and staff. Provide acoustic insulation and acoustic isolation where plant or air systems create unacceptable noise levels.

# general principles

## Design Standards and Policies

**7.1.9** Clean areas shall not be ventilated by systems serving sanitary compartments, dirty utility rooms and similar spaces. Exhaust air discharges shall be in accordance with AS 1668 Part 2, Clause 3.7.

Exhaust air discharges shall be located not less than 6m away from outside air intakes or natural ventilation opening in accordance with AS 1668, Part 2 Clause 3.6.

**7.1.10** Refer Q-Mech Standards

## Design Diagrams

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.2 Hydraulic Services

**7.2.1 To provide hydraulic services to meet the requirements of Queensland Health and statutory authorities**

**7.2.2 To integrate systems where appropriate**

### 7.2.3 Cold Water Supply Service and Reticulation

**To provide the residential aged care facility with an adequate and safe cold water supply suitable for consumption, ablution and engineering purposes**

**7.2.4 To prevent back flows of contaminants to the hydraulic system**

## Design Guidelines

The design of the hydraulic services shall be carried out by a suitable qualified person (approved Hydraulic Consultant or Registered Engineer).

The Consultant shall be responsible for the total design and shall provide a suitable level of checking of the design documents. The design of the Hydraulic Services shall take into account the ground and site conditions, the nature of the building, the service function it is to perform and any likely future extensions.

Elements installed or located in inaccessible positions shall be maintenance-free for the expected life of the building.

The certification of the hydraulic services design shall be undertaken by a designer with experience in residential aged care facility hydraulics design. The designer shall certify that the design complies with all statutory requirements and these Guidelines.

Wherever possible or appropriate in the interests of a home-like environment and operational efficiency, integrate and collocate building systems and controls.

Where mains water supply is not available or not sufficient, provision shall be made for alternative water supplies (potable or non-potable) which shall also comply with the provision of this Standard.

The cold water supply system design shall reflect a capacity statement from the supply authority giving minimum (200 kPa) and maximum (500 kPa) available pressures at probably simultaneous flow of bathroom and other fixtures, plus full flow of continual operating equipment.

To prevent the domestic water supply from being contaminated by hazardous substances, provide back flow protection in accordance with the Standard.

# general principles

## Design Standards and Policies

**7.2.1** The design shall comply with the Sewerage and Water Supply Act, all Statutory requirements, relevant codes and Australian Standards in particular AS 3500, the minimum technical standards of the Department of Public Works and Housing Natspec Master Specification except as otherwise described herein.

Refer Queensland Health Capital Works Guidelines - Infection Control

## Design Diagrams

**7.2.3** Piping materials and components specified shall comply with AS3500.1.2 1998 Section 2 and shall be suitable for the quality of water passed.



7.2.3

**7.2.4** Back Flow Prevention: Back flow prevention devices shall be fitted to provide protection to the building occupants and the Local Authority Water Supply. Protection shall be in accordance with the Regulations, By-laws and AS3500.1 including identification of pipework and signs at outlets.

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.2.4 To prevent back flows of contaminants to the hydraulic system (cont.)

### 7.2.5 To achieve the provision of best practice in hydraulic services

## Design Guidelines

Back flow prevention devices shall be fitted to all showers and baths with flexible hoses and other hand held hose outlets including hose cocks. Ensure that the handpieces cannot come closer than 50 mm from the floor of showers and rims of baths.

Zone protection shall be provided to all fixtures except basins in dirty utility rooms.

Hand sprays over kitchen pre-rinse sinks and at bin wash areas shall have back flow prevention devices.

Consider the location of hose cocks and the provision of water points for irrigation.

To prevent infection by legionella, aerators shall not be used in areas accessible to residents. Laminar flow or similar type outlets are to be used.

Pipework shall be designed to suit maximum flexibility and when possible should not occur above bedrooms.

Ensure prevention of noise transference from pipework in ceiling spaces over bedrooms or other habitable rooms (e.g. acoustic treatment of pipework in ceiling spaces where noise transference could occur).

Consider the use of flow restrictors to water outlets, excepting laundries, kitchens and hose cocks.

Ensure the elimination of water hammer where solenoid valves and similar automatic on/off valves are to be used (i.e. use of water hammer arresters).

Check for the necessity of pressure reduction valves and filters for some equipment.

Provide identification of all pipework.

Ensure that all materials are suitable for their intended service and that all brass shall be de-zincification resistant (DR) grade.

# general principles

## Design Standards and Policies

**7.2.4** Physical air breaks shall comply with AS3500.1 1998 Section 2.

Refer to Queensland Health Capital Works Guidelines - Infection Control

## Design Diagrams



7.2.4

**7.2.5** Showers shall be restricted to a flow of 9 litres per minute. Consider delay times in the sizing of flow restriction to basin taps in relation to the hot water dead leg size and length.

Pipework identification to AS 1345

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.2.5 To achieve the provision of best practice in hydraulic services (cont.)**

### 7.2.6 Fire Hose Reel Service

**To provide an adequate supply of water to each fire hose reel at the required flow and pressure**

### 7.2.7 Hot Water Services

**To provide hot water to all fixtures and equipment at the flows, pressures and temperatures required**

## Design Guidelines

All internal exposed plumbing pipework to be heavily chrome-plated.

All hydraulic services shall be provided with permanent identification in both colour and letter form.

Provision shall be made for the isolation of fixtures, tapware and equipment in logical groupings for service purposes. Ball valves are recommended. Records shall be kept of locations of all isolation valves on "as built drawings." All isolating valves (except c.p. valves at fixtures and equipment) shall be tagged.

All isolating valves shall be accessible for maintenance staff, preferably from corridors and service areas and not within private rooms (except isolating valves under fixtures).

**NOTE:** This service is also covered under the "Fire Hydrant Services" section in some projects. Refer "Fire Services Engineer".

Facilities for the generation and distribution of hot water shall be provided.

A number of types of system designs may be necessary in residential aged care facilities, i.e. small domestic style systems for en suites and flow and return systems for large ablution areas, kitchens and laundries etc.

Any warm water system considered must be analysed on the basis of maintenance costs (recurrent) and maintenance shutdown time requirements as well as initial capital cost.

The heat source for each system is to be determined in consultation with the electrical / mechanical engineers.

# general principles

## Design Standards and Policies

**7.2.5** Refer Queensland Health Capital Works Guidelines - Infection Control

## Design Diagrams

**7.2.6** The performance of the system shall comply with the Building Code of Australia Section E1.4 and AS2441.

When the fire hose reel service is to come from the domestic supply, it is to be designed in accordance with the Building Code of Australia Fig E1.4.

Back flow prevention for fire hose reels is to be in accordance with AS3500.1.

**7.2.7** The hot water reticulation shall be designed in accordance with the relevant codes and standards and the requirements of the Sewerage and Water Supply Acts. AS 3500 Part 4 and AS3590 are to be adhered to.

Hot water temperatures to be in accordance with AS3500.4.2 - 1997.

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.2.7 Hot Water Services (cont.)

## Design Guidelines

Provision shall be made to limit the supply temperature of hot water to all resident use fixtures to eliminate the risk of scalding. Maximum fail safe temperature at outlets shall not exceed 45°C for adult residents - design temperature range 40.5 to 43.5°C.

Hot water for use in ablutions should be generated at 70°C and reticulated to all such areas by means of a pumped circulating system.

Hot water for use in food service or laundry facilities should be generated at 80°C and reticulated to those areas by means of a pumped circulating system. Note: Residents must not be able to access hotwater outlets.

The re-circulating pipework shall be insulated to prevent loss of heat from the re-circulating pipework including manifolds. Where hot water re-circulating pipework is exposed to weather, the insulation shall be enclosed with weather resistant sheeting.

Hot water circulating pumps shall be in duplicate with time clocks or other means of daily alternate operation.

“Back Flow Prevention” and “Special Consideration” clauses under “Cold Water Reticulation” also apply to this section.

Where thermostatic mixing valves (TMV) are used, they shall be located for ease of maintenance. To assist in the prevention of the growth of legionella, dead legs from the TMV to the fixture outlet shall be kept as short as possible, but not exceed 6 metres. All dead legs must be able to be flushed out with minimum 60°+ water.

# general principles

## Design Standards and Policies

**7.2.7** Thermostatic mixing valves are to be fitted with lock shields or installed in lockable boxes, accessible only by maintenance staff.

Minimum temperature within the hot water unit must be 60(C to prevent legionella as per AS3500.4.2.

Hot water temperatures for food preparation areas shall comply with the State “Food & Hygiene Regulations 1989” and the Local Authority guidelines.

The insulation should be 25mm thick sectional pipe insulation with sisalation facing.

## Design Diagrams

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.3 Sewerage Services

#### 7.3.1 To provide an adequate sanitary plumbing and drainage system connected to the Local Authority sewerage system

## Design Guidelines

Liaise with the Local Authority concerning a sewer connection for the property.

Inspection and cleaning facilities shall not occur in resident areas or in areas fitted with carpet, but be accessible externally or from suitable ducts.

Ensure required number and types of facilities are provided in accordance with relevant codes, standards and Local Authority regulations.

The system shall be designed to be easily maintained.

Adequate overflow relief gullies shall be provided to minimise back flow into buildings. Overflow relief gullies shall be charged by floor waste gullies, shower wastes and the like wherever possible.

Trade waste discharges: Appropriate design to accommodate areas of special discharge, e.g. kitchen wastes to grease traps. Grease traps must have gas tight covers.

The following general provisions shall be included in the hydraulic services:

All materials shall be suitable for their intended purpose. All brass shall be de-zincification resistant (D) grade. Pipe materials shall be compatible with the nature and temperature of discharge.

All material shall have MP52 approval. No unapproved materials to be installed if approved materials are available.

All hydraulic services shall be provided with permanent identification in both colour and letter form.

All internal exposed pipework shall be heavily chrome-plated.

Where possible, all vent and waste pipes shall be concealed.

# general principles

## Design Standards and Policies

## Design Diagrams

**7.3.1** All sanitary plumbing and drainage systems shall be designed to comply with the requirements of the Building Code of Australia, the Sewerage & Water Supply Act, other relevant Codes and Australian Standards and, in particular, AS3500.2 and the Local Authority

Trade waste designs shall be to the approval of the Local Authority Trade Waste Inspectors

Identification of pipes to be in accordance with AS1345

Materials to be in accordance with manual of authorisation procedures for plumbing and drainage products (MP52)

Refer Queensland Health Capital Works Guidelines - Ensuites

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.3.2 To ensure floors are adequately drained to waste**

**7.3.3 To select and install fixture types to meet function requirements**

## Design Guidelines

Where possible, vents should be combined in roof spaces to reduce the number of roof penetrations.

Particular care is to be taken with falls to floors in patient wet areas. Additional floor wastes are required to prevent water escaping from patient shower and bathroom floors. Floor waste gully risers shall be 100mm and have removable grates.

When selecting floor grates, take into account workplace safety, i.e. non-slip.

Floor waste grates and clear-outs shall be brass, heavily chrome-plated.

Floor wastes in areas where trolleys are to be used shall have the floor dished to the outlet (500 mm radius). Floor wastes and clear-outs in vinyl floors shall be clamping ring type.

