

## V. DESIGN REQUIREMENTS

### **Narrative**

This program outlines the generally desirable characteristics of a contemporary public library in a flexible and cost effective manner. In addition, the building must anticipate future needs that can be met in a functional manner with the least possible disruption of service. The following sections will describe some of the basic design factors that must be included in the facility.

The project budget makes it imperative to design a building that maximizes the ratio of net to gross square footage. Valuable space must not be lost through improper location, dimensioning and spacing of architectural and structural elements such as columns, mechanical cores, duct shafts, equipment rooms, etc. Structural spans must be as long as economically possible to create large, open, unobstructed and flexible spaces. The bay size created by interior columns should be compatible with the standard 3 foot shelving module.

The design of the building envelope includes many considerations. Materials used must be durable, resistant to vandalism, easy to maintain, and inexpensive to operate. The construction of the building enclosure—its color, levels of insulation and thermal mass—has a significant effect on energy efficiency. The architectural design team must consider these points throughout the design process.

LEED [Leadership in Energy and Environmental Design] elements that may apply to the design of this building include site selection and orientation, storm water management, water use reduction, heat island effects, energy efficiency, indoor air quality performance, ventilation, low emissions for paint and carpet control of lighting and thermostats, and lighting quality. These requirements are detailed in the U.S. Green Building Council's *LEED for New Construction & Major Renovations*, version 2.2. In addition, a Building Management System should be incorporated that controls temperature, humidity, carbon dioxide levels, lighting, safety and security and other systems.

### **Design Responsibility**

The design of the library and its interior are the responsibility of design professionals including the architect and interior designer. It is expected that these individuals will work closely with the system's building team to ensure that the program's goals are achieved. Regional Library System Director Kelly Lenz will serve as the point of contact. Chief considerations include economical operations and maintenance over the life of the building.

The library's exterior should be designed to complement the neighborhood where the facility will be located and should use materials that are economical to construct, operate and maintain. The building should be constructed of standard components, which ensures ease of replacement in the future. Because the library will be adjacent other county facilities, it is expected that the restrooms may have increased use.

## **Design Parameters**

The building should be traditional in appearance, yet modern in function. The new building should be inviting to the user, and the structure must be highly visible to approaching traffic. Potential users should be able to identify the entry and parking immediately, and have a sense of safety.

The interior and exterior of the building should be crafted to present a harmonious whole. As with most modern public libraries, the interior must be very flexible to adapt to changes in service philosophy and user needs. Except those which are essential, the interior should have as few interior walls as possible to provide for future alternations as necessary. No structural elements should be designed without carefully examining the impact on the building's flexibility and potential expansion as well as long term maintenance cost. If, for economic reasons, columns are needed, considerations should be given to the standard sizes of shelving. All floors will have a uniform load bearing floor level of a minimum of 150 pounds per square foot.

## **Assignable and Non-Assignable Space**

To avoid any confusion, this program will use the following definitions:  
*Net Square Feet* will be used to indicate assignable space. This includes three feet of circulation space around objects such as tables and chairs; a 36" wide aisle space in front of stacks and Browsing will have a 42" wide aisle; a space of approximately 3' in front of public desks, workstations, and mounted systems including bulletin boards and display cases. 25 square feet per person will be calculated for each person seated at a table or

desk. 10 sq. ft. per person will be allocated for fixed seating in a public meeting space with additional space for lecterns and special equipment needs.

*Non-assignable space* will include such things as structural elements including walls and columns, mechanical and electrical rooms, ducts, chases, elevator shafts, public restrooms, janitor and custodial closets, lobby, general circulation spaces other than those included in the net square footage, and transverse and perimeter aisles for shelving.

### **Collection Space**

Converting the volumes to be housed in any part of the library requires conversion to estimated square feet. The square footage requirements will vary depending on the type of collection and height of the shelving desired. Each section of double faced shelving with a 36" aisle in front will require 18 net square feet, except in noted areas.

