



Problem Statement

The Tallahassee Medical Clinic will occupy the first floor of a new community center, which is currently occupied by the Tallahassee Memorial Cancer Center. This new facility will need to accommodate a large range of health services for children and adults. This space needs to be considerate of environmental stewardship and sustainability.



Client Profile

Project: Tallahassee Medical Clinic

Location: Intersection of Miccosukee Road and Surgeons Drive, Tallahassee, FL

Business Profile and Structure

Tallahassee Medical Clinic is a healthcare facility that accommodates a wide range of people from small children to adults.

Specifically, the services rendered include:

- Preventative medicine
- Minor injury and wound care
- Immunizations
- Annual/School physicals
- Well child exams
- Women's health
- Prenatal/pregnancy care and family treatments
- Adult/geriatric care
- Gynecological care and STD screenings
- Asthma and seasonal allergies
- Weight Management and Nutrition and
- Health Education Workshops

Mission and Goals

Our mission is to design an inviting, clean and an uplifting atmosphere that will accommodate a wide range of medical services for all Tallahassee residents. We seek to create a functional space that has state of the art technology in order to provide the highest quality of care. This will be achieved through easy way finding, appropriate lighting and sustainable resources.

Patients:

- Tallahassee is thankfully not affected by many environmental issues that impact the health and well-being of local residents. Some local medical situations include drinking and driving accidents done by the large population of college students, as well as high school students in Tallahassee and its neighboring towns. Injury due to impish behavior is also seen in these populations at fairly high numbers. Therefore, nearby clinics do not

necessarily need to provide specialty health related attention unless they offer ambulatory, surgical, and overnight care. The Tallahassee population does, however, see unfavorable differences in incidence, prevalence, mortality (or death rate), and the nature of received healthcare between minority and non-minority individuals.

- Health problems in patients will vary from the common cold, to asthma, to sexually transmitted diseases. With this being said, the facility must be suitable for the comfort and performance of diverse needs from the patient's for ease and productivity of the clinic.
- The Tallahassee Medical Clinic will provide service for prenatal, youth, adolescent, pregnant, adult and geriatric clientele. Sick and well patients need to be accounted for, as well as handicapped individuals. Income levels may vary based on insurance and financial plans.
- Services that will be delivered at this medical clinic include preventative medicine, minor injury and wound care, immunizations, annual and school physicals, well child exams, women's health, prenatal and pregnancy care, family treatment, adult and geriatric care, gynecological care, STD screenings, asthma, seasonal allergies, weight management, nutrition, and health education workshops.

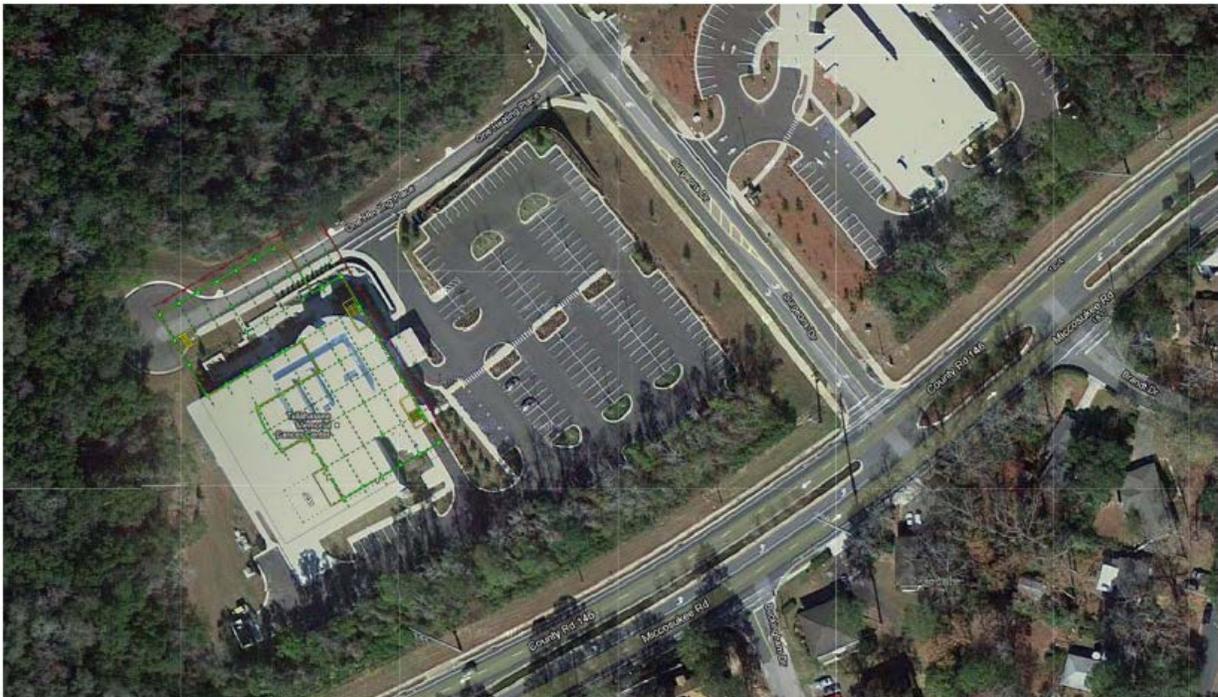
Staff:

- Administrators on staff include a Case Manager/ Social Worker, whose job is to manage clients of services pertaining to mental and medical health, welfare, elderly care, or substance abuse treatment. A Financial Counselor is also on staff for the Tallahassee Medical Clinic. The duty of a Financial Counselor is to help the public reduce debt and form an individualized payment plan based on the patient's financial situation and insurance plan.
- Three physicians will be on staff that will observe and care for the patients. Each physician will be assigned one nurse, an office, and 3 exam rooms.
- Nurses play an important role in the medical field. They allow doctors to spend more time on seeing various patients and analyzing imperative matters by doing the "chores" that are essential. Overall, nurses make a health center more efficient.
- Technical staff may be called in when necessary. It is important to have an accessible mechanical and electrical room to easily attend for prompt liberation.
- Support staff includes an assumed minimum of one housekeeper or janitor. They play an important role in keeping the bathrooms and facility clean to prevent widespread of

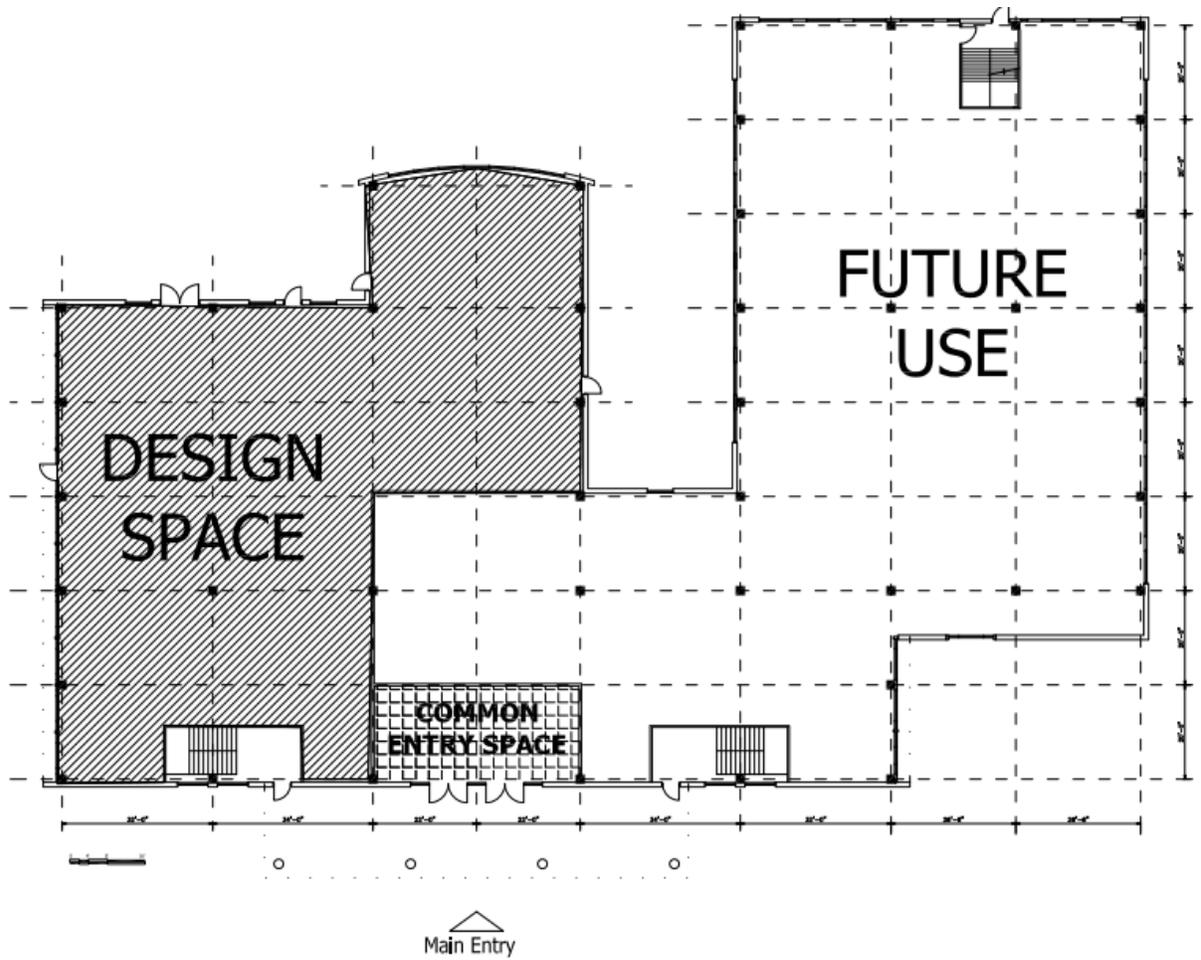
germs and illnesses. Also, they make the interior look presentable and attractive to patients.