All plant rooms containing water vessels / substance shall be bunded and sufficient drainage provided to accommodate an uncontrolled leak within the plant room. Tundishes shall be provided to adjacent air conditioning condensate discharge lines (i.e. no condensate drains shall run across the top of plant room floors).

Dedicated bathrooms must have tundishes provided. In ensuite rooms/shower rooms and where free standing, fixed or mobile baths are used tundishes shall be provided.

WC pans in residents' toilets shall be wheelchair height and be suitable for the use of commode chairs. Pans shall have enclosed traps for ease of cleaning.

Refer to the Project Definition Plan (PDP) for the number and location of fixtures to be wheelchair accessible.

Toilets in residents' areas shall have cisterns with a minimum 6 ltr flush by either button to prevent blockages. This will need confirmation with the Local Authority.

# general principles

## Design Standards and Policies

### 7.3.2 Minimum falls of 1:40

## Design Diagrams

Refer to Queensland Health Capital Works Guidelines - Ensuities

Refer AS1428.1-1998 "Design for Access & Mobility"

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.3.4 Stormwater

**To discharge rainwater to a drainage system with provision for overflow in a way that will prevent the entry of water into the buildings in all weather conditions.**

## Design Guidelines

On large projects where a civil engineer is engaged, clearly define the boundary of work between consultants.

If the Local Authority requires the calculation of overland flows from areas outside the site, a civil engineer should be engaged.

Arrange with the Local Authority for a point of discharge and discuss the need or otherwise for detention ponds and pollution traps.

Stormwater from buildings and paved areas shall be disposed of in a manner acceptable to the Local Authority.

Wherever possible, buildings shall be designed without box gutters.

Provision must be made for gutters to overflow externally to the building in case of blockages.

Provision must be made for the prevention of leaf build-up in gutters, which in turn has the potential for building damage and service interruption, due to gutter overflow. Hail guards must be installed.

Rainwater pipes (RWP) shall incorporate relief grates at connection between RWP and stormwater drain. All RWPs to have cleaning access at base.

Stormwater drainage grates shall be cross webbed in car parks and paths and not be located in wheelchair access areas or trolley areas.

Paving areas shall be designed to the rainfall intensities nominated in the Standard.

Channel grates for road or footpath crossover drains shall be of lateral or longitudinal bar design.

Consideration shall be given for pollutant traps to be installed prior to connection to the authority drainage system.

All stormwater drainage systems should be gravity systems and pumping used only where gravity connection cannot be obtained.

Design sub-soil drains as required behind retaining walls and associated with roadways, paved areas and gardens.

Consider installation of sub-soil drains from gardens.

# general principles

## Design Standards and Policies

**7.3.4** Roof and stormwater drainage shall be designed in accordance with the Building Code of Australia, AS3500.3 and the Local Authority. Roofs, gutters and downpipes shall comply with SAA/SNZ HB114:1998 “Guidelines for the Design of Eaves and Box Gutters”.

In selecting the rainfall intensities to be used in the design, Local Authority records must be consulted as well as records kept by the Bureau of Meteorology, together with the above Australian Standard.

Overflows must be able to pass the full flow under complete blockage conditions at the maximum designed rainfall intensities.

Eaves gutters shall be designed for an average rainfall intensity of 1 - 20 years and box gutters 1 - 100 years.

Surface drainage systems shall be designed to AS3500.3.2 1998 Section 5.

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

## Design Diagrams

# general principles

## Design Objectives

### 7.4 Hotel Services

#### Food Services - Kitchen

#### 7.4.1 To provide suitably prepared and presented food to residents

#### 7.4.2 To provide frozen food services

#### 7.4.3 To provide fresh food services

## Design Guidelines

Provide kitchen areas with sufficient space and facilities to suit food delivery process.

Kitchen size and location shall be determined from the size of the facility and the method of meal preparation.

Where the kitchen food preparation area is located in a separate building, a food service area should be provided for each residential unit.

Where kitchen is used by residents, area must provide a home-like environment.

Select food delivery method -

- (a) Frozen - heat packaged service.
- (b) Fresh preparation, cook-serve system.
- (c) Frozen food supplemented with cook-serve.

### Frozen - Heat Packaged Service

If frozen packaged meals are provided, arrange necessary equipment for processing - freezer storage, relaxation cold store, bulk heating ovens.

Provide food preparation benches and serving benches space and trolleys for delivery.

### Fresh Food Service

If fresh food service is selected - provide necessary equipment to enable preparation.

Fresh food service equipment includes - stoves, grillers, toasters, convection ovens, microwave ovens, blenders, food mixers, stock pots.

Provide fresh food and vegetable storage to suit consumption needs.

Refrigeration storage (freezer and cold room/cabinets) shall be separated from cook-freeze storage.

Provide cooling utensil storage system. All cooking utensils are tidily stored away but readily accessible for use as needed. Adequate numbers of utensils are available to prepare a full serving to all residents.

# general principles

## Design Standards and Policies

**7.4.1** Kitchen and facilities to comply with Local Authority Regulations.

## Design Diagrams

**7.4.3** Freezer and cold room construction to comply with Q-Mech Standards and Local Authority Regulations.

Comply with health regulations, Local Authority Requirements, codes and standards.



7.4.3

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.4.4 To provide a commercial grade kitchen where all food is centrally prepared at the facility for residents**

**7.4.5 To provide a serving kitchen for preparation and distribution of externally prepared food and some fresh food preparation**

## Design Guidelines

### Commercial Grade Kitchen

Provide a commercial grade preparation kitchen complete with scullery, food preparation areas, cool room and freezer dry stores, serving and distribution areas.

Provide cooking ovens, ranges, steamers, boilers, bains marie and toasters.

Provide adequate dishwashing facilities.

Provide washing sinks and dishwashers and benches to process the soiled load between each meal seating.

For large facilities consider merits of conveyors and automatic through type dishwashers.

Provide trolley and tray washing facility.

Provide waste collection and disposal systems.

All food and packing waste shall be promptly collected and stored until waste removal is arranged.

Provide preparation facilities for special purpose diets.

Kitchen floors shall be slip resistance.

Provide ventilation, exhaust hoods, and tempered cooling services to suit the kitchen area where directed by Queensland Health.

### Serving Kitchen

Provide a serving kitchen where the majority of cooking is external with some fresh food preparation. Serving kitchen to include reheat facilities plus food preparation areas and serving and preparation areas. In addition provide cold freezer rooms and short term storage.

Provide all of the basic facilities for a commercial equipment on a reduced scale.

# general principles

## Design Standards and Policies

7.4.4 Exhaust hoods to dishwashers to comply with Local Authority Regulations.

## Design Diagrams



Exhaust to comply with AS 1668 Part 2

7.4.4



7.4.5

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.4.6 To provide a kitchenette for provision of light snacks and drinks to residents

## Design Guidelines

### Kitchenette

Facilities to be included for each residential facility (household cluster) for residents to readily obtain hot or cold light refreshments - light snacks.

Provide space for refrigeration, dish washer and microwave oven.

Include pantry for food storage, benches, sink area and trolley access.

Provide hot (boiling) water jug/urn service suitable for immediate preparation of tea and coffee.

Hot boiling water facilities to be located within a lockable cupboard.

Consider the provision of refrigerated water cooler.

Provide refrigerated storage for resident's bottled/packaged refreshments.

Provide suitable shaped stainless steel or ceramic hand basins.

Generic kitchenette design of services access to meet wheel chair accessibility/compatibility.

# general principles

## Design Standards and Policies

## Design Diagrams

**7.4.6** Wheel chair accessibility to comply with AS4299 - 1995 Adaptable Housing and Wheel Chair Housing Design Guide 1997.



7.4.6

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.4.7 Laundry Services

**To provide a laundry service and maintain infection control**

### 7.4.8 To provide a soiled and clean linen storage

### 7.4.9 To provide external linen processing to meet infection control standards

## Design Guidelines

Provide a laundry service to meet the needs of the residents.

Select laundry/processing method -

- (a) External service.
- (b) In-house service.
- (c) Combination of (a) and (b).

Provide separate clean and soiled linen storage/handling areas.

Soiled linen storage areas shall be vermin proof.

Ensure all soiled personal clothing is separately tagged with resident's details, then separately stored, ready for laundering. Provide separate clean and soiled linen storage/handling areas.

Ensure all soiled personal clothing is separately tagged with resident's details, then separately stored, ready for laundering.

Provide clean linen and clothing processing and storage areas and containers.

After linen is laundered, sorted, ironed and repaired it shall be separately stored, ready for issue. Supply is to be adequate to meet needs.

Where external laundry services are utilised, ensure all necessary processing, collection and distribution facilities are provided.

External laundry processing facilities shall include separate service entrances, protected from weather, one for pickup of soiled linen and one for return of clean linen. Provide space/office for control of shipments and storage of records.

Provide separation between clean and dirty laundry and clean and dirty trolleys.

Provide or arrange a pickup/delivery facility which maintains separation of clean, orderly linen.

# general principles

## Design Standards and Policies

### 7.4.7 Comply with AS 4146

Assess cost benefits and social benefits where residents retain some personal responsibility. Queensland Health Linen Services Policies and Standards for Public Sector Health Care Facilities 1999

### 7.4.8 Ventilation to soiled linen stores shall be a separate system and comply with AS 1668 Part 2.

## Design Diagrams

### 7.4.9 Layout shall comply with the requirements of AS 4146.



7.4.9

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.4.10 To provide resident laundries for use of staff, residents and relatives**

## Design Guidelines

### Resident Laundries

A small laundry for residents and staff washing of light laundry and personal items to be included as a separate room within each wing of a residential facility.

The room is to be accessible to relatives and visitors.

Resident laundry shall include space for washing machine and clothes dryer and ironing board.

Washing tub, benches and external drying areas shall also be provided.

### Minor Laundry

Where an in-house laundry service are utilised, ensure the laundry is visually and acoustically isolated from resident accommodation units.

In-house minor laundry processing facilities shall include a sorting area for minor linen and personal clothing.

Equipment is to include hand washing facilities, sinks, laundry processing equipment eg. washing machines, clothes dryers, drying hoists and sorting tables.

In addition, a supply of trolleys, personal laundry bags and ironing facilities shall be provided.

Provide folding areas and a clean linen store together with sewing and repair facilities.

# general principles

## Design Standards and Policies

## Design Diagrams

7.4.10 Comply with Laundry Standard, AS 4146.

Follow Occupational Health and Safety design guidelines relative to bench, trolley, sink and machine heights.



7.4.10

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.4.11 To provide access to all laundry equipment

## Design Guidelines

Allow sufficient space for mobility aids access for residents to personally use laundry facilities.\

### Commercial Laundry

Where identified in the PDP and where in-house laundry services demand, commercial equipment is to be provided.

Commercial laundry equipment is to be housed in a dedicated building visually and acoustically isolated from the resident accommodation units.

Provide linen received and sorting area including benches and trolleys and trolley washing facility.

Include commercial quality washer extractors with three phase power.

Consider water usage rates and waste water cooling disposal.

Provide electric/gas driers connected to external flues with control of lint dispersion within and external to the laundry.

Provide commercial steam operated ironers.

Provide an auto dosing detergent system with close control on the use of detergents. A chemical storage area is essential.

Provide a ventilated store for the storage of clean linen.

Consider provision of sewing and repair facilities.