The Area Data Sheets will define the collection needs for each area. In general, most of the collection space will be devoted to print materials, but there will be an emphasis on audio-visual materials as well. The reference collection will be limited in scope to general reference materials, some genealogy and local history items, and homework resources; there will be computers with Internet access and the library will use document delivery systems from the headquarters library for specific information requests as well as PINES delivery.

## **Overall Ambience**

The general atmosphere created by the building's components must be inviting and very user friendly. It cannot be intimidating or formal in its design or treatments. To maximize user convenience and to increase staff productivity, the layout of the building should encourage the public to serve themselves whenever possible. This goal requires logical arrangement of the collections with easy to follow sequencing of subjects and authors. Transitions from one area to the next should be smooth. The circulation area should be very businesslike, while browsing should be inviting and comfortable. The shelving layout should be easily identified so that users can find needed materials with a minimum of assistance. Overall, the ambience should be dynamic and energetic without encouraging patrons to assume this characteristic!

Library users tend to identify with the interior of the building and how well it is laid out, how easy it is to get from one part of the library to another, and the ambience of the overall design. Effective interiors are essential; each function of the library should be designed appropriately.

Whatever the purpose of their visit, users expect appropriate surroundings that promote the enjoyment and success of their visit. Lighting, acoustics, surroundings without noise or drafts, and comfortable furnishings lend a positive feel to the facility. In a large facility such as this, controlling sound is essential. 40dBa should be the general acoustic goal and consideration should be given to all sound reflective surfaces including the Circulation Desk, Children's Area, Reference Area, Meeting Rooms, Auditorium, and Conference Room Areas.

## **Library Staff Needs**

The Library may have only one staff member assigned to public desk duty at any given

time, although there may be 2 or more during peak periods. The ideal arrangement of service areas will eliminate potential barriers to supervision that would reduce visibility. Public restrooms, entry area of the building, and the meeting room must be visible from the circulation desk. The Bubble Diagram indicates relationships; Building Committee members will focus on how spaces are arranged and where functions are located to assess the impact on staff's ability to assist library users.

Staff needs and expectations must also be met by the design. To some extent, these needs should parallel those of the public. The circulation desk must be carefully located for ease of service and supervision. The staff work area should be designed for productivity and efficiency while also maintaining an atmosphere that is conducive to positive morale. When possible, the staff work area should have windows and an outdoor area for breaks or lunch.

Building design and layout, furniture, environmental considerations, and other characteristics should be engineered to maximize productivity. How spaces are arranged and where functions are located will have a profound effect on the ability of staff to assist users with a minimum of effort and time for travel.

Staffing will be limited in the facility, so every effort must be made to eliminate possible barriers to supervision that might reduce staff control over the public and the collections. Control points should be located where columns and structural elements do not interfere with visibility.

## **Flexibility**

A key element in the design for the Lowndes County Library will be flexibility. The library must be able to adapt to changes in patterns of use and service that will continue to develop during the lifetime of this building. Load bearing walls should be kept to a minimum. Column spacing should be as great as economically feasible while consistent with the 3' module established by standard sections of shelving. Architectural elements should be avoided. Mechanical, electrical and structural systems should be chosen which permit maximum flexibility in the rearrangement of spaces in the future. Placement of mechanical structures on the roof should be totally avoided.

All floors should have a uniform load bearing floor level minimum of 150 pounds per square foot. The project budget makes it imperative that the building be designed to maximize the ratio of net to gross square footage. Valuable floor space cannot be lost through improper location, dimensioning, and spacing of various structural elements.

## **Entrance and Exit**

There will be one public entrance, easily accessible to both pedestrians and those who arrive by car or bicycle. To help control noise and heat loss, there should be a vestibule with adequate building orientation including an information kiosk, signage and floor maps. The public entrance should be fully visible to the circulation staff working at the desk. Automatic doors are preferred. Emergency exits must be visible and easily accessible in case of need. The public entrance also needs to be separated from the

staff/delivery entrance so that there will be no confusion for the public. The staff entry/exit will be used by the courier service for deliveries and pick-ups.