Building Information

The construction classification of the future Tallahassee Medical Clinic is Type III construction, where exterior walls are to be composed of noncombustible materials and interior elements can be of any permitted material. It will have a reinforced concrete structural system with masonry and brick-clad exterior walls and will be located at the intersection of Miccosukee Road and Surgeons Drive, in Tallahassee FL.









Codes, Standards, and Guides Information

- A. Florida has a building code in order to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength.
- B. The codes can be found on the website iccsafe.org.

Chapter 3

SECTION 304 BUSINESS GROUP B

304.1 Business Group B.

Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- Ambulatory health care facilities
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- Clinic-outpatient
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade
- Electronic data processing
- Laboratories: testing and research
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations Telephone exchanges
- Training and skill development not within a school or academic program

The facility we are building is classified at Type B and listed as a Ambulatory Health Care Facility.

CHAPTER 4

SECTION 413 COMBUSTIBLE STORAGE

413.1 General.

High-piled stock or rack storage in any occupancy group shall comply with the *Florida Fire Prevention Code*

Check FFPC

414.4 Hazardous material systems. [F]

Systems involving hazardous materials shall be suitable for the intended application. Controls shall be designed to prevent materials from entering or leaving process or reaction systems at other than the intended time, rate or path. Automatic controls, where provided, shall be designed to be fail safe.

Must have a designated area for hazardous materials to be stored and not be disturbed when not in use

414.5 Inside storage, dispensing and use. [F]

The inside storage, dispensing and use of hazardous materials in excess of the maximum allowable quantities per *control area* of Tables 307.1(1) and 307.1(2) shall be in accordance with Sections 414.5.1 through 414.5.5 of this code and the *Florida Fire Prevention Code*.

414.6 Outdoor storage, dispensing and use. [F]

The outdoor storage, dispensing and use of hazardous materials shall be in accordance with the *Florida Fire Prevention Code*

Proper storage inside and out is needed and complies with fire codes

416.5 Fire protection. [F]

An automatic fire-extinguishing system shall be provided in all spray, dip and immersing spaces and storage rooms and shall be installed in accordance with Chapter 9.

Spouts are required in all storage rooms

441.2 Smoke barriers.

Smoke barriers shall be provided to subdivide every ambulatory care facility greater than 10,000 square feet (929 m²) into a minimum of two smoke compartments per *story*. The travel distance from any point in a smoke compartment to a *smoke barrier* door shall not exceed 200 feet (60 960 mm). The *smoke barrier* shall be installed in accordance with Section 710.