# general principles

## Design Standards and Policies

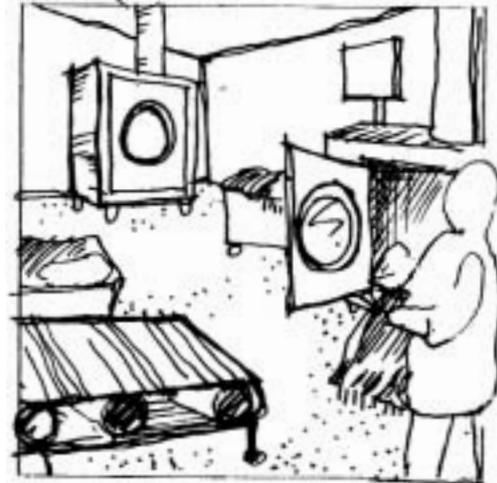
**7.4.11** Position equipment to permit use by residents in mobility aids and allow suitable clear space for full access and manoeuvring. Consider principles of AS 1428.

Comply with Laundry Standard AS 4146.

Ventilation to the laundry in accordance with AS 1668 Part 2.

Steam boilers/generators to comply with Q-Mech specifications.

## Design Diagrams



7.4.11

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.5 Clinical Services

#### 7.5.1 Dirty Utility Service

**To provide space for disposal of waste products cleaning/ equipment, sanitising equipment and the storage of soiled linen trolleys**

#### 7.5.2 To provide regular cleaning

## Design Guidelines

Provide dirty utility room and facilities for cleaning and storage of sanitary containers, including bed pans, bottles, sanitary containers, etc.

Provide soiled utility room for each functional unit. Provide bed pan washer/sanitiser for residents.

Provide slop hoppers or flushing sink, workbench and storage facilities for each functional unit.

Provide hot and cold water supply and appropriate hand cleaning agents to each room.

Provide vermin proof containers for refuse disposal.

Provide utensil washer for sanitising bowls and basins.

Provide suitable storage cupboards and racks for clean items.

### CLEANING

The facility shall be maintained in a clean, hygienic condition at all times.

The requirements of the client's functional design brief shall be strictly adhered to.

Provide readily cleanable surfaces.

Provide adequate cleaning machines and accessories, manual cleaning tools and cleaning agents.

Provide cleaning and hygiene consumables.

Arrange conveniently located cleaners rooms and cleaning products storage rooms.

Arrange necessary storage and disposal measures for refuse collected from the facility.

# general principles

## Design Standards and Policies

## Design Diagrams

### 7.5.1 Ventilation and exhaust to comply with AS 1668 Part 2

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.6 Electrical Power and Lighting Services

**7.6.1 To provide electrical services designed and installed in accordance with relevant codes and standards**

**7.6.2 To provide an electrical power supply that is safe and reliable**

**7.6.3 To provide emergency power for the facility**

## Design Guidelines

**Electrical Installation:** Use a qualified and registered professional engineer to design the electrical services and witness all relevant tests.

The electrical contractor shall certify that the installation complies with the documentation and statutory requirements.

**Switchboards:** Locate switchboards within the facility so that they are in readily accessible, well illuminated areas where they do not compromise emergency egress.

Mount switchboards in a secure location, accessible only to staff or authorised personnel.

Provide switchboards capable of withstanding, without damage, the prospective fault levels at the installed location.

Provide distribution switchboards in each fire compartment area for general lighting and power and where required to supply miscellaneous items of equipment.

Incorporate a minimum 30% spare pole capacity in all distribution switchboards. Include all necessary busbars, tee-off connections, escutcheon cut outs, pole fillers and labels.

**Standby Generator: Carry out an assessment of local area need for emergency power.**

In locations where need exists and there is a high risk of unacceptable power outages, provide a standby diesel powered alternator. Complete with supply input to the main switchboard, automatic transfer switches, generator control panel, all control equipment, engine exhaust, cooling and ventilation systems, acoustic enclosure and bulk fuel storage. Size the standby generator to carry 100% of the building load.

In other locations provide external power inlet, cabling and switching for a portable generator to be plugged in and connected to the main switchboard, to supply 100% of building load.

# general principles

## Design Standards and Policies

**7.6.1** Electrical installation to AS 3000, the Supply Authority regulations, the Building Code of Australia and Australian Standards

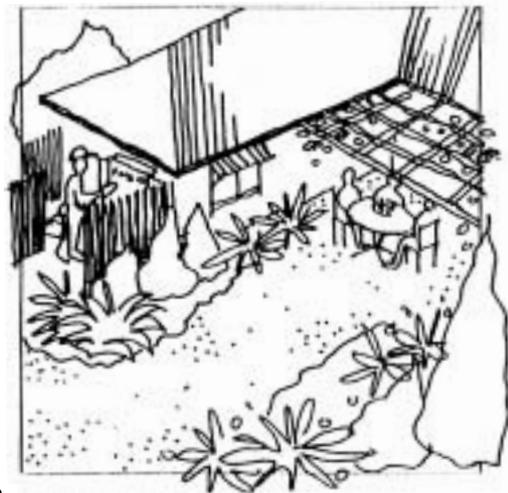
**7.6.2** Switchboards to AS 3439.1 Low Voltage Switchgear and Controlgear Assemblies

Provide at least Form 3B segregation in accordance with AS3439.1 for the site main switchboard.

Provide Form 1 segregation up to 150kVA and Form 2 above that rating for distribution switchboards.

Provide a minimum protection classification of IP51 to AS 1939 for all switchboards.

## Design Diagrams



7.6.2

**7.6.3** To AS 3010.1 Electrical installations - Supply by Generating Set.

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.6.4 To provide reticulated power throughout the facility**

**7.6.5 To ensure all cabling complies with Australian Standards**

**7.6.6 To provide adequate lighting to meet the needs of the residents and staff**

## Design Guidelines

**Electrical Cabling:** Provide capacity for 10 years growth in demand, with a minimum 10% spare capacity in all cables after allowing for connected load, derating factors and voltage drop.

Use multi-stranded copper cables, except for MIMS

Joints of any type are not permitted within submains cables.

Use circuit breakers of the appropriate fault rating to protect cabling.

Generally conceal all cables except in engineering services plantrooms.

Run cables to maximise future flexibility.

**Internal Lighting:** All areas shall be adequately illuminated by natural light or electric lighting to provide a safe living and working environment. The lighting shall be designed to minimise operating costs by maximising the use of natural lighting.

Design lighting in office areas to ensure a work environment free of glare.

Living areas within the facility shall have residential style luminaries. Provide minimum 200 lux general room lighting.

Consider alternative switch types including large rocker types of light and power switches.

Consider movement switching of lights to specific areas or low wattage lights permanently on.

Suitably identify every light switching position with circuit and phase number.

# general principles

## Design Standards and Policies

**7.6.4** Comply with AS 3000, AS 3008.1 and AS 3009

Provide fire resistant cables to WS51 in accordance with AS 3013 for emergency services)

**7.6.5** Meet the segregation requirements of AS 3000, AS 3080 and TS009

**7.6.6** To AS 1680.1 Interior Lighting - General Principles and Recommendations

To AS 1680.2.0 Interior Lighting - Recommendations for Specific Tasks and Interiors

Comply with the requirements of AS 1428 for mounting heights of switches

## Design Diagrams



7.6.6

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

- 7.6.7 To provide bedside lighting with accessible switching
  
  
  
  
  
  
  
  
  
  
- 7.6.8 To ensure external lighting meets security and access requirements
  
  
  
  
  
  
  
  
  
  
- 7.6.9 To provide emergency lighting to provide access lighting in the residences on failure of main supply
  
  
  
  
  
  
  
  
  
  
- 7.6.10 To provide power outlets throughout the facility

## Design Guidelines

**Bedside Lighting:** Provide dimmable bedside lighting for residents in addition to normal room lighting. Avoid hospital like over-bed lights. Locate switch to allow ease of operation by the frail elderly resident occupying the bed. The bedside lighting should also be two-way switched from the room entrance.

**Night Lighting:** Provide reduced level night lighting to all corridors and exit passageways within the facility where the normal lighting may be extinguished during the night. Suitably space night lights to evenly illuminate each area including ramps and stair treads.

**External Lighting:** Provide well lit pathways from entrances and exits to the public thoroughfare.

Take into account the need to deter intruders in the design of external lighting. Pay particular attention to entry areas, carparks and unattended areas.

**Emergency Lighting:** Provide emergency lighting in corridors, stairways, toilets, ensuites, utility rooms, treatment areas and other critical use areas.

The emergency lighting system shall be a single point system with an electronic monitoring and automatic testing system.

**Lighting Controls:** Provided a separate manual ON switch to override any automatic lighting controls.

Mixed power and lighting circuits are not permitted other than single-phase extraction fans in single toilet, shower or bathroom areas.

**Power Outlets:** Provide an adequate number of general-purpose outlets for all anticipated uses. Provide a separate outlet for every appliance in use at any one time.

Provide separate surge protected circuits for computers and other electronic equipment. Provide green power outlet faceplates for computers, engraved with the words "computer only".

Suitably identify every power outlet with circuit numbers.

Provide isolation switches for all direct connected equipment.

# general principles

## Design Standards and Policies

## Design Diagrams

External lighting to Pubic Lighting Code  
AS 1158.1

Exterior luminaries shall be weatherproof  
to IP56

- 7.6.8** Emergency lighting in accordance with the  
Building Code of Australia and AS 2293  
Emergency Evacuation Lighting in Buildings

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.6.11 To provide a safe electrical system that protects staff and residents from electrical shock**

**7.6.12 To protect the facility from lightning strikes**

**7.6.13 To limit the effects of electromagnetic fields**

**7.6.14 To provide sufficient hot water to meet the needs of residents and staff**

## Design Guidelines

**Electrical Protection:** Provide earth leakage circuit breakers for general purpose power outlet circuits throughout the facility.

**Lightning Protection:** Investigate and analyse the risk of lightning strikes on the facility and provide the level of protection recommended by the standard.

Do not use a lightning protection system, which utilises the building fabric to conduct groundstrokes to earth.

Provide surge protection and diversion devices within the main switchboard and distribution switchboards to protect electronic equipment from transient overvoltage surges associated with direct or indirect lightning strikes.

**Electromagnetic Interference:** Incorporate demonstrable electromagnetic field mitigation strategies and techniques. Meet environmental targets and limit EMI effects.

**Hot Water Units:** Provide electric or solar, storage hot water units to supply hot water to the facility.

Consideration should be given to multiple units and interconnection of units to assist in reliability of supply.

Refer section 7.2 Hydraulic Services.

# general principles

## Design Standards and Policies

### 7.6.11 Earth leakage protection to AS 3190 Type 2

To AS 3003 Electrical Installations - Patient Treatment Areas of hospitals and medical and dental practices

### 7.6.12 Lightning Protection system design and installation in accordance with the recommendations of AS 1768

### 7.6.13 Prudent Avoidance of Magnetic Fields in the Built Environment. Department of Public Works, Built Environment Research Unit To AS 1044

### 7.6.14 To AS 1056.1 Storage water heaters

To AS 2712 Solar water heaters - design and construction

## Design Diagrams

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.7 Telecommunications

**7.7.1 To provide telecommunications services designed and installed in accordance with the relevant codes and standards**

**7.7.2 To provide efficient, easy-to-use, and reliable internal and external telecommunication system/s within the facility for staff and frail elderly residents**

## Design Guidelines

**Telecommunications Installation:** Use an appropriately qualified and registered professional engineer to design the telecommunications services and witness all relevant tests. All systems shall be designed and developed in consultation with the relevant government agency.