Book returns will be free-standing and under cover to protect books and staff from the weather. Book returns should be visible and easily accessible by walk-up patrons and designed to be converted to automated materials handling units in the future. All thresholds in the building should be flat and easily crossed by book trucks.

### **Security and Life Safety**

It is imperative that measures to protect the security of the staff and public using the facility are incorporated into the design including perimeter electronic security to monitor for intruders, motion, glass breakage after hours, fire, and other hazards. Panic buttons should be incorporated into public desks. Each of these systems should include automatic notification of fire and police departments. The local Fire Marshall will determine if the building will be sprinkled; if required, it should consist of dry piping.

The interior should be planned for supervision by limited staff. There must be no hidden corners. All doors will meet code requirements. They will be equipped with locks and will be keyed to a master key. Exterior doors will have deadbolt locks or appropriate hardware approved by the Fire Marshall to minimize unauthorized entry. All financial transactions will be centralized at the circulation desk or through the use of Vend or credit cards. The circulation staff workroom will be equipped with a fireproof and vandal-proof safe with a slot so that the last person in the building doesn't need to know the combination.



The service room may have outside cable connections to the building's internal communications backbone. It must be dry at all times, not subject to flooding, and clear of all other equipment. A digital closed circuit TV security system will be used. Monitors and cameras will be located once the final design is determined.

## **Environmental Conditions, Maintenance and Energy Efficiency**

### **A. General considerations.**

The design and orientation of the facility can make a huge difference in energy consumption. The building shell should be compact, requiring less energy for heating and cooling than complicated shapes. The long axis should have an East-West orientation to minimize solar gain in the summer and maximize solar gain in the winter. When site conditions permit, the building should be oriented so that major windows face either North or South. Solar orientation should guide the placement of building and site features. Landscaping should be used to shade windows on East and West facing building facades. Landscaping or shade structures should be used to shade paved areas to reduce the heat island effect. Landscaping can also reduce the impacts of heavy radiation loads on the roof and the East and West exposure in the summer.

Additional energy efficient measures may include:

1. Possible use of ceiling fans in all public areas.
2. Separate heating and cooling controls for areas of the building that may not be used all the hours of operation such as the multi-purpose room.
3. Passive solar design to integrate heating, cooling and daylight to maximize efficiencies and cost savings.

The architectural team must consider energy efficiency and operating costs, maintenance and repair costs, HVAC, illumination, building orientation, insulation and the use of landscape materials. In the initial design, architects should examine the amount of air coming into or leaving the building and make every effort to keep this to a minimum. Interior wall cavities; chases for plumbing, electricity, and HVAC systems; and drop ceilings should be sealed or thermally isolated.

The architectural team will be expected to evaluate proposed HVAC systems for heat, air conditioning, humidity control (40-60% humidity is desirable), dust control (dust is particularly damaging to computers), and fresh air ventilation. Mechanical ventilation should meet code requirements of 20 cubic feet of continuous fresh air circulation per minute. All climate control units shall be accessible only to authorized staff. The architectural team should evaluate using alternative systems such as absorption cooling, thermal storage for heating and ground cooling, source heat pumps and/or infrared heating. An energy management system should be a basic part of the system.

Future maintenance and replacement costs must be a consideration in the selection of all equipment, furniture, building materials, finishes, wall and floor coverings, fenestration, hardware, plumbing fixtures, lighting fixtures, etc. High quality paint should be selected from standard colors offered by a standard paint manufacturer. Some of the oversights which cause future maintenance problems include: poorly placed electrical outlets, lighting fixtures that cannot be reached without scaffolding, windows which can't be cleaned easily, inaccessible shut-off valves for plumbing fixtures, restrooms without floor drains, entries without walk-off mats, floor coverings which are difficult to maintain, and a myriad of other details.