Smoke barrier doors must be at correct distance from one to the other

441.3 Refuge area.

At least 30 net square feet (2.8 m²) per nonambulatory patient shall be provided within the aggregate area of *corridors*, patient rooms, treatment rooms, lounge or dining areas and other low-hazard areas on each side of each *smoke barrier*.

Must have area of refuge large enough and specific distance from barrier doors

441.4 Independent egress.

A *means of egress* shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which *means of egress* originated.

Hallways must lead to outside and not back to the smoke areas

441.5 Automatic sprinkler systems.

Automatic sprinkler systems shall be provided for ambulatory care facilities in accordance with Section 903.2.2.

441.6 Fire alarm systems.

A fire alarm system shall be provided in accordance with Section 907.2.2.1.

CHAPTER 7

SECTION 709 FIRE PARTITIONS

709.1 General.

The following wall assemblies shall comply with this section:

1. Walls separating *dwelling units* in the same building as required by Section 439.2.
2. Walls separating *sleeping units* in the same building as required by Section 439.2.
3. Walls separating tenant spaces in *covered mall buildings* as required by Section 402.7.2.
4. Corridor walls as required by Section 1018.1.
5. Elevator lobby separation as required by Section 708.14.1.
6. Wall separating individual tenant spaces.

Exceptions:

In Group B and S occupancies, walls used to separate tenants shall not be required to have a fire-resistance rating, provided no area between fire partitions having a 1-hour fire-resistance rating exceeds 3,000 square feet (279 m²) fire resistant rating is not needed

CHAPTER 8

803.5 Textile wall coverings.

Where used as interior wall finish materials, textile wall coverings, including materials having woven or nonwoven, napped, tufted, looped or similar surface and carpet and similar textile materials, shall be tested in the manner intended for use, using the product mounting system, including adhesive, and shall comply with the requirements of Section 803.1.2, 803.1.3 or 803.1.4.

Textiles on wall must be tested

804.3 Testing and identification.

Interior floor finish and floor covering materials shall be tested by an agency in accordance with NFPA 253 and identified by a hang tag or other suitable method so as to identify the

manufacturer or supplier and style, and shall indicate the *interior floor finish* or floor covering classification according to Section 804.2. Carpet-type floor coverings shall be tested as proposed for use, including underlayment. Test reports confirming the information provided in the manufacturer's product identification shall be furnished to the building official upon request. All flooring materials must be tested

804.4 Interior floor finish requirements.

In all occupancies, *interior floor finish* and floor covering materials in *exit* enclosures, *exit* passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 804.4.1.

Finishes must be specific

806.5 Interior trim. [F]

Material, other than foam plastic used as interior *trim*, shall have a minimum Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible *trim*, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling area in which it is attached.

SECTION 808 ACOUSTICAL CEILING SYSTEMS

808.1 Acoustical ceiling systems.

The quality, design, fabrication and erection of metal suspension systems for acoustical tile and lay-in panel ceilings in buildings or structures shall conform with generally accepted engineering practice, the provisions of this chapter and other applicable requirements of this code.

CHAPTER 9 SECTION 906 PORTABLE FIRE EXTINGUISHERS

906.1 Where required. [F]

Portable fire extinguishers shall be installed in the following locations.

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

Exception: In new and existing Group A, B and E occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.

2. Within 30 feet (9144 mm) of commercial cooking equipment.

3. In areas where flammable or combustible liquids are stored, used or dispensed.

4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with the *Florida Fire Prevention Code*.

5. Where required by the *Florida Fire Prevention Code*.

6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator

rooms, where required by the fire code official.
Only needed if don't have quick response sprinklers

906.8 Cabinets. [F]

Cabinets used to house portable fire extinguishers shall not be locked.

907.2 Where required-new buildings and structures. [F]

An *approved* fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an *approved* location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exceptions: 1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service. 2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is accessible to the public.

Chapter 10

SECTION 1005 EGRESS WIDTH

1005.1 Minimum required egress width.

The *means of egress* width shall not be less than required by this section. The total width of *means of egress* in inches (mm) shall not be less than the total *occupant load* served by the *means of egress* multiplied by 0.3 inch (7.62 mm) per occupant for stairways and by 0.2 inch (5.08 mm) per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple *means of egress* shall be sized such that the loss of any one *means of egress* shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any *story* of a building shall be maintained to the termination of the *means of egress*.