The telecommunications contractor shall certify that the installation complies with the documentation and all statutory requirements.

**Telecommunications cabling:** Provide an integrated voice/data cabling infrastructure, complete with 8-way modular outlets and patch panels to allow flexible patching of voice/data services to the required areas. The installation shall be modular, easily extended and enable upgrade of hardware technology without reviewing the cabling infrastructure.

Provide 'site certification' for the cabling infrastructure. This includes a minimum of 15 years manufacturer's full parts and labour warranty, and which certifies the site for operation of all protocols, present and future, which are endorsed for operation over Class D UTP cabling and connecting hardware, and compliant multi-mode optical fibre cabling.

Integrate fittings and conceal where appropriate to maintain the "residential" atmosphere.

The common cabling infrastructure can be used for the following services:

- Telephone
- Computer (Data)
- Facsimile
- Staff Call Systems
- Intercom
- Paging
- Security
- MATV - Video/Radio distribution
- Telemedicine Videoconferencing

Provide surge diversion devices on incoming cabling into the building, to protect against effects of lightning strikes.

# general principles

## Design Standards and Policies

## Design Diagrams

**7.7.2** To be a minimum Class D performance for Category 5 as per AS3080 Clause 7

Comply with AS 3080

To AS1768 Lightning Protection - provide over voltage protection

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.7.2 To provide efficient, easy-to-use, and reliable internal and external telecommunication system/s within the facility for staff and frail elderly residents (cont.)**

**7.7.3 To arrange for necessary connection of carrier services to the facility**

## Design Guidelines

Locate patch panels, building distributor, and floor distributors in accessible areas and provide adequate room to cater for designed services and future expansion.

Protect the patch panels to prevent inadvertent or unauthorised removal of patch cords or changes to essential patching configurations.

Carry out patching in a logical and identifiable manner, utilising cable management pathways and ducts. Record patching details.

Use cable trays and catenaries in order to keep communications cabling in neat and orderly runs. Utilise ceiling space and ducts to conceal all cabling. Coordinate cable runs with other services to ensure that there are no conflicts.

Coordinate locations of outlets with the electrical services in order to keep a consistent mounting height and to ensure that power requirements are met.

Coordinate electrical and communication outlets in ceilings to limit the number of fittings and penetrations.

Test all outlets to ensure that Category 5 performance is achieved and provide records of tests.

Carrier Services: Conduct a review of services and user requirements to determine the required extent of telecommunications carrier services. Such services may include a combination of:

- PSTN exchange line services
- ISDN services (OnRamp and Micro Link)

Provide for the installation of incoming services, including all necessary pits, underground conduits, penetrations and ducts. Exact route of incoming services to be determined in conjunction with the Carrier.

# general principles

## Design Standards and Policies

**7.7.2** TS 009 Appendix E gives minimum access clearances for Campus Distributors/ Building Distributors

In accordance with AS3080 Clause 11

Maintain the required minimum distance of segregation of services in accordance with AS3000

Location of data outlets shall generally comply with the provisions of AS3080

**7.7.3** For small installations, where the number of incoming telephone lines does not exceed four (4) Australian Standards SAA Communications Cabling Manual Part 4 "Installation practices - Domestic and small business premises" & AS3086 becomes applicable

Pathways to be in accordance with SAA HB29 Telecommunications Cabling Handbook

Note:  
The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

## Design Diagrams

# general principles

## Design Objectives

### 7.7.4 To provide a telephone system for the facility

### 7.7.5 To provide a system to allow residents to call staff for assistance

## Design Guidelines

**Telephone System:** Provide a system to cater for administration, resident rooms, staff and other areas deemed necessary.

System to be capable of :

- 24 hour reception of calls.
- Night switching to alternative staff locations.
- Automatic diversion for after hours.
- Four (4) hours battery backup.
- Call Accounting System for call cost reporting.
- Administrative management system for programmable levels of access.

Resident handsets need to be easy to use, and accessible to disabled residents. Consideration should be given to the provision of large number and tactile keypads, and features that would assist the hearing impaired.

Provide residents with 24-hour access to make external calls. This may require the provision of pay telephones (e.g. blue phone) in areas where there are no resident handsets provided).

Size the system to be expandable up to the number of extensions to suit staff and frail elderly residents, plus 50% spare capacity.

**Staff Call System:** Provide a system which patients can use to call for assistance at each bed position, in resident toilets, bathroom, showers and other appropriate areas.

Provide staff assist buttons with reassurance lamps, cord out alarm with reassurance lamp, and cancel buttons. Also consider the use of emergency buttons and corridor indicators, as appropriate.

The Staff Call System shall be:

- Microprocessor based;
- Include current, stable technology;
- Be capable of expansion and integration.

Design the system such that all calls are to be cancelled manually at the point of origin only.

# general principles

## Design Standards and Policies

### 7.7.4 Equipment shall be Austel/ACA Certified products

Equipment must comply with the Queensland Government Information Technology Conditions

## Design Diagrams

### 7.7.5 Generally in accordance with AS 3811- Hard-wired patient alarm systems

AS3811 Section 3.1 & Appendix B refer to low dependency care facilities

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

7.7.5 To provide a system to allow residents to call staff for assistance (cont.)

7.7.6 To provide a paging system for staff

7.7.7 To provide annunciation services

## Design Guidelines

Call buttons must be wall mounted at a height that is easily reached. Cord operated systems should be provided where possible. As an extra feature, call buttons at beds may also be incorporated into the one pendant control unit that also controls the light switching, radio and television controls, etc.

Cord systems in wet locations shall be weatherproof and mounted at hip height such they can be reached from a fallen position.

Reassurance lights are to be provided for each call button. These are to be illuminated on activation of the call button.

**Audible indicators** are to be provided for alarm response.

**Battery backup** (minimum of 4 hours battery life) is to be provided such that the system is not affected during an electrical power failure.

Fault monitoring and reporting facilities are to be provided.

**Staff Paging:** Where the need has been identified to contact key staff members and/or to request assistance from personnel not situated locally, provide a paging system that meets these requirements.

Evaluation of various designs to be carried out to find the most suitable site solution.

This may include but not necessarily be restricted to:

- Radio-frequency type, alpha-numeric pagers; and
- Dedicated intercom/paging system.

Where the facility has an Emergency Warning Intercom System (EWIS), complete with evacuation tones or messages, the public address system is to be integrated with it in such a way that the emergency tones and messages take first priority on the system. Broadcasting of EWIS messages and tones shall result in all other broadcasts being muted.

# general principles

## Design Standards and Policies

### 7.7.5 Comply with AS3811 Section 3.4 (Buttons) and Section 3.5 (Pendants)

Cord systems in wet areas to have IP65 rating as per AS1939

Lamps to be as per AS3811 Table 3.2.2

Audible indicators to comply with AS3811 Section 3.2

To AS3811 Appendix B

## Design Diagrams

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.7.8 To provide television services for the facility

## 7.8 Safety & Security

### 7.8.1 To provide a level of safety and security for frail elderly residents, staff and visitors to the complex

## Design Guidelines

**Television services:** Provide an Master Antenna Television (MATV) system to receive all regional off-air channels. Consider a design, which will be capable of including future digital services.

**Pay Television:** Where regional pay-television services are available, make provision for future connection to the MATV system.

**Radio services:** Incorporate major regional AM and FM services available off-air as additional channels on the MATV system.

**In-house video services:** Where an identified need exists, provision to be made for an in-house video channel on the MATV service. The control location of this video channel to be coordinated with the facility manager.

**Security System:** Undertake a security risk assessment in conjunction with facility management, to establish what measures are needed to be implemented to provide the required level of protection of the people and property for which the facility has duty of care.

This may include but not necessarily be restricted to:

Access control - including door intercom and remote release facilities; ensure that aspects related to invasion of privacy are considered only.

CCTV monitoring of entry points/intercoms and public reception areas.

Intruder detection be provided to areas where handling and storage of valuable assets occurs.

Monitoring of frail elderly residents prone to wandering away from buildings and into harm. This system is to only be designed and installed where an identified need exists.

# general principles

## Design Standards and Policies

**7.7.8** MATV System Performance to be equal or better than that in AS1367 Section 5

Installation to be in accordance with AS1367

## Design Diagrams

**7.8.1** In accordance with AS 4485.2 Sections 2 & 3

Controlled areas are described in AS4485.2 Section 5.10.4

Access Control is described in AS4485.2 Section 5.14

To be in accordance with Queensland Health policy on CCTV installations

Comply with AS2201 in accordance with AS4485.2 Sections 5.10.2(b) & 5.13

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.9 Fire Detection & Alarm Services

**7.9.1 To provide fire protection services designed and installed in accordance with relevant codes and standards**

**7.9.2 Comply with the objectives of the BCA:**

**To protect the life safety of occupants, and fire fighters**

**To provide facilities for the fire brigade to undertake fire fighting operations and to prevent the spread of fire between buildings.**

## Design Guidelines

**Fire Protection Services Installation:** Use an appropriately qualified and registered professional engineer to design the fire protection services and witness all relevant tests.

The fire protection services contractor shall certify that the installation complies with the documentation and statutory requirements.

### **Early Warning/Fire Detection:**

Provide a suitable fire detection and alarm system to all buildings containing sleeping accommodation, care areas and all buildings which are essential for the operational and care of the frail elderly residents.

Include all buildings which will be visited by the residents and other buildings which in the opinion of the design engineer considered to be beneficial if a fire detection and warning system is installed.

Information/alarm signals shall be available in a convenient and safe location for the staff to investigate the source of the alarm. Information must be easily understood.

Provide break glass manual fire alarms.

Provide critical and concise information for the staff in the building to identify the activated alarm.

Give consideration to the provision of early detection and warning of a fire in its incipient stage. Systems with similar sensitivity to a Multipoint aspirating smoke detector should be considered.

Give consideration to the provision of critical information to the staff in other buildings so that they can be alerted in the event of an alarm in a building.

Give consideration to the provision of pre-alarm functions to warn staff of a potential hazardous situation.

# general principles

## Design Standards and Policies

## Design Diagrams

**7.9.1** Fire services installations shall comply with the Building Code of Australia (BCA), supply authorities, fire authorities, and relevant Australian Standards

Contractor responsible for the fire systems installation must be registered with the Fire Protection Contractors Registration Board (FPCRB)

**7.9.2** Fire Detection Systems in residential and health care areas shall detect a low heat smouldering fire. Systems shall comply with AS1670

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.9.2 Comply with the objectives of the BCA: (cont.)

### 7.9.3 To provide a safe environment that minimises fire, security and emergency risks

### 7.9.4 To provide an acceptable level of life protection to the occupants

## Design Guidelines

Give consideration to the provision of systems with high levels of reliability and designed to eliminate 'unwanted' or spurious alarms.

Give consideration to the provision of systems that interface with the nurse call system.

Provide detectors without a flashing LED in its normal mode.

