



Queensland Public Library Standards and Guidelines

Library Buildings Standard

(October 2009)

4. Library Buildings Standard

Revised October 2009

- 4.1 Objective
- 4.2 Library Buildings Standard
- 4.3 Guidelines
- 4.4 Performance Indicators
- 4.5 Definitions and references

4.1 Objective

To provide standards and guidelines for developing physical library facilities which serve the identified needs of the community. Library buildings should be attractive and designed for efficiency, sustainability, accessibility and functionality. Designs must be flexible enough to respond to changing information and social environments and user expectations.

It should be noted that other standards will have bearing on the development of library buildings, particularly the Operational Services Standard, Staffing Standard, Library Collections Standard, Technology Standard, Disability Services Standard and the Shared Facilities Standard <http://www.slq.qld.gov.au/info/publib/policy/guidelines>. These should be consulted prior to and during any building project.

4.2 Library Buildings Standard

4.2.1 Standard for regulatory compliance

Buildings need to meet a variety of legislative requirements and standards, including but not limited to

- Building Code of Australia <http://www.abcb.gov.au/go/home>
- Australian Standards http://www.slq.qld.gov.au/find/articles/databases_s-z , including standards for construction, lighting, accessibility, electrical wiring, fire safety, earthworks, plumbing, acoustics and floor loads. A list of standards is included in 4.5.2 References.
- Disability Discrimination Act 1992 http://www.austlii.edu.au/au/legis/cth/consol_act/dda1992264/
- Queensland Anti Discrimination Act 1991 www.legislation.qld.gov.au/LEGISLTN/ACTS/1991/91AC085.pdf
- Workplace Health and Safety Act 1995 www.legislation.qld.gov.au/LEGISLTN/CURRENT/w/workplhsaA95.pdf
- Crime Prevention Through Environmental Design (CPTED) Guidelines for Queensland <http://www.police.qld.gov.au/programs/crimePrevention/cpted.htm>
- Local planning schemes

4.2.2 Standard for population catchment projections

Future needs, including expected population growth, should be considered at the planning stage of library buildings. The minimum building size should be based on a ten year population projection for the local government area, according to Queensland Department of Infrastructure and Planning forecasts <http://www.dip.qld.gov.au/population-forecasting/population-projections.html>, which are based on Australian Bureau of Statistics data.

The catchment population should include visitors, both tourists and those commuting to work or shop, in the catchment area, in addition to the general population.

Long term building programs (10 years or more) must rely on floor area standards at the time of planning but should provide for anticipated trends in library services which may increase space requirements during the life of the program.

4.2.3 Standard for minimum floor area (base floor area)

Calculating the floor area required for a library involves three components:

- **Base floor area – for minimal library activities (4.2.3)**
- **Additional functional areas – for additional activities based on local needs (4.2.3.1)**
- **Loading for main branch/headquarters functions (4.2.3.2)**

The following table lists recommended minimum gross floor areas allowing for base floor area for collections, staff, public seating areas, utilities, foyer and toilets. For populations falling between the listed population points, floor area will be calculated on a pro rata basis. These floor areas should be increased to allow for additional functions as listed in 4.2.3.1 or where the building serves as a main branch or other similar role (see 4.2.3.2).

Population catchment	Minimum floor area (m2)*
Up to 3,500	225
4,000	255
5,000	270
6,000	323
7,000	375
8,000	431
9,000	451
10,000	473
12,000	568
16,000	757
18,000	851
20,000	946
25,000	1073
30,000	1287

Population catchment	Minimum floor area (m2)*
35,000	1502
40,000	1716
45,000	1832
50,000	2035
60,000	2376
70,000	2772
80,000	3168
90,000	3465
100,000	3850
110,000	4235
120,000	4620
130,000	5005
140,000	5390
150,000	5775

* Increase floor area as applicable according to 4.2.3.1 and 4.2.3.2.

4.2.3.1 Schedule of additional functional areas

Additional space must be planned for functional areas not included in the base minima. These may include:

- Local/family history service
- Meeting/training rooms
- Auditorium/theatre
- Youth space
- Café
- Outdoor areas/courtyard
- Toy library
- Mobile library support – allow 50m2 per mobile library, which does not include housing and parking requirements of the vehicle. See Mobile Libraries Standard <http://www.slq.qld.gov.au/info/publib/policy/guidelines/five> for guidelines for mobile library depots.