SECTION 1011 EXIT SIGNS

1011.1 Where required.

Exits and *exit access* doors shall be marked by an *approved exit* sign readily visible from any direction of egress travel. The path of egress travel to *exits* and within *exits* shall be marked by readily visible *exit* signs to clearly indicate the direction of egress travel in cases where the *exit* or the path of egress travel is not immediately visible to the occupants. Intervening *means of egress* doors within *exits* shall be marked by *exit* signs. *Exit* sign placement shall be such that

no point in an *exit access corridor* or *exit passageway* is more than 100 feet (30 480 mm) or the *listed* viewing distance for the sign, whichever is less, from the nearest visible *exit* sign.

Exceptions:

1. *Exit* signs are not required in rooms or areas that require only one *exit* or *exit access*.
2. Main exterior *exit* doors or gates that are obviously and clearly identifiable as *exits* need not have *exit* signs where approved by the *building official*.
3. *Exit* signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. *Exit* signs are not required in dayrooms, sleeping rooms or dormitories in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, *exit* signs are not required on the seating side of vomitories or openings into seating areas where *exit* signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

SECTION 1018 CORRIDORS

1018.1 Construction.

Corridors shall be fire-resistance rated in accordance with Table 1018.1. The *corridor* walls required to be fire-resistance rated shall comply with Section 709 for *fire partitions*.

CHAPTER 11 ACCESSIBILITY

101 PURPOSE

101.1 General.

This code contains scoping and technical requirements for accessibility to *sites, facilities, buildings, and elements* by individuals with disabilities. The requirements are to be applied during the design, construction, *additions* to, and *alteration* of *sites, facilities, buildings, and elements*.

In general, this code sets requirements for accessibility to sites, facilities, buildings, and elements for individuals with disabilities, which are to be addressed during the design, construction, additions, and alterations.

101.1.2

All new or altered *public buildings and facilities, private buildings and facilities, places of public accommodation, and commercial facilities* subject to this code shall comply with this code.

101.1.3

This code establishes standards for accessibility to *places of public accommodation and commercial facilities* by individuals with disabilities. This code shall also apply: to state and local government *facilities* pursuant to Section 553.503, F.S.; to *private clubs* pursuant to Section 553.505, F.S.; and to residential *buildings* pursuant to Section 553.504(2), F.S., and the ADA Standards for Accessible Design. It is to be applied during the design construction and *alteration* of such *buildings and facilities* as required by this code.

According to 101.1.2, all buildings, facilities, public accommodations, and commercial facilities, new or altered, must comply to the established code of 101.1.3 stating standards of accessibility for individuals with disability.

102 DIMENSIONS FOR ADULTS AND CHILDREN

The technical requirements are based on adult dimensions and anthropometrics. In addition, this code includes technical requirements based on children's dimensions and anthropometrics for drinking fountains, water closets, toilet compartments, lavatories and sinks, dining surfaces, and work surfaces.

Advisory 105.2.1 ANSI/BHMA.

ANSI/BHMA A156.10-1999 applies to power operated doors for pedestrian use which open automatically when approached by pedestrians. Included are provisions intended to reduce the chance of user injury or entrapment.

ANSI/BHMA A156.19-1997 and A156.19-2002 applies to power assist doors, low energy power operated doors or low energy power open doors for pedestrian use not provided for in ANSI/BHMA A156.10 for Power Operated Pedestrian Doors. Included are provisions intended to reduce the chance of user injury or entrapment.

Advisory 105.2.5 NFPA.

NFPA 72-1999 and NFPA 72-2002 address the application, installation, performance, and maintenance of protective signaling systems and their components. The NFPA 72 incorporates Underwriters Laboratory (UL) 1971 by reference. The standard specifies the characteristics of audible alarms, such as placement and sound levels. However, Section 702 of these requirements limits the volume of an audible alarm to 110 dBA, rather than the maximum 120 dBA permitted by NFPA 72-1999.

NFPA 72 specifies characteristics for visible alarms, such as flash frequency, color, intensity, placement, and synchronization. However, Section 702 of this code requires that visual alarm appliances be permanently installed. UL 1971 specifies intensity dispersion requirements for visible alarms. In particular, NFPA 72 requires visible alarms to have a light source that is clear or white and has polar dispersion complying with UL 1971.