For conventional alarm systems, alarm zones shall match the smoke/fire compartments of the building.

Give consideration to the provision of an analogue based type detection system and to allow separation into small addressable zones.

Give consideration to the provision of a MIMIC panel at the main gate for the responding fire brigade.

Minimise maintenance requirements and disturbance of the occupants.

### Emergency Warning and Intercommunication System (EWIS)

Give consideration to reduce sound pressure level for the alert and evacuation tones to minimise trauma.

Strobe lights to be synchronised (yellow for alert and red for evacuation).

Provision for automatic and manual operation.

Provide visual indication at unit central office.

### Fire Sprinkler Systems.

Fire sprinkler systems shall be installed where required under Queensland Health policy, the BCA and where required to meet the objectives of the BCA

# general principles

## Design Standards and Policies

## Design Diagrams

**7.9.3** EWIS system to to installed in accordance with BCA and AS2220

**7.9.4** System shall be installed in accordance with BCA and AS2118

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.9.4 To provide an acceptable level of life protection to the occupants (cont.)**

**7.9.5 To facilitate the fighting of fire and to minimise damage to the building and its contents**

## Design Guidelines

Fire sprinkler systems shall be considered relative to their ability to restrict fire growth to the compartment of origin, facilitate the fighting of fire, to minimise damage to the building and its contents, prevent fire spread to adjoining buildings.

Where sprinkler systems are provided give consideration to protect areas of the building not only selected areas.

Give consideration to the use of residential and fast response type sprinklers and the use of concealed sprinklers in areas where the occupant could use the sprinkler for self-harm.

Fire sprinkler systems shall be connected to a dedicated fire main where possible.

When the fire main is not available, connect to the existing site reticulation main. Provide a brigade booster at each building - system isolation valves shall be monitored.

## Fire Hydrants

Provide a fire hydrant system to serve a building having a total floor area greater than 500square metres and where required by the Queensland Fire and Rescue Authority (QFRA).

Give consideration to external fire hydrants with twin outlet hydrant stand pipes before internal hydrant.

System to be easy to identify and not an impediment to the residents.

Standpipe shall have a concrete surround and be painted.

System also to be sufficient in capacity to deal with the expected fire.

Provide hydrant booster where required.

Give consideration to the provision of a ring main with isolation valves such that 75% of the hydrant will remain operational at all times in a large complex.

# general principles

## Design Standards and Policies

## Design Diagrams

**7.9.5** System to be installed in accordance with BCA and AS 2419



7.9.5

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**7.9.5 To facilitate the fighting of fire and to minimise damage to the building and its contents (cont.)**

**7.9.6 To ensure all fire systems and equipment are properly maintained - to ensure that they will operate effectively, promptly and achieve the BCA objectives and performance requirements when required**

**7.9.7 To enable staff to effectively evacuate the facility and know how to use fire fighting equipment**

## Design Guidelines

### Fire Hose reels

Fire hose reels shall be installed in all buildings.

Provide a fire hose reel on each level of a building.

Provide back flow prevention devices if fire hose reel is connected to the domestic water supply.

Ensure fire hose reels are easy to use.

Provide jet spray combination nozzle.

### Fire Extinguishers

Fire extinguishers shall be provided in all buildings.

The discharge of an extinguisher shall not have a detrimental effect on the occupants health.

Give consideration to the use of inert gas type fire extinguishers ie CO<sub>2</sub> and NAF<sub>3</sub>.

All fire extinguishers shall be easy to identify and operate.

### Maintenance

Provide documentation on policies, maintenance program, reviewing procedures, evacuation drills, equipment testing and audits.

Clear instructions to be maintained with regular testing of fire, evacuation and other emergency equipment. Participation of management, staff and residents.

Ensure regular fire drills and training of staff in the use of fire fighting equipment.

Prepare emergency evacuation plan to provide orderly evacuation of occupants in the event of an emergency.

Building occupants to be trained in the requirements of fire and evacuation procedures and the use of installed first attack fire fighting equipment.

# general principles

## Design Standards and Policies

**7.9.5** To be installed in accordance with BCA and AS2441 and local water supply Authorities

To be installed in accordance with BCA and AS2444

**7.9.6** To be provided in accordance with the BCA and relevant Australian Standards

## Design Diagrams



7.9.7

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 7.9.8 To minimise the outbreak of fire

## Design Guidelines

Remove obstructions in the path of egress and access to fire fighting equipment.

Reduce fire load - eg. storage of rubbish and flammable material.

Reduce ignition source - eg. naked flames, free standing heating appliances.

Ensure electrical equipment and appliances are maintained.

# general principles

**Design Standards and Policies**

**Design Diagrams**

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## 8.0 Miscellaneous Issues

### Design Objectives

#### 8.1 Special requirements for dementia care

##### 8.1.1 To give attention, where needed, to accommodation situations for the care of residents with dementia in addition to the guidelines previously mentioned

### Design Guidelines

Provide clear orientation and possible use of “cues” in hallways to guide/orientate people to activity areas (dining, lounge, kitchenette, etc.).

Use the ‘If you can see it you can probably find it’ principle for way-finding. Where private ensuites are provided, locate the toilet within view of the bed.

Consider the use of lights activated by movement detector for night cueing for private ensuites. An increase in luminescence is generally needed in these spaces.

Consider the use of resident monitoring systems in lieu of resident-use emergency call systems.

Proper design of circulation is critical. Avoid dead ends and corridors. Avoid positioning bedrooms at the end of hallways to prevent wandering resident migrating into such rooms and interfering with other residents belongings. Provide even-surfaced, well lit and secure walking ‘pathways’ which run inside and outside the building.

The ‘front door’ egress points should not be visually/spatially prominent from inside the building.

Visually accentuate resident-use doors and de-emphasise other doors.

Enable discreet/subtle supervision by staff of living and garden areas from the Servery/Kitchenette/Dining area (where staff activity is often focussed).

Consider noise control in living areas to maintain the privacy of other rooms and functions in the facility.

Provide lockable storage areas in the Servery, etc. for dangerous equipment.

Divide wardrobes into resident-use portion and locked staff-use portion. Disguise the locked portion by painting the same as the adjacent wall.

Garden or courtyard is often a very positive aspect of a dementia care unit. A clear pathway winding through a variety of gardens may be enjoyable. Make directional choices to reach ‘destinations’ or focal points (which act as references for way finding) simple. Consider the provision external toilet facilities and clothes lines.

The garden needs to be safe and secure in a way that is not oppressive. Toxic plants should not be used in dementia specific areas. Fences should be domestic in style and shielded by plants to discourage egress.

Maximise the functional independence of the resident by simplifying multi-step tasks and minimising alternatives.

# general principles

## Design Standards and Policies

- 8.1 Certification Assessment - Section 1 Safety
  - 8.1.1 Accredited Std 2.4 - Clinical Care (Dementia Care)
  - Accredited Std 3.0 - Resident Lifestyle
  - Accredited Std 4.4 - Living Environment
  - Accredited Std 4.5 - Occupational Health & Safety

## Design Diagrams



8.1.1



8.1.1

**Note:**

The above recommended references are not exhaustive. The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

**8.1.1 To give attention, where needed, to accommodation situations for the care of residents with dementia in addition to the guidelines previously mentioned (Con't)**

**8.1.2 To give attention, where needed, to staff work environments for the care of residents with dementia.**

## **8.2 Special requirements for psychogeriatric care**

**8.2.1 To give attention, where needed, to accommodation situations for the care of psychogeriatric residents in addition to the guidelines previously mentioned.**

## **8.3 Cultural considerations**

**8.3.1 To give attention, where applicable, to accommodation situations where typical design solutions are inappropriate for residents of specific cultural backgrounds.**

## Design Guidelines

Balance problems and the possibility of falling are common. By spatially organising the facility into no access areas, limited access with staff supervision, and unlimited access areas, resident safety can be controlled more easily.

Consider residents inability to comprehend dangerous situations the same way as people without dementia do.

Cluster bedrooms around central living areas to minimise long corridors and enhance way-finding to contrived destinations.

Provide staff respite areas away from resident to help alleviate the high stress demands of caring for residents with dementia.

Building design principles which enhance therapeutic dementia care are also appropriate for good psychogeriatric care. However, a higher level of security is required for the implementation of resident management strategies appropriate to the level of behavioural disturbance.

Incidences of exacerbated behaviour can usually be spasmodic. Therefore, environments which reflect normality are preferred, with the ability to quickly and easily remove any items which could become dangerous when behaviour warrants it.

Provide appropriate spaces for the administration of medication to manage symptoms and educate others.

Provide counselling spaces appropriate for residents, carers and families.

Establish past and present behavioural patterns, and tendencies for designing appropriately safe buildings.

Maintain residential themes in treatment areas.

Provide design specific rooms for the containment of people who are at risk of harming others.

Accommodating the specific cultural needs such as Aboriginal or Torres Strait Islander people and people of non-English speaking backgrounds, will require consultation with the relevant representative parties to establish the necessary design guidelines and strategies of care.

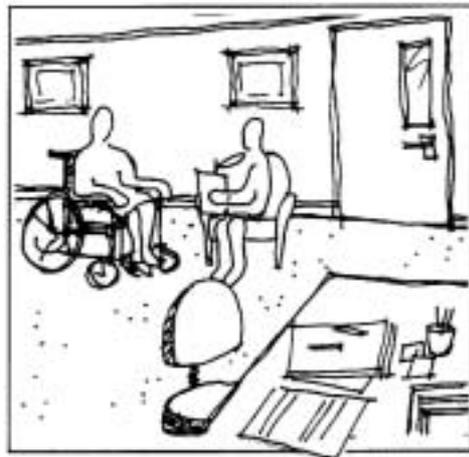
# general principles

## Design Standards and Policies

## Design Diagrams

### 8.2 Certification Assessment - Section 1 Safety

- 8.2.1 Accredited Std 3.0 - Resident Lifestyle
- Accredited Std 4.4 - Living Environment
- Accredited Std 4.5 - Occupational Health & Safety
- Workplace Health & Safety Act 1995*
- Workplace Health & Safety Regulations 1997*
- Queensland Health, *Building Guidelines for Queensland Mental Health Facilities 1996*



8.2.1

### 8.3 Queensland Health Department Policy Accredited Std 3.8 - Cultural and Spiritual Life

Note:  
The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed should be adopted, except where in conflict with the Queensland Health Department policies, guidelines, or care models.

# general principles

## Design Objectives

### 8.4 Companion animals

#### 8.4.1 To provide facilities for the accommodation of companion animals

### 8.5 Anthropometrics

#### 8.5.1 To take account of the anthropometric requirements of residents and staff

## Design Guidelines

Pet animals such as dogs and birds may be provided for therapeutic purposes.

Visually impaired residents may keep 'seeing eye' dogs.

Bird aviaries are best located in courtyard or garden settings.

Dogs will require a fenced external area for a kennel, toileting, feeding, etc. Provide flap access for daytime entry and to exit from the building to the fenced area. Secure at night.

Standard anthropometric data used for planning and design should be used as a guide only. Consider residents with restricted flexibility and their ability to reach, stand, sit, walk and perform tasks, with and without assistive devices. For example, some functions may require two work surface height options or be height adjustable, to cater for people with restricted mobility.