Achieving an energy efficient building is important because it reduces the long term cost of energy—an annual budget consideration. Energy efficiency begins with the building orientation and a design that maximizes the use of natural light while minimizing heat loss and gain. Large vertical spaces such as an atrium should be avoided. Energy controls should be included as a part of the HVAC system.

#### B. Fenestration

Windows should be used to provide a view of the building's activities, featuring highlighted areas. At the same time, windows selected should be energy efficient with shaded glass. Windows in the Meeting Room should be kept to a minimum with a plan for minimizing light for projection purposes. Windows add to the attractiveness of a facility. However, the cost of windows, their energy efficiency ratings, maintenance costs and security should be investigated. It is desirable to use windows in the entry of the facility and in staff areas, but solar rays have a damaging effect on books. Solar screening should be considered to minimize glare and damaging direct rays. Overhangs or clerestory windows that permit natural indirect light may be considered.

#### C. Illumination

Electric lighting is one of the major energy uses in a library. By using efficient equipment, effective controls, and careful design, energy savings are possible. Lighting requirements shall conform to the IES Handbook's recommendations for levels of lighting in libraries. The quality of the lighting is particularly important, more so than the intensity. For most general reading surfaces, the Illuminating Engineering Society of

North America (IESNA) recently (2005) revised its recommended lighting design procedure. IES now suggests that the recommended horizontal luminance level for classroom and office space be 30 to 40 foot candles of maintained intensity; reading and task areas at 50 foot candles; study areas or rooms at 30-40 foot candles measured horizontally at desktop; library stacks require 70 foot candles of maintained intensity to provide adequate lighting to prevent eyestrain, and insuring a minimum of 25 foot candles at floor level. Restrooms, storage, utility rooms and hallways may vary from 15 to 30 foot-candles. Large Meeting rooms should average 40 foot candles with all lights on and with separately controlled lighting for the podium or front of the room. Task lighting for specific surfaces and jobs should be incorporated in all work areas. The architectural team should minimize the number of different types of light bulbs or tubes used in the building. Fixtures should have replacement tubes that are easily available.

Glare is another issue to be considered, particularly with placement of computers. Light sources that are too bright must be controlled to avoid causing discomfort. Common glare problems include overhead glare coming from direct lighting sources, reflected imaging on computer monitors, and direct glare from skylights or uncontrolled windows.

The building should employ a combination of lighting options. The combination offers an attractive and inviting environment in which objects have shape without harsh shadows. *Direct lighting* is light directed downward into an area and provides higher illumination levels. This is particularly good for staff work areas where task lighting is useful and in stack areas. *Indirect lighting* is when light is bounced off the ceiling and distributed throughout the space. Indirect lighting supplies a higher quality of light at

lower light levels. Motion-sensor controls may be a good choice to use in areas with low use such as offices, closets, kitchenettes, and restrooms.

Ambient lighting should be used where specified. A dual level switching capability enables the staff to evaluate the amount of lighting necessary and to switch to appropriate levels. All controls for the public area with the exception of the Meeting Room should be located in the Staff Work Area of the building. The ability to use multi-level switching allows staff to use one, two, or four florescent tubes. Dimming switches should be provided in the Meeting Room. Lighting fixtures shall deliver uniform levels of lighting and shall be easy to maintain, quiet, economical and energy efficient. The number of different types of lighting fixtures must be kept to a minimum and the ease of re-lamping should be a consideration.