105.2.5 addresses the application, installation, performance, and maintenance of protective signaling systems and their components. Placement and sound levels are specified for audible alarms, which limits the maximum volume of an audible alarm to be 110 decibels, 10 less than the maximum of 120 permitted by the NFPA 72-1999. Visible alarms must also be present and permanently installed for proper protective signaling of the hearing impaired. NFPA 72 specifies characteristics such as flash frequency, color, intensity, placement, and synchronization; particularly requiring visible alarms to have a light source that is clear or white and has polar dispersion.

106.5 Defined Terms:

Accessible. A site, building, facility, or portion thereof that complies with this part.

Accessible Means of Egress. A continuous and unobstructed way of egress travel from any point in a building or facility that provides an accessible route to an area of refuge, a horizontal

exit, or a *public way*.

Addition. An expansion, extension, or increase in the gross floor area or height of a *building* or *facility*.

Administrative Authority. A governmental agency that adopts or enforces regulations and guidelines for the design, construction, or *alteration* of *buildings* and *facilities*.

Alteration. A change to a *building* or *facility* that affects or could affect the usability of the *building* or *facility* or portion thereof. *Alterations* include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of *circulation paths* or *vehicular ways*, changes or rearrangement of the structural parts or *elements*, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance, reroofing, painting or wallpapering, [asbestos removal](#), or changes to mechanical and electrical systems are not *alterations* unless they affect the usability of the *building* or *facility*.

Alterations to an Area Containing a Primary Function (See also, "[Primary Function](#)").

Amusement Attraction. Any *facility*, or portion of a *facility*, located within an amusement park or theme park which provides amusement without the use of an amusement device.

Amusement attractions include, but are not limited to, fun houses, barrels, and other attractions without seats.

Amusement Ride. A system that moves persons through a fixed course within a defined area for the purpose of amusement.

Amusement Ride Seat. A seat that is built-in or mechanically fastened to an *amusement ride* intended to be occupied by one or more passengers.

Area of Sport Activity. That portion of a room or *space* where the play or practice of a sport occurs.

Assembly Area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

Assistive Listening System (ALS). An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical *space* between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

Boarding Pier. A portion of a pier where a boat is temporarily secured for the purpose of embarking or disembarking.

Boat Launch Ramp. A sloped surface designed for launching and retrieving trailered boats and other water craft to and from a body of water.

Boat Slip. That portion of a pier, main pier, finger pier, or float where a boat is moored for the purpose of berthing, embarking, or disembarking.

Building. Any structure used or intended for supporting or sheltering any use or occupancy.

Catch Pool. A pool or designated section of a pool used as a terminus for water slide flumes.

Characters. Letters, numbers, punctuation marks and typographic symbols.

Children's Use. Describes *spaces* and *elements* specifically designed for use primarily by people 12 years old and younger.

Circulation Path. An exterior or interior way of passage provided for pedestrian travel, including but not limited to, walks, hallways, courtyards, elevators, platform lifts, *ramps*, stairways, and landings.

Closed-Circuit Telephone. A telephone with a dedicated line such as a house phone, courtesy phone or phone that must be used to gain entry to a *facility*.

Commerce. Travel, trade, traffic, *commerce*, transportation, or communication:

- (1) Among the several states;
- (2) Between any foreign country or any territory or possession and any state; or
- (3) Between points in the same state but through another state or foreign country.

Commercial Facilities. *Facilities:*

- (1) Whose operations will affect *commerce*;
- (2) That are intended for nonresidential use by a *private entity*; and
- (3) That are not:
 - (a) *Facilities* that are not covered or expressly exempted from coverage under the Fair Housing Act of 1968, as amended (42 U.S.C. 3601-3631);
 - (b) Aircraft; or
 - (c) Railroad locomotives, railroad freight cars, railroad cabooses, commuter or intercity passenger rail cars (including coaches, dining cars, sleeping cars, lounge cars, and food service cars), and any other railroad cars described in Section 242 of the ADA or covered under Title II of the ADA, or railroad rights-of-way. For purposes of this definition, "rail" and "railroad" have the meaning given the term "railroad" in Section 202(e) of the Federal Railroad Safety Act of 1970 [45 U.S.C. 431(e)].

