Chapter 4
Facilities

The physical library remains central to library service. While no one model could meet every unique local need, some requirements are common to most public libraries. These include adequate and accessible space to house and circulate the collections; comfortable and attractive public spaces for readers; space for other public amenities including restrooms and water fountains; efficient and comfortable work and lounge areas for staff; and space for board meetings, story times, and other library programs. The supplemental standards for this section are divided into two sections—those for existing facilities and for new or expanded facilities.

Applicable Core Standards—Please see Core Standards 2, 3, 4, 13, 18, 19, and 24 in Chapter 1.

Facilities Standards

1. The library provides the right amount of space of the right kind to meet the provisions of its long-range plans.
2. At least once every five years, the board directs a review of the library's long-term space needs. (*See* Appendix L)
3. The library develops a plan and annual budget for maintenance of building and grounds and fixed asset replacements.
4. The library building supports the implementation of current and future telecommunications and electronic information technologies.
5. The library, including branches or other service points, is located at a site that is determined to be most convenient for the community. Travel time to the library under normal conditions does not exceed thirty minutes.
6. The library provides adequate, safe, well-lighted, and convenient parking during all hours of service. The minimum number of required parking spaces is usually governed by local ordinance. In the absence of local standards, libraries reached primarily by car should provide approximately 1.3 spaces per 500 population. If based on building size, the parking space provision should be one space per 500 square feet of library area.
7. The library's entrance is easily identified, clearly visible, and well lighted. The entrance faces the direction used by the majority of the patrons.
8. The library has an identifying sign clearly visible from the street. Additional signs guide users from arterial streets to the library.
9. The library has adequate internal signage. All signage is in compliance with applicable federal, state, and local regulations. Interior signs should be limited in number and not serve as a substitute for logical building arrangement or for staff responses to routine user questions.
10. The library has a designated tornado shelter. Emergency exits and evacuation routes out of the building and to the tornado shelter are clearly marked. Fire extinguishers are clearly marked. Emergency first-aid supplies are readily available.
11. The library provides emergency training for staff, including annual fire and tornado drills, use of fire extinguishers, and location of the first-aid kit and an automated external defibrillator.
12. The library has an emergency manual and a disaster plan that are reviewed biennially.

13. The library has telephones and associated communications devices sufficient to meet user and staff needs including:
    - telephones in all offices and at all service desks
    - automatic equipment to inform callers of library hours when the library is closed
14. The library has sturdy and comfortable furnishings in sufficient quantity to meet user needs. Space is allocated for child and family use with furniture and equipment designed for use by children. All furniture is in compliance with applicable codes.
15. The library has enough shelving and other types of display and storage to provide patrons with easy access to all materials. All shelving and other display or storage space are designed for library purposes. Shelving in the area serving young children is scaled to their needs. (*See* Appendix L)
16. The library's lighting levels comply with the standards issued by the Illuminating Engineering Society of North America. The lighting is evenly distributed, low glare, does not cast objectionable shadows, and provides floor-to-ceiling illumination of vertical surfaces. (For more information on lighting, see supplemental standards for new or expanded facilities.)
17. The library has fireproof facilities for the return of library materials when the library is closed.
18. The library has heating, ventilating, and air conditioning (HVAC) systems capable of filtering outside air and of maintaining comfortable temperatures throughout the year.
19. The library provides adequate security for staff, users, and collections.

Standards for Creating New or Expanded Facilities

1. Public library construction, expansion, and major renovation projects are planned by a team consisting of the board or members of the board of trustees, the library administrator and key staff, a library building consultant, and a registered professional architect.
2. The library, unless it is part of a home rule unit of government, selects an architect in compliance with the *Local Government Professional Services Selection Act* [50 ILCS 510/0.01 *et seq.*]. There is no legal requirement to contract with the architect offering the lowest fee and, except for home rule units of government, it is generally illegal to select architects based upon their proposed fees. The Local Government Professional Services Selection process mandates that architects be selected based upon their qualifications and a fee is negotiated afterwards. If the architect and client cannot agree on a fee, the library can proceed to the next most qualified architect but may not return to the first architect that was under consideration. The intent of the legislation is to prevent "fee shopping" for professional services that are related to life safety issues.
3. The library's attorney reviews all contracts related to the construction project. The American Institute of Architects provides standard legal forms that are used in many situations, but the library can negotiate different terms if it so chooses. It is generally advisable to utilize the American Institute of Architects forms as they have been continuously improved over the course of nearly a century and address most of the issues that are likely to arise during a construction project.
4. Space planning is based on a twenty-year population projection (including probable annexation) and desired improvements in collections and services. Each project takes into account both the correction of current overcrowding and the creation of space for expanded collections and services. Major building projects should include at least schematic-level plans for how and where future expansion will take place.
5. The facilities provide the maximum possible flexibility for future changes in design, furnishings, and technology.