The floor areas needed for most of these functions will be determined by local priorities. Space planning tools to assist determination of appropriate floor areas are listed below in 4.5.2 References, such as the Whole Building Design Guide for Public libraries http://www.wbdg.org/design/public_library.php. It may be possible to combine two or more of these functional areas by designing multi-functional, flexible spaces.

4.2.3.2 Main/Headquarters/Regional Libraries

A variety of branch structures exist in Queensland library services. There may be

- a headquarters/regional library and branch structure
- no identified main library
- sharing of main library roles between more than one branch

Additional space is required for main library responsibilities to support larger collections, additional administrative or specialist staff and greater programming activity. An extra 15% of the total floor area should be allowed for this function.

Where more than one branch shares main library responsibilities, the 15% allowance for additional floor area should be divided proportionately.

Where library service administration is located separately from branches, the floor area required will be determined by the number of staff involved (see space planning tools listed in 4.5.2 References) and this floor area should then be deducted from the 15% main library loading.

Example of calculating minimum floor area

A library's catchment population is projected at 20,000 in 10 year's time. The library will include a local history room and meeting room. It is the main library of a regional service consisting of several branches.

1. Calculate base floor area:	
Minimum floor area for 20,000 people	946m ²
2. Add floor areas for functional spaces:	
Local history room (size determined by local needs)	30m ²
Meeting room (size determined by local needs)	36m ²
Total functional areas	66m ²
3. Add functional area total to base floor area	
Base floor area	946m ²
Functional areas	66m ²
Total	1012m ²
4. Total base and functional area	
Add 15% loading for regional role of library ie. 1012 + {1012 X 15%}	152m ²
Total floor area	1164m²

4.2.3.3 Shared and co-located premises

Where the library shares a building with other service providers or functions, its floor area should consist of:

- spaces fully devoted to library functions (with floor area determined using the minimum floor areas described above);
- a proportion of shared spaces, according to the library's share of the building's total floor area e.g. a library sharing a building with a visitor centre with two thirds of the building occupied by the library should add two thirds of the foyer to its floor area. Refer to the Shared Facilities Standard <http://www.slq.qld.gov.au/info/publib/policy/guidelines> for more information on planning shared facilities.

4.2.4 Standard for accessibility

The building must allow for easy, safe access by all library clients regardless of age or mobility. If there is a car park on a different level to the library, lift access must be provided. Refer to AS 1735.1-2003 Lifts, escalators and moving walks. The building and its fittings and furniture must conform with AS1428 Design for Access and Mobility 2003, including the dimensions of desks and counters (AS 1428.2). An access consultant should be used for this aspect of building planning. Parking spaces for disabled clients should conform with Australian Standard AS1428 Design for Access and Mobility 2003 and the Australian Building Code's Draft Access Code for Buildings (section 1.3) <http://www.abcb.gov.au/index.cfm?objectid=DDA9AB21-92E3-61E9-F0BC5802DAFDF14E>.

Safe and easy access for cleaning of all building components including windows should also be ensured.

4.2.5 Standard for library shelving

Shelving heights must ensure best possible access to collections and safety for all clients, with a maximum height of 1600mm for adult and 1200mm for junior collections. Bottom shelves for adult shelving must be no lower than 300mm so they can be reached comfortably without excessive bending.

Aisles between shelves must have a minimum width of 1.5m.

To facilitate maximum flexibility, shelving should be adjustable and easily reconfigured to accommodate redesigning of library layouts. Shelving should also be clearly labeled and well lit.

4.2.6 Standard for lighting

A variety of lighting styles and luminences, recommended in AS 1680 *Interior and workplace lighting*, should be used according to functional requirements of different parts of the library. Wherever possible, adjustable fittings should be used. Light fixtures must be readily accessible for maintenance and cleaning purposes.

4.2.7 Standard for floor loads

Loaded shelving constitutes a substantial weight. To ensure flexibility in the library layout and the ability to reconfigure shelving, the building must be designed to ensure floors have the capacity to bear fully laden shelves throughout, conforming to AS/NZS 1170.1:2002 : *Structural design actions - permanent, imposed and other actions*.

4.3 Guidelines

4.3.1 Guidelines for siting library buildings

A library building requires visibility in a prominent, safe, easily accessible site. The site should provide:

- easy access by public and private transport and pedestrian traffic;
- convenient off-street parking for library clients and staff, including designated bays for people with disabilities;
- easy and safe access to the building for all clients and staff including those with disabilities;
- access for service and delivery vehicles;
- line of sight and access for communications signals.