Exterior lighting of the facility is essential. Security considerations require that the goal of the exterior lighting system will be to provide a uniform level of lighting outside with minimal shadows. Basic parking lot lighting requires 0.6 foot candles as a minimum measured horizontally on pavement, to achieve a 4:1 average to minimum ratio with no spill light on adjacent properties. The system should be vandal-proof with concealed wiring. The transition from the building to the exterior parking and staff areas should be designed for maximum safety. The staff entry and parking may be located at the rear of the facility, and staff entering or exiting should have full visibility of the area as they exit. Other energy-savings measures may include the following:

1. Electronic high power factor ballasts in all fluorescent fixtures; these are energy efficient with less flicker and ambient noise; select lenses designed to deflect and diffuse light
2. Use Reduced Light Output (RLO) ballasts where lower light levels will suffice
3. Lamps with a color rendering index (CRI) of 84 or more

4. Tungsten halogen flood lamps rather than incandescent flood lamps
5. High pressure sodium fixtures in parking lots and building exterior
6. Motion detector/infra-red light sensors for rest rooms storage rooms, offices, and other areas of sporadic use

Another approach to be considered is daylight harvesting. This system requires that fluorescent dimming ballasts adjust energy output according to the amount of natural lighting that is available. This system may work in conjunction with energy management systems, daylight sensors, or time clocks.

Selection of fixtures should be made with a view to low operating cost and ease of maintenance. Whenever possible, fixtures should be designed to be serviced without special equipment or scaffolding. In addition, designers should make every effort to limit the number of different bulbs used in the facility to no more than five.

#### D. Plumbing.

The functions of the plumbing systems include clean water for drinking, water for restrooms, water for heating and cooling, water for sprinkler systems, and to remove excess water from the rain and runoff.

Limiting water consumption helps to control energy use. In public restrooms, it is desirable to restrict water flow to 1 gallon per minute. Water heaters should have an energy efficiency factor (EF) of 0.93 for electric units or 0.62 or more if gas. Water heaters should be on timers to minimize heating during non-peak hours.

In addition, water cut off valves should be in easily located positions for emergency access and never in a ceiling. All floors in restroom areas, and workrooms with sinks, will be equipped with drain. Hose bibs with removable handles should be

located on each of the exterior walls of the building. The design team should discuss landscape needs with the library director and county facilities staff.

Humidity control is important for materials storage. Too much humidity causes mold and mildew while too low leads to fragile paper and bindings. The architects should aim for humidity levels between 30 and 45 percent.

#### E. Electrical Power Supply.

Providing adequate electrical power, which shall meet all applicable building code requirements, is essential. As libraries become more and more technologically oriented, the need for additional power grows. 115v/20 amp electrical outlets should be distributed throughout the building along perimeter walls at 6-8 foot intervals. Key areas such as the circulation desk, reference area, and other highly computerized areas may need additional outlets to handle the electrical needs. Each structural column in the facility should have an electrical outlet on each side of the column. Because we anticipate the addition of even more technology, providing access to electricity, data, and telecommunications are important. Separate switches are required for office areas, and master controls for the public areas of the building should be located at the circulation desk.

#### F. Communications, Data Management, and Computers

This is one of the most important components of the new library facility. There are some design principles that will enable the library to respond to future needs. The Library System is a participant in PINES, an automated, integrated library system. In addition, patrons in Lowndes County have come to expect access to the Internet, wireless

services, e-mail, Galileo, and other electronic resources. Bearing in mind that library technology is changing rapidly, the facility plan should be very flexible. The following points must be considered:

1. Computers will be located throughout the building. They will be connected to one another through a LAN. A “backbone” of fiber optic cabling will be installed horizontally in cable tracks or conduit, connecting to other parts of the building. Wireless access points will also be provided throughout the facility.
2. Columns provide numerous terminations for electricity and network access. Change is anticipated in the future; the floor layout may include a conduit grid that will create access points as needed. Horizontal pathways will be left to the designer to ensure full flexibility and access. Some of the options used include under-floor ducts, flush ducts, multi-channel raceways, cellular floors, trench ducts, raised flooring with access through modular panels, and perimeter pathways.
3. Specifications for cabling, connectors, hubs and other peripherals must be compatible with the most current equipment and will be established at the time of final design. The number of nodes, hubs, and parts composing the network can be doubled or tripled without rewiring. Wireless access will be provided throughout the building.
4. 1,000 amp electrical service or higher is required to meet future power demands. Parallel port connectors and duplex power outlets are integrated into work surfaces.
5. Work closets or wiring closets should be planned for future growth. Include ventilation for file-server maintenance areas.
6. All offices and work areas should have 2 data and phone outlets, located on opposite walls near electrical outlets. Every workstation should have voice/data parallel ports and task lighting.
7. In meeting spaces, provide access to parallel port connectors, outlet boxes for power supply, signal/control for satellite and cable television, and other equipment as specified.