The anthropometrics of residents increases to the size of the assistive devices and carer involvement. Consider carefully the spatial requirements for carer access and all possible manoeuvring and reaching options of residents with assistive devices. Assistive devices may include walking frames, wheelchairs, hoists, lift hygiene chair, bath trolley, shower trolley, etc.

Avoid staff having to lift or transfer heavy items unassisted or reach for items in awkward locations, by designing thoughtful task specific work environments.

# general principles

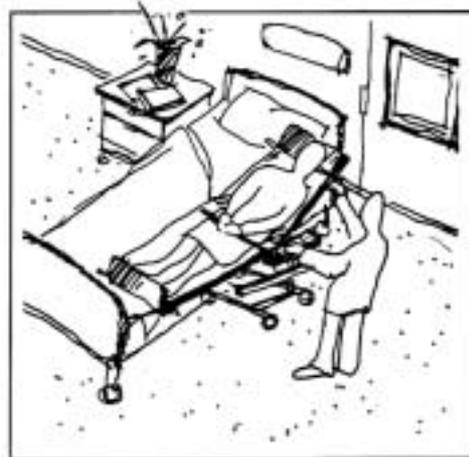
## Design Standards and Policies

**8.4.1** Accredited Std 3.0 - Resident Lifestyle  
*Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
(Infection Control Issues)  
Accredited Std 4.5 - Occupational Health & Safety  
Accredited Std 4.4 - Living Environment  
Accredited Std 2.14 - Mobility, Dexterity and  
Rehabilitation  
Accredited Std 1.7 - Inventory and Equipment  
*Workplace Health & Safety: Code of Practice  
Manual Handling 1991*  
*Workplace Health & Safety: Code of Practice  
Manual Handling of People 1992*  
*Anti-Discrimination Act 1991*

**8.5** AS 1428  
SAA HB59 Ergonomics - The human factor -  
A practical approach to work systems design  
NSW Health Dept. DS32 - Improved access  
for health care facilities 1994

**8.5.1** *Workplace Health & Safety Act 1995*  
Workplace Health & Safety Regulations 1997  
Accredited Std 4.5 - Occupational Health & Safety  
Accredited Std 4.4 - Living Environment  
Accredited Std 2.14 - Mobility, Dexterity and  
Rehabilitation  
Accredited Std 1.7 - Inventory and Equipment  
*Workplace Health & Safety: Code of Practice  
Manual Handling 1991*  
*Workplace Health & Safety: Code of Practice  
Manual Handling of People 1992*  
*Anti-Discrimination Act 1991*  
Division of Workplace Health and Safety,  
Advisory Standard Work Involving Repetition,  
Force or Awkward Postures, 1996

## Design Diagrams



8.5.1



8.5.1

**Note:**

The above recommended references are not exhaustive.  
The principles of the non-mandatory design standards listed  
should be adopted, except where in conflict with the Queensland  
Health Department policies, guidelines, or care models.

Section 3

# Design Guidelines 3

# design guidelines

## High Care - Non Dementia Specific Facility

**Application of this guideline** – This guideline is intended to provide general information about this type of facility to potential designers, managers, service providers and others. This section is to be read in conjunction with the General Principles (Section 2) and the Room Data Sheets (Section 4). The design information is generic in nature and hypothetical. Readers should be aware of the implications of site requirements, budgets, management needs and the particular needs of the service providers and residents for a particular project.

The following information relates to specific built fabric designed to support the delivery of an approved model of care. This section may detail information divergent to that contained in the general document. Where reference is made to individual spaces or rooms, the reader should consult the Room Data Sheets (Section 4) for details.

**Operational Profile** – The current residential aged care environment is based around facilities for elderly persons who cannot, for health, nursing, physical, psychological or social circumstances, continue living independently or semi-independently in the wider community. The residential aged care environment provides all normal living facilities supported by nursing and other services which foster the individuals' potential for living and ensures that the quality of life that they experience, is kept to the highest possible standard.

Residents, service providers, including nursing, medical and allied health professionals, non-government organisations, Queensland Health employees and other management service providers, students, research visitors and the general public, use this facility.

There will be generally three shifts per day for care staff. The general public, management, hotel and other ancillary services will most likely be restricted to day and evening use.

The administration of care involves procedures, which are in line with accepted aged care policies and practices. The goal is to achieve an environment and program that is suitable to each resident's individual level of adaptability. Sufficient and subtle support should be provided to enable each individual resident to function at the highest level of independence.

Resident spaces should therefore reflect a variety of activities and offer areas for individual respite. While still providing for care interaction, it is essential the ambience of this facility is residential, as many residents will live in this facility for many years.

**Facility Design Philosophy** - The built fabric must be designed to maximise the dignity of residents while facilitating appropriate levels and models of professional care culminating in the establishment of a therapeutic, supported and homelike environment. The overall design outcomes must reflect the implementation of a process of consultative design to produce comprehensive, equitable and flexible solutions, as follows:

- Facilitate care provision treatment, over an extended period of time, for ageing persons who may display behaviours related to:
- Physical frailty
- Mental confusion
- Sensorial disablement
- Provide services appropriate to the individuals past and present life patterns involving consideration of social and cultural factors.
- Provide care and support in a clearly defined, identifiably domestic setting to minimise confusion. This negates the necessity for residents to 're-learn' a new spatial grammar within the facility.
- Provide for specific groups such as Aboriginal or Torres Strait Islander people and those with non-English speaking background.

Economic sustainability of capital works and recurrent funding for residential aged care facilities place the onus on designers to provide efficiency in circulation and economy of functional areas. A fine balance between efficient design, longevity and low maintenance buildings, optimum bed numbers, optimum staffing and effective personal and support services management will provide a "best model" facility.

The building is primarily a residential aged care facility, but should be domestic in scale and detailing. It includes areas for public use, offices, care areas, resident areas, staff facilities, hotel services, utility spaces, car parks, roadways, public and private courtyards and delivery areas consistent with the residential nature of the facility.

# design guidelines

**Staff Profile** – The formulation of any staffing profile must be done in consultation with Queensland Health Corporate Office and with the relevant Health Service District. Within a facility, the staffing profile will be based on the individual care needs of the residents and will take into account such issues as the profile and mix of the residents together with the endorsed model of care.

Historically, staffing in RACF's has included a mix of nursing, allied health and operational classifications.

**Resident Profile** - This facility provides residential care services for frail elderly residents. These residents will have moderate to severe ADL deficits and will display high dependency care needs. A proportion of residents experiencing a dementing illness may also need to be cared for in this facility type.

The majority of residential aged care facility residents are over 70 years of age. There are however, a small number of younger residents aged between 16 and 50. Younger individuals who require residential care accommodation generally live in special purpose facilities. The design requirements for such facilities will vary according to the specific disabilities of the residents. For the purposes of this document, we will regard the older residents as the predominant population in general residential aged care facilities in Queensland.

**Strategic Requirements** – Residents in this type of facility will tend to range across a spectrum from extensive (high) care needs to more moderate levels.

Designs must address the need to facilitate independence-oriented care, focusing on health and welfare maintenance and rehabilitation and the achievement of an optimised lifestyle. The importance of facilitating and maintaining a sense of 'family' and place within the lives of residents is not to be understated. Residents in this style of facility will tend to be more mindful of their needs in respect to internal and external support networks, social interactions and issues of choice.

## Particular Design Issues

- Ramping is to be provided as appropriate to specific requirements on site. Where practicable adjacent stairs are to be provided for the use of others. Both are to be in accordance with the BCA.

- Thresholds are to be even and level. Where sliding doors are fitted the bottom track will be flush with finished floor levels and installed to drain away from the doorframes. Internal ramping of floors up to door track is not acceptable.
- All glazing in facilities below 1000mm above floor level is to be considered a 'human impact zone' for the purposes of applying appropriate Australian Standards.
- Toilet pans and cisterns are to be of a type and located to suit the use of appropriate mobility aids and provide support and comfort to users (e.g. concealed cisterns offer little potential for informal back support. Rigid, shaped toilet seats are preferable).
- Corner guards and low level door protection (kick plates, etc) are to be provided wherever practicable to minimise wear and tear to built fabric.
- Door and passage widths to be appropriate to the manoeuvring of anticipated mobility, lifting and clinical aids.
- Controls, hardware and tapware, for the use of residents, to be of a type suited to operation by the frail, disabled, visually impaired or confused (e.g. pictogram signage is preferable to text).
- Slip resistant floors, where required, are to retain their properties in all circumstances reasonably able to be anticipated in the operations of a facility (water, powder, chemicals, oils, etc).
- Protruding features (handrail ends, etc.) to be eliminated to minimise potential for inadvertent injury.
- External floor finishes are to be appropriate to the needs of residents with impaired mobility (heavily textured pressed concrete types or those containing an inappropriate colouring or additives which may reduce slip resistance or promote the growth of moulds and fungus are to be avoided).

**See Appendix A**

# design guidelines

## Dementia Specific Facility

**Application of this guideline** – This guideline is intended to provide general information about this type of facility to potential designers, managers, service providers and others. This section is to be read in conjunction with the General Principles (Section 2) and the Room Data Sheets (Section 4). The design information is generic in nature and hypothetical. Readers should be aware of the implications of site requirements, budgets, management needs and the particular needs of the service providers and residents for a particular project.

The following information relates to specific built fabric designed to support the delivery of an approved model of care. This section may detail information divergent to that contained in the general document. Where reference is made to individual spaces or rooms, the reader should consult the Room Data sheets (section 4) for details.

**Operational Profile** – The current residential aged care environment is based around facilities for elderly persons who cannot, for health, nursing, physical, psychological or social circumstances, continue living independently or semi-independently in the wider community. The residential aged care environment provides all normal living facilities supported by nursing and other services which foster the individual's potential for living and ensures that the quality of life that they experience, is kept to the highest possible standard.

Residents, service providers, including nursing, medical and allied health professionals, non-government organisations, Queensland Health employees and other management service providers, students, research visitors and the general public, use this facility.

There will be generally three shifts per day for care staff. The general public, management, hotel and other ancillary services will most likely be restricted to day and evening use.

The administration of care involves procedures, which are in line with accepted aged care policies and practices. The goal is to achieve an environment and program that is suitable to each resident's individual level of adaptability. Sufficient and subtle support should be provided to enable each individual resident to function at the highest level of independence.

Resident spaces should therefore reflect a variety of activities and offer areas for individual respite. While still providing for care interaction, it is essential the ambience of this facility is residential, as many residents will live in this facility for many years.

**Facility Design Philosophy** - The built fabric must be designed to maximise the dignity of residents while facilitating appropriate levels and models of professional care culminating in the establishment of a therapeutic, supported and homelike environment. The overall design outcomes must reflect the implementation of consultative design principles to produce comprehensive, equitable and flexible solutions, as follows:

- Facilitate care provision, over an extended period of time, for ageing persons who may display behaviours related to clinical levels of dementia.
- Facilitate implementation of behavioural management strategies appropriate to the level of the dementia condition.
- Provide a living environment involving consideration of social and cultural factors as a therapeutic and behavioural management aid.
- Provide care in a clearly defined, identifiably domestic like setting to minimise confusion. This negates the necessity for residents to re-learn a new spatial grammar within the facility.
- Provide the opportunities for the management of dementia to limit the potential for impacts on all residents, staff and visitors.
- Provide for specific groups such as Aboriginal or Torres Strait Islander people and those with non-English speaking background.