An ideal site for a public library building is one associated with another gathering point for the community, for example, shopping, cultural or educational centres. Consideration should also be given to the building's place in the streetscape in relation to existing and planned structures.

The site should be large enough to accommodate a single storey building which meets the space requirements and to allow room for future expansion. Buildings should be designed to facilitate easy and economical extension.

The site must ensure adequate access to communications signals.

If mobile libraries are to be housed, access must be ensured and adequate turning space allowed for vehicles and ease of docking for transfer of materials between base and vehicle. For further information on planning for mobile libraries, see Mobile Libraries Standard <http://www.slq.qld.gov.au/info/publib/policy/guidelines/five>

4.3.2 Guidelines for environmentally sustainable design

An energy efficient design can significantly reduce the running costs of a library building. A site with good access for pedestrians, cyclists and public transport users will reduce the environmental impact of the library.

Natural ventilation should be considered as part of a building's temperature and humidity control, but air-conditioning will need to be available, in order to provide a suitable environment for sensitive electronic and computer equipment, for customer and staff comfort, and to prevent heat and humidity damage to library resources.

Natural light is desirable but should not be relied on completely to provide illumination. Potential glare on computer screens should be kept in mind when designing for natural light. Refer to AS/NZS 1680.2.2:2008 *Interior and workplace lighting - Specific applications - Office and screen-based tasks*.

Building design, material selection and construction should conform with the *Building Code of Australia's National Framework for Energy Efficiency*, http://www.abcb.gov.au/go/eegeneral_p1, including AS/NZS 4859.1 - Materials for the thermal insulation of buildings.

The Green Building Council of Australia's Green Star rating system is voluntary but provides a comprehensive framework for assessing environmental impact of building design and construction. <http://www.gbca.org.au>

4.3.3 Guidelines for interior design

The library interior should provide a high degree of flexibility with a minimum of load bearing internal walls and columns, facilitating periodic reorganisations during the life of the building.

Construction materials, equipment, shelving and furnishings should be attractive, durable, functional, comfortable and be chosen as part of an integrated interior design. Workstation furniture should be adjustable to suit a variety of clients. A variety of seating should be provided, including typist's chairs, arm chairs, sofas and floor cushions.

4.3.4 Guidelines for electrical, communications and computer needs

Public libraries, as major providers of information, should make adequate provision for future needs and technology, including space for additional workstations distributed throughout the library. In anticipation of ongoing growth of digital services and to ensure flexibility of interior design, all spaces should have provision for adequate power and communications cabling.

Wireless technology should be considered as an option to increase flexibility. Refer to AS/NZS 3000T (H) 2008 *Wiring Rules + Electrical Standards*.

4.3.5 Guidelines for floor surfaces

Floor surfaces in libraries should be able to handle high traffic and have appropriate acoustic qualities. In general, carpet should be chosen for staff and public areas, with appropriate surfaces selected for specific functions as needed. For example, non-slip, water-tolerant flooring is ideal in children's activities areas, while durable matting should be used near entrance doors.

4.3.6 Guidelines for security

Libraries should be designed and constructed to ensure the security, health and safety of staff and clients, incorporating CPTED (Crime Prevention through Environmental Design) principles.

<http://www.police.qld.gov.au/programs/crimePrevention/cpted.htm>. Fittings should be as resistant to vandalism and defacement as practicable.

Line of sight priorities should be considered as an important, but not sole, determinant of the placement of various spaces within the layout. For example, it may be desirable to place a young children's space within view of the service counter, but not if this means location next to an exit. Closed circuit television is recommended if monitoring of the library by staff cannot be achieved by line of sight.

Alarm systems, such as personal alarms and duress buttons, should be available for staff and client safety. Adequate lighting of the library exterior and parking area should be provided for security of staff and patrons after dark. Refer to AS/NZS 1158.3.1:2005 *Lighting for roads and public spaces*.

4.3.7 Guidelines for wayfinding and signage

Each library should have adequate external signs, including directional street and building signs, and attractive and functional internal signage. Planning of wayfinding should commence at the earliest stages of building design.

Wayfinding should not rely entirely on signage but use internal layout, lighting, furnishing, floor covering, colour schemes and graphics to define spaces and lead clients to them.