Cable management is an important part of the modern library design, and any system must conform to the requirements of ISO 9002.



## G. Acoustics

When noise levels in the library are high, staff and patrons lose the ability to intelligibly understand one another. Typical sources of noise are outdoor sounds, loud HVAC systems, and internal noise from other spaces.

In a large-sized facility, controlling sound is essential. 40dBa should be the general goal for the library. Additional acoustic consideration is needed for all sound reflexive surfaces, particularly in the Children's Library and in Reference. Segregation of activities will assist in reducing noise transfer.

Acoustical baffles should be considered in areas where conversation is essential and difficult to contain. Special attention should be given to restrooms and the staff room to keep noise from transferring to nearby areas and the lobby. Areas with mechanical equipment and ductwork should be well insulated and placed to keep noise and vibration to a minimum.

## **Signage and Visual Display**

A good system allows the library to communicate information effectively to its users. It is important for signage to respond to the user's needs to progress from general information to more specific as well as to provide directional information. Graphics and signage are integral parts of the interiors package. They should be coordinated with the interiors layout to provide full information and direction within the library building. All signage should be made of durable materials. Every effort should be made to use standard terminology. The building directory should be near the lobby to orient visitors to specific locations within the building. Regulatory signs should be kept to a minimum.

Signage will comply with ADA requirements in terms of the size of lettering, Braille, and other considerations. All signage will convey a user-friendly atmosphere. All shelving units will be labeled using the MODULEX or similar adjustable system for ease of use and future modifications.

Interior bulletin boards will be located in the children's area, young adult section, and staff work areas. A whiteboard system will be used in various rooms along with an art display system, such as Walker. Built-in display units will be located in the entry.

The exterior sign, which will meet any local sign ordinance, should be lighted and large enough to be read from the street. It will identify the library, its entrance for car traffic and pedestrians. The library sign may also display hours of operation and messages for the public. At the main entry to the facility, a sign with hours of operation and other information is needed. In addition, a directional sign for deliveries may be needed.

## **Parking**

The basic guidelines for a parking lot are 1 space for every seat in the building with an additional space for each staff member; in addition, there should be .5 space for each seat in the Meeting Room. By using the existing parking areas, the library should be able to meet these challenges. The parking lot will be paved and there should be ingress and egress lanes for easy access to the site. A pervious parking lot surface should be considered.

## **Furnishings and Equipment**

All equipment and furniture selected for the Lowndes County Library will harmonize with the overall architectural style of the building. It must provide an inviting environment and contribute to the efficiency of the library program. The following elements are required:

1. High pressure laminates on all reading table surfaces
2. Minimum use of upholstery on reading chairs
3. Durability
4. Comfort
5. Cost
6. No sharp corners or points on furnishings and desks particularly in the children's area
7. Ease of cleaning

The architect, interior designer, planning committee and director will work together to select appropriate furniture and equipment and to plan layouts. Ceiling fans, lighting plans, outlets and computer/data outlets cannot be finalized until the furniture layouts are approved.