Economic sustainability of capital works and recurrent funding for residential aged care facilities place the onus on designers to provide efficiency in circulation and economy of functional areas. A fine balance between efficient design, longevity and low maintenance buildings, optimum bed numbers, optimum staffing and effective personal and support services management will provide a facility dedicated to continue improvement.

The building is primarily a residential aged care facility, but should be of a domestic scale and detailing. It includes areas for public use, offices, care areas, resident areas, staff facilities, hotel

# design guidelines

services, utility spaces, car parks, roadways, public and private courtyards and delivery areas consistent with the residential nature of the facility.

**Staff Profile** – The formulation of any staffing profile must be done in consultation with Queensland Health Corporate Office and with the relevant Health Service District. Within a facility, the staffing profile will be based on the individual care needs of the residents and will take into account such issues as the profile and mix of the residents together with the endorsed model of care.

Historically, staffing in RACF's has included a mix of nursing, allied health and operational classifications.

**Resident Profile** – This facility provides residential aged care services for residents experiencing a dementing illness which necessitates expert and complex care and who have the potential to respond to a specialised dementia program. The facility should be domestic in scale and detailing. It includes areas for public uses, offices, care areas, resident areas, staff facilities, hotel services and utility spaces. Provision should be made for carparks, roadways, public and private courtyards and delivery areas.

The majority of residential aged care facility residents are over 70 years of age. There are however, a small number of younger residents aged between 16 and 50. Younger individuals who require residential care accommodation generally live in special purpose facilities. The design requirements for such facilities will vary according to the specific disabilities of the residents. For the purposes of this document, we will regard the older residents as the predominant population in general residential aged care facilities in Queensland.

**Strategic Requirements** – Residents in this type of facility will tend to exhibit behaviours consistent with their cognitive impairment. It is expected that resident profiles will trend towards a higher prevalence of more advanced dementia. Such facilities will, therefore, be required to be particularly flexible in this regard.

Extraneous stimulation (sound, movement, and change) is to be avoided in the interests of behavioural management. However, the highlighting of resident oriented cues and interfaces is to be adopted (access to bedrooms, toilets etc.). The facilitation and management of 'planned' wandering shall also be undertaken.

## Particular Design Issues

- Security issues will require extensive consideration of such issues as access control and the requirements of personal, building and perimeter security.
- The necessity for control of visual, acoustic and behavioural impacts on residents and staff by dementia sufferers is to be addressed.
- The relationship between internal and external space is of heightened significance in this type of facility. The concept of planned wandering necessitates the proximity of such complementary spaces; continuous paths of travel destinations and appropriate facilitation (security, lighting etc).
- Way finding and cueing is to be enhanced through the use of colour, form, finish, landmarks, and multiple sensory cueing should be implemented as appropriate. This involves presenting the same information in a range of ways with the objective of enhancing residents perception of their surroundings.
- Residents will tend to gravitate to areas of interest or activity. Consideration shall be given to the centralisation of daily activities around a core element of the facility (kitchen, lounge etc).
- In appropriate use or access to controls, equipment, items and spaces is to be 'designed-out' of such facilities. Issues of supervision, unauthorised access and potential for risk of harm to residents are to be carefully evaluated.

**See Appendix B**

# design guidelines

## High Care – Psychogeriatric Specific Facility

### Application of this guideline –

This guideline is intended to provide general information about this type of facility to potential designers, managers, service providers and others. This section is to be read in conjunction with the General Principles (Section 2) and the Room Data Sheets (Section 4). The design information is generic in nature and hypothetical. Readers should be aware of the implications of site requirements, budgets, management needs and the particular needs of the service providers and residents for a particular project.

The following information relates to specific built fabric designed to support the delivery of an approved model of care. This section may detail information divergent to that contained in the general document. Where reference is made to individual spaces or rooms, the reader should consult the Room Data sheets (section 4) for details.

**Operational Profile** – The current residential aged care environment is based around facilities for elderly persons who cannot, for health, nursing, physical, psychological or social circumstances, continue living independently or semi-independently in the wider community. The residential aged care environment provides all normal living facilities supported by nursing and other services which foster the individual's potential for living and ensures that the quality of life that they experience, is kept to the highest possible standard.

Residents, service providers, including nursing, medical and allied health professionals, non-government organisations, Queensland Health employees and other management service providers, students, research visitors and the general public, use this facility.

There will be generally three shifts per day for care staff. The general public, management, hotel and other ancillary services will most likely be restricted to day and evening use.

The administration of care involves procedures, which are in line with accepted aged care policies and practices. The goal is to achieve an environment and program that is suitable to each resident's individual level of adaptability.

Sufficient and subtle support should be provided to enable each individual resident to function at the highest level of independence.

Resident spaces should therefore reflect a variety of activities and offer areas for individual respite. While still providing for care interaction, it is essential the ambience of this facility is residential, as many residents will live in this facility for many years.

It should be noted that such a facility must comply with the necessary provisions of the Mental Health Act where such a facility may be required to accommodate residents under the Act.

**Facility Design Philosophy** – The built fabric must be designed to maximise the dignity of consumers while facilitating appropriate levels and models of professional care culminating in the establishment of a therapeutic, supported and homelike environment. The overall design outcomes must reflect the implementation of a process of consultative design to produce comprehensive, equitable and flexible solutions, as follows:

- Facilitate care provision over an extended period of time for ageing persons who may display behaviours related to:
- Physical frailty
- Mental confusion
- Sensorial disablement
- Provide spaces for clinical and therapeutic functions, approaches to managing symptoms and for the education of the consumer, family and carers about the illness.
- Allow implementation of management strategies appropriate to the level of behavioural disturbance.
- Provide counselling spaces for consumers, families and carers.
- Provide services appropriate to the individuals past and present life patterns involving consideration of social and cultural factors.
- Provide treatment in a clearly defined, identifiably domestic setting to minimise confusion.
- Provide the opportunity for containment in specially prepared rooms for people who are at risk of harming others.

# design guidelines

- Provide for specific groups such as Aboriginal or Torres Strait Islander people and those with non-English speaking background.

Economic sustainability of capital works and recurrent funding for residential aged care facilities place the onus on designers to provide efficiency in circulation and economy of functional areas. A fine balance between efficient design, longevity and low maintenance buildings, optimum bed numbers, optimum staffing and effective personal and support services management will provide a “best model” facility.

The building is primarily a residential care facility, but should be of a domestic scale and detailing. It includes areas for public use, offices, care areas, resident areas, staff facilities, hotel services, utility spaces, car parks, roadways, public and private courtyards and delivery areas consistent with the residential nature of the facility.

**Staff Profile** – The formulation of any staffing profile must be done in consultation with Queensland Health Corporate Office and with the relevant Health Service District. Within a facility, the staffing profile will be based on the individual care needs of the residents and will take into account such issues as the profile and mix of the residents together with the endorsed model of care.

Historically, staffing in RACF’s has included a mix of nursing, allied health and operational classifications.

**Resident Profile** – This facility provides residential care services for residents who are experiencing a psychogeriatric illness and/or have challenging behaviours. The facility should be domestic in scale and detailing. It includes areas for public uses, offices, care areas, resident areas, staff facilities, hotel services and utility spaces. Provision should be made for carparks, roadways, public and private courtyards and delivery areas.

The majority of residential aged care facility residents are over 70 years of age. There is however, a small number of younger residents aged between 16 and 50. Younger individuals who require residential care accommodation generally live in special purpose facilities. The design requirements for such facilities will vary according to the specific disabilities of the residents. For the purposes of this document, we will regard the older residents as the predominant population in general residential aged care facilities in Queensland.

**Strategic Requirements** – Residents in this type of facility will almost exclusively be older or ageing with advanced or developing mental illness who require both specialised mental health treatment and aged care support. A high proportion will be individuals who have been in state care for some years. Behavioural difficulties may range from paranoid and delusional states through to aggressive and violent tendencies. Psychogeriatric facilities must accommodate residents who present with a mental disorder complicating an existing disorder related to ageing or visa versa.

Designs must maximise the resident’s potential to maintain a dignified lifestyle within a supported, therapeutic environment.

- Facilitate the management of the behavioural disturbances exhibited by residents.
- Achieve similar strategic aims to that of dementia care.

## Particular Design Issues

- Facilitate treatment, over extended periods, for aged residents exhibiting a range of psychiatric disorders.
- Provide areas for the administration of medications, psychological and social approaches to symptom management and education of resident, family and carers about the illness.
- Provide counselling spaces for residents, families and carers.
- Design to facilitate a continuity of care.
- Provide appropriate acoustic separations.
- Provide safe and secure access to outdoor environments.
- Allow for the provision of individual respite for residents.
- Issues of supervision of residents, in respect to operational requirements, to be addressed.
- The needs of staff to work in a safe environment to be addressed in line with Queensland Health Policy.

**See Appendix C**

# **glossary**

# glossary

The following explanations are not provided for statutory purposes, but as a guide to terms which may not be readily clear to readers. The plain English meaning of words is generally intended throughout the document.

**ADL** Activities of daily living.

**accommodation and space standards** The strategies and information required for a particular space or room; also referred to as Room Data Sheets.

**accreditation** The process of formal recognition provided to a residential care service by the Aged Care Standards and Accreditation Agency when it is deemed that the service is operating in accordance with the Aged Care Act 1997 and is providing high quality care within a framework of continuous improvement.

**accreditation standards** Commonwealth Standards against which facilities apply for accreditation. There are four accreditation standards focusing on management systems, staffing and organisational development; health and personal care; resident lifestyle; and physical environment and safe systems.

**adequate** Sufficient to meet identified needs or requirements.

**aged care act 1997** The principal legislation that regulates the residential aged care program from 1 October 1997. The Act covers residential aged care (including former nursing homes and hostels), flexible care (including former multi-purpose services and nursing home options), and community aged care packages.

**anthropometrics** The measurement of the size and proportions of the average human body.

**appropriate** Suitable for the purpose intended.

**appropriate design** The design outcome that reflects cultural, management, clinical and building standards, relevant to (Queensland and this period in time).

**assessment (residents)** Identification of a person's capacities and incapacities, in relation to their needs, in order to develop an appropriate individual care plan.

**assistive devices** Items, implements and/or therapeutic aids that assist in enhancing or improving a person's functionality and/or quality of life.

**assumptions** The items and rationales that derive from assumed criteria.

**Australian standards** The relevant and current Australian Standards for design or product, published by the Standards Association of Australia.

**balcony** Any balustraded platform, 0.3 metres or more above adjacent finished ground level, either cantilevered or supported over open space, with access from the building via a door or window and with a minimum width of 1 metre and a maximum width of 2.7 metres.

**BCA** Building Code of Australia.

**carer** A person whose life is affected by virtue of his or her close relationship with a resident, or who has a chosen and contracted caring role with a consumer.

**case management** The mechanism of ensuring access to and coordination of the range of services necessary to meet the identified needs of a person within the integrated health serviced.

**challenging behaviour** Behaviours, which are difficult and complex to manage, even within a therapeutic environment. The behaviours may be related to organic or non-organic pre-disposing factors.

**clerestory** A small window or row of windows in the upper part of a room or corridor which admits light from above an adjacent roof.