6. Buildings are designed with extensive data and electrical conduit or with alternative methods of providing service to all locations in the library.

7. All construction complies with federal, state, and local codes and regulations including, but not limited to:
   - National codes, including the *Americans with Disabilities Act* [42 U.S.C. 12101 *et seq.*]
   - Illinois codes, including the *Illinois Environmental Barriers Act of 1985* (410 ILCS 25/1 *et seq.*), the *Illinois Plumbing Code* [Title 75 ILL. ADMIN. CODE 890.110-890.1950], and the *Illinois Accessibility Code* [Title 71 ILL. ADMIN. CODE Part 400 *et seq.*], published by the Capital Development Board to implement the *Illinois Environmental Barriers Act.*
   - Local codes. Many Illinois municipalities have adopted nationally-formulated codes as their local codes. Most municipalities have adopted the *Uniform Building Codes* established by the International Conference of Building Officials (ICBO).

8. All areas of the library are designed to meet the floor-loading standard of 150 pounds **per square foot.** Heavier loads, such as microform storage cabinets and compact shelving, may require 300 pounds per square foot. (Floor loading standards are generally determined by applicable building codes.)

9. Service counters, service desks, and office work areas are freestanding modular units or, if custom designed, should be designed that they are de-mountable for easy modification or future relocation.

10. The library selects shelving that is designed for library purposes. Heavy-duty steel, bracket type shelving that can be easily reassembled is the best choice. The depth of the shelving should be appropriate for the material being stored.

11. Lighting is designed to allow rearrangement of library furnishings.

12. Artificial Lighting
    High quality lighting is important to libraries. Indirect lighting (upward-directed fixtures that bounce light off the ceiling plane) provides uniform, nonglare illumination. It provides the most flexibility because the light is reflected from a continuous surface (the ceiling) rather than emanating from individual points. In general, 100 percent down lighting is a poor idea in libraries because it may cause glare, create troublesome shadows, and does not light vertical surfaces. Glare is a problem in areas where computer monitors and microform readers with vertical glass screens are in use. Proximity to windows and skylights can also create glare. Indirect lighting is, however, less energy efficient than direct lighting due to the fact that the ceiling plane absorbs some light. In order to meet current energy codes, lighting fixtures that provide a mixture of direct and indirect illumination may be preferred. Fixtures that provide primarily up lighting with a smaller percentage of (direct) down lighting can provide a balance between the even illumination that is best for libraries and the greater energy efficiency of down lighting. Table-mounted task lighting is also an energy efficient way to provide adequate illumination for reading and study tasks and allows patrons to select the light levels most suitable to their needs. To be successful, table-mounted lighting needs to be coordinated in advance during building design and furniture selection to ensure that power is available at the appropriate locations.

    Modern fluorescent lighting technology offers important advantages. Lamps with a CRI (color rendition index) of 75 or better provide much more attractive light than traditional fluorescent lamps. Electronic ballasts are more efficient than traditional magnetic ballasts, and they eliminate hum and flicker. Incandescent lighting should be avoided due to its energy inefficiency, heat output, and the relatively short lifetime of the lamps. High-pressure sodium lighting is the ideal choice for parking lots.

The most recent edition of the *IES Lighting Handbook*, edited by John E. Kaufman, provides recommendations for lighting intensities, but some are too low for library purposes. (For example, the Illuminating Engineering Society [IES] recommendation of 5 to 10 foot-candles for halls, elevators, and stairways can create problems for persons with low vision.) IES standards are also included in ALA's *Administrator's Guide to Library Building Maintenance*, by Dianne Lueder and Sally Webb. (See the bibliography following this section.)

13. Natural Lighting

The availability and efficient use of natural light are an important consideration for both energy efficiency and human well-being. With proper planning, natural lighting can be incorporated into library design. Avoid clear glass skylights when possible due to the glare and heat gain considerations. Translucent panel (not clear glass) skylights can provide supplemental illumination and can provide an insulation value that approaches that of the roof itself while still admitting natural light into the library. There are many architectural techniques that can be employed to provide non glare natural light in a library environment. Modern lighting systems can also be designed to automatically dim when sufficient natural light is available to reduce energy consumption.

14. Sustainable (Green) Design

Protecting our environment and reducing our dependence on foreign oil are only two of many compelling reasons to design and build environmentally sustainable buildings. In the United States, buildings are responsible for approximately 36 percent of our overall energy usage and more than 65 percent of our electricity consumption. In addition to being good for our environment, sustainable design can have other benefits for the users of sustainable buildings. These benefits can include: increased comfort for the occupants, "healthier" buildings, lower energy costs, and increased productivity.