## **Handicapped Accessibility**

The facility shall be designed to be compliant with the Revised ADA Regulations of 2010 and the 2010 Standards for Accessible Design required as of March 15, 2011. Many of the regulations of US Public Law 101-336 (Americans with Disabilities Act of 1990) and Federal Rules and Regulations as promulgated in the Federal Register, Vol. 56, No. 144, Friday July 26, 1991, continue in effect. ADA requirements go beyond accessibility requirements to include increased life safety equipment, signage, desk heights, and carpet pile thickness. This building must meet all current requirements of

the Americans with Disabilities 2010 Standards which are found at:

[www.ada.gov/regs2010/ADAREgs2010.htm](http://www.ada.gov/regs2010/ADAREgs2010.htm)

Of particular concern are the entry and exit, doorways, restrooms, water fountain, hardware on doors, signage, parking, and aisles between stacks. Reserved handicapped accessible parking will be located as close to the building entry as possible. All programs and activities will be accessible, so this will mean providing mobility access to multipurpose rooms and attendant seating, assistive devices in various spaces, appropriate signage, accessible furniture and equipment, and special needs materials and equipment. Requirements for stack clearance, reach heights, carrel and table height must meet specifications.

### **Changes to the 1991 Standards**

The 2010 ADA Standards for Accessible Design contain more than incremental changes. These changes are addressed in detail in Appendix B to the title III regulation and in the Department's regulatory impact analysis. A few examples of these changes are discussed below.

#### 1. Reach Range Requirements (Section 308)

The reach range requirements have been changed to provide that the side reach range must now be no higher than 48 inches (instead of 54 inches) and no lower than 15 inches (instead of 9 inches). The side reach requirements apply to operable parts on accessible elements, to elements located on accessible routes, and to elements in accessible rooms and spaces.

#### 2. Water Closet Clearances in Single User Toilet Rooms (Sections 603, 604)

In single-user toilet rooms, the water closet now must provide clearance for both a forward and a parallel approach and, in most situations, the lavatory cannot overlap the water closet clearance. The in-swinging doors of single use toilet or bathing rooms may

swing into the clearance around any fixture if clear floor space is provided within the toilet room beyond the door's arc.

### 3. Assembly Areas (Sections 221, 802)

The design requirements for assembly areas have been revised to provide more specific guidance. The design requirements for assembly areas have been revised to provide more specific guidance about the appropriate vertical and horizontal dispersion of accessible seating, sightlines over standing spectators, and the provision of companion seating. In addition, lawn seating areas and exterior overflow areas without fixed seats must now connect to an accessible route.

The scoping of seating in large facilities has been reduced. The incremental scoping for wheelchair spaces and companion seats required in assembly areas with fixed seating has been reduced. Under the 1991 Standards, incremental scoping for assembly facilities with more than 500 seats was one additional wheelchair space and companion seat for each increase of 100 seats. Under the 2010 Standards, facilities with 501 to 5000 seats must provide one additional wheelchair space for each additional 150 seats (or fraction thereof) and facilities with more than 5001 seats must one additional space for each 200 seats over 5001.

### 4. Common Use Circulation Paths in Employee Work Areas (Sections 203.9, 206.2.8)

Under the 1991 Standards, it is necessary to design work areas to permit an employee using a wheelchair to approach, enter, and exit the area. Under the 2010 Standards, it will be necessary for new or altered work areas to include accessible common use circulation paths within employee work areas, subject to certain specified exceptions.

### 5. Location of Accessible Routes (Section 206)

All accessible routes connecting site arrival points and accessible building entrances now must coincide with or be located in the same general area as general circulation paths. Also, where a circulation path is interior, the required accessible route must also be located in the interior of the facility.

## 6. Location of Accessible Routes to Stages (Section 206)

In situations where a circulation path directly connects a seating area and a stage (either a permanent or temporary stage), both title II and title III entities must now provide an accessible route that directly connects the accessible seating and the stage. However, where a direct circulation path from the seating area to the stage does not exist, a direct accessible route need not be constructed. This provision is in addition to the pre-existing requirement to provide an accessible route to connect the accessible seating and the stage and other ancillary spaces used by performers.