**clinical care** Specialised or therapeutic care that requires ongoing assessment, planning, intervention and evaluation by health care professionals.

**communal** open space Useable public open space for recreation and relaxation of residents of a development which is under the control of a body corporate.

**concept plan** A plan showing in outline the overall development intentions for an urban housing development, including proposals for staging.

**continence management** The practice of promoting and maintaining continence and the assessment, evaluation and action taken to support this.

**continuity of care** The provision of barrier-free access to the necessary range of health-care services over any given period of time, with the level of care varying according to individual needs.

# glossary

**culture** Exists when groups of people agree that there are common ways to view the world and to behave i.e., shared perceptions, cognitions, feelings and behaviours. It is the out workings of these views and behaviours interaction with the environment (natural and built) that forms a social environment (culture) which then becomes part of our mind set. Therefore, culture is the signifying system through which a social order is communicated, reproduced, experienced and explored, thus allowing people to co-act through sharing notions of appropriate behaviour.

**dB(A)** Decibels of the 'A-scale' - a set frequency-weighted scale of noise which allows for lack of sensitivity of the ear to sound at very high and very low frequencies.

**dementia** A state of mental disorder characterised by impairment or loss of one's mental faculties eg., memory, reason, judgement, speech, etc.

**design guidelines** The current agreed Queensland Health policy on accommodation guidelines, building types and design principles for residential aged care facilities.

**development area** An area identified as having potential for building development following strategic planning and study.

**development control plan** A plan set by local authorities which identifies the precise conditions for development in a Development Area.

**disability** Any restriction either long-term or episodic or lack of ability to perform an activity within the expected range for a human being.

**domestic** Scale, proportion, materials and ambience of a home imparted to a building, structure, space or item of furniture in the interest of conveying feelings or security, familiarity and comfort to users.

**economic evaluation** A feasibility study which recognises the inter-relationship of capital cost, recurrent cost, investment and return, and life cycle costs for individual facilities and services.

**engineering services** Those services associated with the maintenance and operation of the buildings, roads, infrastructure and services for a mental health facility.

**facility guidelines** The strategies and general planning information that pertains to individual mental health buildings or facility types.

**frontage** The street alignment at the front of a lot and, in the case of a lot that abuts two or more streets, the boundary of which, when chosen, would enable the lot to comply with these provisions.

**frontage zone** The area of land between the building and the street.

**functional** A mode of activity that fulfils its purpose.

**functional plan** A plan describing the facility types, the area or site in which they will be situated, and estimates of staffing, residents, cost and recurrent cost.

**general principles** The strategies for successful design that apply generally to aged care facilities.

**ground services** Those services associated with upkeep of grounds and site features for a mental health facility.

**guideline** A statement or description of one or a number of design strategies which would normally achieve the objective. This is noted as Design Guidelines in the document.

**habitable room** A room used for normal domestic activities that:

- includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room and sunroom; but
- excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

**home** A house or an apartment (typically) in which one lives becomes 'home' with the presence of other people who care and whom engender a sense of belonging; a social network of friends, neighbours, community, and public facilities; the self-expression of personal ideas and values to establish a sense of identity (an awareness of one self as individuals); privacy and refuge, familiarity, peace, and rest; freedom to do what one wishes; the provision of safety and security; the opportunity

# glossary

to establish a base of activity where the day starts and ends; living in one place for a considerable length of time.

**hotel services** Those services required for the operation of a facility, including patients' laundry, dining and food preparation, cleaning and other services associated with term residential care.

**indigenous people** Aboriginal or Torres Strait Islander people.

**infection control program** A set of strategies to monitor, prevent and correct, infection risks and incidents.

**infrastructure** A group of assets which the community owns through its government and which is essential to the well-being of the community. It includes human as well as physical services required for a residential area. Physical services include engineering, civil, hydraulic, electrical and mechanical services, roads and fire safety.

**infrastructure engineering** Engineering services, civil, hydraulic, electrical, mechanical, roads, fire safety.

**land parcel** A defined area of land that may be excised from a greater property as a subdivision.

**landscape plan** A plan or document outlining the extent, type and location of landscaping proposed for a development.

**land take** The amount of land required for a facility.

**limitations of study** Geographical and policy boundaries of the study.

**masterplan** A plan that establishes the site, site relationships, facility type and situation, capital cost estimates and program for development.

**noise attenuation zone** The area within which measures should be taken to reduce the exposure of noise from external sources to acceptable levels.

**nodal point** A notable point of reference networking paths of travel which branch off in varying directions.

**objectives (or element objectives)** Statements of the desired outcomes to be achieved in the completed development. These are noted as Design Objectives.

**optimum** The most favourable circumstances possible for the individual concerned.

**palliative care** The practice of managing symptoms so they are tolerable for the individual and supporting the person to a comfortable death, as fully as possible.

**performance criteria** Criteria to be used in the preparation submission and assessment of development proposals for measuring performance of the proposals against element objectives.

**personal care** Assistance provided to residents to perform personal activities such as bathing, toileting and dressing.

**policy** The required minimum design outcome for compliance with Queensland Health requirements. Policies are deemed binding on designers unless dispensations are formally sought and given.

**policies and practices** Policies: documented statements of intent in relation to an activity; and

**practices** the actions carried out by staff with a responsibility for that activity.

**private open space** An area of land suitable for private outdoor living activities.

**program management** A system of management which involves the integration of planning, resourcing and evaluation processes to achieve stated outcomes. Minimum requirements are set out in Public Finance Standard 310.

**project definition plan (PDP)** A document that establishes and defines the detail and measures for facility or building that is required by the client or user group.

**psychogeriatric** Residents suffering from a mental disorder and a condition related to ageing. The key identifying feature of this group is their need for both specialist mental health and geriatric services.

**public open space** Land used or intended for use for recreational purposes by the public. Includes parks, public gardens, riverside reserves, pedestrian and cyclists access ways, playgrounds and sports grounds.

**public street** Refer to street.

# glossary

**rehabilitation** Key aim is the reduction of functional impairments that limit independence. Rehabilitation effort is focused on the disability dimension and the portion of personal recovery. Expectation of substantial improvement over the short-to mid-term with relatively stable pattern of clinical symptoms and emphasis on prevention of illness relapse.

**resident** The term generally used to describe the recipients of care in a residential aged care facility as distinct from the term 'care recipient' used within the regulatory framework. A resident has been assessed by an Aged Care Assessment Team as requiring residential care and resides in a Commonwealth- funded residential facility.

**residential** Pertaining to a house like form and character of a home.

**residential aged care facility (RACF)** A purpose built facility which provides homelike community residential accommodation and care support for elder people.

**restraint** Any method used to restrict the movement of a resident or part of the resident's body in order to protect the resident or others from injury.

**security services** The service associated with the maintenance of security of a residential aged care facility.

**secure treatment unit** Services provided for residents who on the basis of clinical assessment require treatment in a closed setting to ensure the safety of the person, the staff and the community.

**setback** The minimum distance which a wall face or window is required to be from the property boundary or another window to a habitable room. It is measured as the horizontal distance between the proposed wall or window and the boundary or other window plus any amount greater than 600 millimetres that any eaves extend beyond the wall face.

**shall** Mandatory.

**should** Highly desirable.

**site analysis plan** A plan which demonstrates an appreciation of a site and its context to identify opportunities and constraints on site layout and design. The plan may include information on topography and services, orientation, existing building on site, vegetation on site, adjoining property conditions, views, noise sources and street character and context.

**site area** The area defined by natural or artificial features that can be used as a site.

**site development plan** A plan of the development showing its boundary, orientation and access, response to streetscape, floor plan and elevations of the proposed buildings.

**site** The lot(s) or defined area of land on which a facility stands or is to be erected.

**social justice** A frame work which requires policy development showing its boundary, orientation and access, response to streetscape, floor plan and elevations of the proposed buildings.

**specialised nursing care needs** Nursing care needs that require the close advanced and specialised clinical skills and knowledge of a registered nurse. In an aged care service, these may include areas such as peritoneal dialysis, ventilated resident, venous access therapies, complex palliation, intermittent specialised care and complex wound care. This list is not exhaustive.

**stakeholders** People or groups who have an involvement or interest in the aged care industry, including: residents of aged care facilities, their relatives and advocates; aged care service providers and their staff; consumer groups; industry associations; the Aged Care Standards and Accreditation Agency; and the Department of Health and Aged Care.

**standard** The statement that describes the design outcome required to achieve the objective. This is noted as the Design Standard.

**stay** Short stay is from overnight to several weeks; medium stay is from weeks to several months; long stay is months to possible permanent habitation.

**street** Any street, lane, footway, square, court, alley, right of way, driveway or passage incorporating the full width from property line to opposite property line as well as the street pavement and the verge.

**streetscape plan** The proportion of the development plan showing the visible components within a street (or part of a street) between facing building, including the form of buildings, setbacks, fencing, landscaping, driveway and street surfaces, utility services and street furniture such as lighting, signs, barriers and bus shelters.

# glossary

**support services** Administration, staff amenities, kitchen delivery, laundry, hotel services, maintenance, security.

**surveillance programs** The monitoring of particular aspects of service delivery and the capture of information to measure them.

**terms of reference** The documents and information that specifically establish the parameters of the study and prescribe the limits of study and research.

**timely, reliable and valid** Available when needed, accurate and capable of being used for the purpose required.

**user** The expected population using the facility or space. This generally refers to the public, but can include employees and residents.

**wayfinding** The ease with which one proceeds and is facilitated through an environment from one point of interest to another. Wayfinding systems include such components as basic layout of building and site, interior and exterior landmarks, views to outside, signs, floor and room numbering, spoken directions, maps, directories, logical progression of spaces, colour coding.

**window** Includes a roof skylight, glass panel, glass brick, glass louvre, glazed sash, glazed door, translucent sheeting or other device which transmits natural light directly from outside a building to the room concerned.

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# suggested references

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AS 1428 Design for access and mobility

AS 1428.1 General requirements for access - Buildings plus Supplement 1

AS 1428.2 Enhanced & Additional Requirements

AS 1428.3 Requirements for children and adolescents with physical disabilities

AS 1428.4 Tactile Ground Surface Indicators

AS 1470 Health and Safety at work - principles and practices

AS 1657 Fixed platforms, walkways, stairways, and ladders - Design, construction and installation

AS 1680 Interior Lighting

AS 1725 Galvanised rail-less chainwire security fences and gates

AS 1940 The storage and handling of flammable and combustible liquids

AS 2107 Design sound levels for building interiors

AS 2437 Flusher/sanitizer for bed pans and urine bottles

AS 2569 Guide to lifting and moving of patients

AS 2627.1 Thermal insulation of roof/ceilings and walls in dwellings

AS 2786 Symbols - Health Care in Hospitals

AS 2865 Safe working in confined spaces

AS 2890.1 Off-Street Car Parking

AS 2890.2 Commercial Vehicle Facilities

AS 2890.3 Bicycle Parking Facilities

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AS 3660 Protection of buildings against subterranean termites

AS 3671 Traffic noise intrusion in buildings

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## **Australian Standards (continued)**

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AS 3745 Emergency Control Organisation and Procedures for Buildings

AS 4083 Planning for emergencies - Health care facilities

AS 4146 Laundry Practice

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