Measuring Sustainability

The U.S. Green Building Council (U.S.G.B.C.) provides an objective measurement of sustainability. The U.S.G.B.C. developed a program that was aimed at both quantifying and promoting green design. That program is called LEED (Leadership in Energy & Environmental Design).

The LEED system is point-based. There are more than forty concepts that have been defined as sustainable criteria and given LEED credits. If you qualify for a minimum number of credits your project can become LEED certified. Achieving additional credits will move the project up to different levels of certification. The levels of certification that have been defined to date in order of increasing levels of sustainability are: Certified, Silver Level, Gold Level, and Platinum Level.

The LEED system is based on a holistic approach. Energy efficiency is only one of its goals. A few of the many other sustainable goals promulgated by LEED include:

- The use of interior finishes and materials that do not off-gas toxic compounds
- The use of recycled and easily recyclable materials
- Allowing building occupants more control over their surroundings and access to natural light and views
- Conservation of land and water resources
- Encouraging the use of public transportation
- The use of indigenous landscaping materials that do not require extensive fertilizers or watering after they have been established.

Sustainable buildings usually will cost somewhat more than "conventional" structures. Depending upon the strategies utilized, it will usually add at least 3 to 5 percent to the cost of the building. In spite of the additional cost, libraries should take advantage of their unique educational role to be leaders in sustainable design.

15. Other Design Considerations
Provide enough storage space. (This is one of the most frequently overlooked needs in the design of new or expanded facilities.)

Especially consider safety and low maintenance when designing landscaping and walkways.

Provide space for deliveries and trash removal.

16. Although each library's ultimate space needs will be determined by its unique needs including its programs, services, and collections, some standard guidelines exist for determining the space needed for specific components. These guidelines are based on information from building program consultants, standards from other states, and some measuring tape.

Examples of unique needs include extensive local history or genealogy collections, large meeting rooms, frequent programming, and extensive art- and graphics-related activities. Additional staff office space will be needed for libraries that are responsible for all work and files related to finances and benefits. This is true of all district and many village libraries.

17. Technology and Library Design
The use of networked computers and multimedia equipment in the work environment adds a new element of complexity when designing a new or remodeling an existing facility. Architects need to carefully integrate technology use into all aspects of the infrastructure planning for space, lighting, electrical, and HVAC.

The guiding objective when considering technology is that the solution is driven by the work flow, not by the building backbone to workstations. The design process should be employee centered and not technology centered.

Employees should be asked, "How do your get your work done, what kinds of spaces do you need to support that, how do you use technology in the work product?"

Planning Considerations
The library obtains professional assistance to ensure that all components of its voice/data system, including power, are designed to work smoothly together. Large projects, typically planning and installing a new LAN, should employ a registered communications distribution designer (RCDD).

The design emphasizes flexibility by keeping interior walls at a minimum. If possible, the design should allow data and voice transmissions to all areas in the building.

During the design process, plan space for computers, monitors, printers, scanners, screens, and video projectors.

Plan the location of windows and control of outdoor light to reduce glare. Plan interior light to meet the variety of technology-related room uses.

Use ergonomically designed furniture to reduce stress and body strains. Modular furniture can provide for a single electrical connection to a work area.

Provide clean, adequate electrical power and HVAC for good operation of the equipment. Environments where there is a concentration of equipment may require special attention.

Provide frequent locations of electrical, voice, and data outlets along walls, and through a grid pattern of flush floor boxes for large open areas. Plug mold—a strip with outlets approximately every three feet—may be the best solution for electrical outlets along walls.

Plan space for network communications equipment. Consider accessibility in terms of interior maintenance and distance to exterior connection.

Plan for space in front of and behind equipment racks to allow access for maintenance. High-speed network equipment requires ample, round-the-clock ventilation and cooling. All digital electronics depend on clean electrical power and an uninterruptible backup supply. The location and path of wiring in walls, above ceilings, or under floors must be separated from communications cables to reduce electrical interference.

Distribution closets, which house hubs and patch panels for LANs, must be placed in a pattern on each floor that minimizes extreme differences in the length of cable runs. They must also be vertically aligned from floor to floor to minimize signal-degrading kinks and offsets in risers.

Include screen size, room heights, size of room, rear-screen video projection equipment, and ceiling mounted projections in planning for media intensive spaces such as training labs, board meeting, and program rooms.

Half height equipment racks and network and power connections may be accommodated within custom millwork enclosures or directly integrated into conference tables and desktops.

Wireless networking can now provide higher speed access to information. Depending on applications, wireless can offer lower cost solutions. Wireless uses ceiling mounted access points within a facility and access cards in PCs.