4.4 Performance Indicators

- The building complies with all legislative and statutory requirements.
- The building meets the minimum floor area standard for its projected population and any additional functions.
- The building provides adequate accessibility for all library clients.
- The building meets requirements for lighting and floor loads.
- The building is well sited to meet the library needs of its community.

4.5 Definitions and references

4.5.1 Definitions

Environmentally sustainable design – the design of built environments minimising the use of natural resources throughout the life of the building, including construction and creating healthy and sustainable spaces for clients.

Floor load – the weight that a floor can safely sustain.

Gross floor area - area of a building including hallways, elevator shafts, stairways, toilets, and wall thicknesses.

Support services - include the planning and management of the library service, including all systems operations, interlibrary lending, acquisition, cataloguing, and processing of resources. Specialist professional staff and resources may be part of Support Services. Support Services may be located at a geographic location separate from other library sites.

Wayfinding – all aspects of building design and signage which will help users of the space navigate from place to place to find what they want.

Wireless technology – this technology allows high speed Internet connection without the need for wires. It allows more than one user to access the Internet from the one connection and provides some flexibility in the location of the computer in relation to the connection.

4.5.2 References

Australian Standards

- AS/NZS 1170 – 2007 Structural design actions (including floor loads)
- AS 1324.1-2001 Air filters for use in general ventilation and airconditioning - application, performance and construction
- AS1428 Design for Access and Mobility 2003
- AS/NZS 1668 - 2005 The use of ventilation and air-conditioning in buildings
- AS 1670 Fire detection, warning, control and intercom systems
- AS 1680 - Lighting
- AS 1720.1-1997 Timber structures
- AS 1735.1-2003 Lifts, escalators and moving walks
- AS 1851 Set-2005 Maintenance of fire protection systems and equipment
- AS/NZS 2107:2000 Acoustics - Recommended design sound levels and reverberation times for building interiors
- AS/NZS 2890 (Set):2004 Parking facilities
- AS/NZS 3000T (H) 2008 Wiring Rules + Electrical Standards
- AS/NZS 3439.3:2002 Low-voltage switchgear and controlgear assemblies
- AS/NZS 3500 – 2003 Plumbing and drainage
- AS3600 - 2001 Concrete structures

- AS 3660.1- 2000 Termite management
- AS/NZS 3666 - 2006 Air-handling and water systems of buildings
- AS3700 - 2001 Masonary structures
- AS 3798-2007 Guidelines on earthworks for commercial and residential developments
- AS4100 – 1998 Steel structures
- AS/NZS 4859.1 - Materials for the thermal insulation of buildings

Australian Human Rights Commission – Advisory Notes on Access to Premises (1997)
http://www.hreoc.gov.au/disability_rights/standards/Access_to_premises/premises_advisory.html#5.2

Building Code of Australia <http://www.abcb.gov.au/go/home>
 Including the Draft Access Code for Buildings (section 1.3)
<http://www.abcb.gov.au/index.cfm?objectid=DDA9AB21-92E3-61E9-F0BC5802DAFDF14E>

Disability Discrimination Act 1992
http://www.austlii.edu.au/au/legis/cth/consol_act/dda1992264/

Queensland Anti Discrimination Act 1991
www.legislation.qld.gov.au/LEGISLTN/ACTS/1991/91AC085.pdf

Workplace Health and Safety Act 1995
www.legislation.qld.gov.au/LEGISLTN/CURRENT/w/workplhsaA95.pdf

Crime Prevention Through Environmental Design (CPTED) Guidelines for Queensland
<http://www.police.qld.gov.au/programs/crimePrevention/cpted.htm>

Library Planning Guides

US National Institute of Building Sciences. Whole Building Design Guide: Space Types. 2009 http://www.wbdg.org/design/public_library.php

Designing Libraries: library buildings online <http://www.designinglibraries.org.uk/>

Planning and Building Libraries
<http://www.slais.ubc.ca/resources/architecture/index.htm>

Libris Design <http://www.librisdesign.org/>

Other Standards and Guidelines

People Places. State Library of NSW
http://www.sl.nsw.gov.au/services/public_libraries/library_mgt/lib_management_docs/peopleplaces_2ndedition.pdf

Standards for NZ Public Libraries. LIANZA.
<http://www.lianza.org.nz/publications/other-publications/index.html>

Green Building Council of Australia – Green Star <http://www.gbca.org.au/>