Existing Facilities Checklist

____ The library provides the right amount of space of the right kind to meet the provisions of its long-range plans.

____ At least once every five years, the board directs a review of the library's long-term space needs.

____ The library develops a plan and annual budget for maintenance of building and grounds and fixed asset replacements.

____ The library building supports the implementation of current and future telecommunications and electronic information technologies.

____ The library, including branches or other service points, is located at a site that is determined to be most convenient for the community.

____ The library provides adequate, safe, well-lighted, and convenient parking during all hours of service.

____ The library has the required number of parking spaces.

____ The library's entrance is easily identified, clearly visible, and well lighted.

____ The entrance faces the direction used by the majority of the patrons.

____ The library has an identifying sign clearly visible from the street. Additional signs guide users from arterial streets to the library.

____ The library has adequate internal signage.

____ All signage is in compliance with applicable federal, state, and local regulations.

____ The library has a designated tornado shelter.

____ Emergency exits and evacuation routes out of the building and to the tornado shelter are clearly marked.

____ Fire extinguishers are clearly marked.

____ Emergency first-aid supplies are readily available.

____ The library provides emergency training for staff, including annual fire and tornado drills, use of fire extinguishers, and location of the first-aid kit and an automated external defibrillator.

____ The library has an emergency manual and a disaster plan that are reviewed biennially.

____ The library has telephones and associated communications devices sufficient to meet user and staff needs.

____ The library has sturdy and comfortable furnishings in sufficient quantity to meet user needs.

____ Space is allocated for child and family use with furniture and equipment designed for use by children. All furniture is in compliance with applicable codes.

____ The library has enough shelving and other types of display and storage to provide patrons with easy access to all materials.

____ Shelving in the area serving young children is scaled to their needs.

____ The library's lighting levels comply with the standards issued by the Illuminating Engineering Society of North America.

____ The library has fireproof facilities for the return of library materials when the library is closed.

____ The library has heating, ventilating, and air conditioning (HVAC) systems capable of filtering outside air and of maintaining comfortable temperatures throughout the year.

____ The library provides adequate security for staff, users, and collections.

Bibliography

LAMA BES Facilities Committee, eds. *Building Blocks for Planning Functional Library Space.* Lanham, Md.: Scarecrow Press, 2001.

Bryan, Cheryl. *Managing Facilities for Results: Optimizing Space for Services.* Chicago: Public Library Association, 2007.

Crispen, Joanne L. *The Americans with Disabilities Act: Its Impact on Libraries.* Chicago: ALA, Association of Specialized and Cooperative Agencies, 1993.

Dahlgren, Anders C. *Public Library Space Needs: A Planning Outline.* Madison, Wis.: Wisconsin Department of Public Instruction, 1988, 1998.

McCabe, Gerald B. and James R. Kennedy. *Planning the Modern Library Building.* Westport, Conn.: Libraries Unlimited, 2003.

McCarthy, Richard C. *Managing Your Library Construction Project.* Chicago: ALA, 2007.

Sannwald, William W. *Checklist of Library Building Design Considerations.* 4th ed. Chicago: ALA, 2001.

Woodward, Jeannette. *Countdown to a New Library: Managing the Building Project.* Chicago: ALA, 2000.

Web sites

U.S.G.B.C.: U.S. Green Building Council:
http://www.usgbc.org/

Glossary

Backbone: Major artery of networked systems. Smaller networks may be attached.

Conditioned Power: Electrical service that is protected from line noise, voltage surges and spikes, brownouts, and blackouts.

Distribution Closet: A room containing equipment racks filled with hubs and patch panels for arranging connections.

Hub: A passive device for splitting LAN signals and distributing them among multiple computers, servers, and other network-attached devices.

LAN: A Local Area Network, or collection of interconnected computers, servers, and hubs within an organization. Multiple LANs linked together form a WAN, or Wide Area Network.

Premises Wiring: The communications cabling within a building or individual office/tenant space.

Riser (Management): Connections from the building backbone to separate multiple departments, typically in multistory buildings.

Router: A special purpose, active switching device that links a LAN to a backbone or links multiple LANs to a WAN. Leading vendors are Cisco, Nortel, and 3Com.

Server: A computer designated as a shared resource on a LAN. Leading vendors include Gateway, IBM, Compaq, Dell, and Hewlett-Packard.

Structured Cabling: A complete system of wiring, connecting devices, and installation standards certified to deliver a specified data-transmission speed over a LAN.

System Integrator (SI): Like a general contractor for computer systems, an SI procures and installs all the structured cabling, servers, computers, and software for a LAN.

Virtual Private Network (VPN): A private network built within a public network.

WAN: Multiple LANs linked together by physical or virtual connections.

Wire Management: A system of raceways, cable trays, and/or ducts to consolidate and organize cables within and between equipment racks or office furniture.