Common Use. Interior or exterior *circulation paths*, rooms, *spaces*, or *elements* that are not for *public use* and are made available for the shared use of two or more people.

Cross Slope. The slope that is perpendicular to the direction of travel (see *running slope*).

Curb Ramp. A short *ramp* cutting through a curb or built up to it.

Designated Public Transportation. Transportation provided by a *public entity* (other than public school transportation) by bus, rail, or other conveyance (other than transportation by aircraft or intercity or commuter rail transportation) that provides the general public with general or special service, including charter service, on a regular and continuing basis.

Detectable Warning. A standardized surface feature built in or applied to walking surfaces or other *elements* to warn of hazards on a *circulation path*.

Disability. With respect to an individual, a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such an impairment; or being regarded as having such an impairment.

(1) The phrase physical or mental impairment means:

(a) Any physiological disorder or condition, cosmetic disfigurement, or an anatomical loss affecting one or more of the following body systems; neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive; digestive; genitourinary; hemic and lymphatic; skin; and endocrine;

(b) Any mental or psychological disorder such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities;

(c) The phrase physical or mental impairment includes, but is not limited to, such contagious and noncontagious diseases and conditions as orthopedic, visual, speech, and hearing impairments, cerebral palsy, epilepsy, muscular dystrophy, multiple sclerosis, cancer, heart disease, diabetes, mental retardation, emotional illness, specific learning disabilities, HIV disease (whether symptomatic or asymptomatic), tuberculosis, drug addiction, and alcoholism;

(d) The phrase physical or mental impairment does not include homosexuality or bisexuality.

(2) The phrase major life activities means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning and working.

(3) The phrase has a record of such an impairment means has a history of, or has been misclassified as having, a mental or physical impairment that substantially limits one or more major life activities.

(4) The phrase is regarded as having an impairment means:

(a) Has a physical or mental impairment that does not substantially limit major life activities but that is treated by a *private entity* as constituting such a limitation;

(b) Has a physical or mental impairment that substantially limits major life activities only as a result of the attitudes of others toward such impairment; or

(c) Has none of the impairments defined in paragraph (1) of this definition but is treated by a

private entity as having such an impairment.

(5) The term "*disability*" does not include:

(a) Transvestism, transsexualism, pedophilia, exhibitionism, voyeurism, gender identity disorders not resulting from physical impairments, or other sexual behavior disorders;

(b) Compulsive gambling, kleptomania or pyromania; or

(c) Psychoactive substance use disorders resulting from current illegal use of drugs.

Element. An architectural or mechanical component of a *building, facility, space, or site*.

Elevated Play Component. A play component that is approached above or below grade and that is part of a composite play structure consisting of two or more play components attached or functionally linked to create an integrated unit providing more than one play activity.

Employee Work Area. All or any portion of a space used only by employees and used only for work. Corridors, toilet rooms, kitchenettes and break rooms are not *employee work areas*.

Entrance. Any access point to a *building* or portion of a *building* or *facility* used for the purpose of entering. An *entrance* includes the approach walk, the vertical access leading to the *entrance* platform, the *entrance* platform itself, vestibule if provided, the entry door or gate, and the hardware of the entry door or gate.

Existing Facility. A *facility* in existence on any given date, without regard to whether the *facility* may also be considered newly constructed or altered under this code.

Facility. All or any portion of *buildings, structures, site improvements, elements, and pedestrian routes or vehicular ways* located on a *site*.

Ground Level Play Component. A play component that is approached and exited at the ground level.

Key Station. Rapid and light rail stations, and commuter rail stations, as defined under criteria established by the Department of Transportation in 49 CFR 37.47 and 49 CFR 37.51, respectively.

Mail Boxes. Receptacles for the receipt of documents, packages, or other deliverable matter. *Mail boxes* include, but are not limited to, post office boxes and receptacles provided by commercial mail-receiving agencies, apartment *facilities*, or schools.

Mezzanine. An intermediate level or levels between the floor and ceiling of any *story* with an aggregate floor area of not more than one-third of the area of the room or *space* in which the level or levels are located. *Mezzanines* have sufficient elevation that *space* for human occupancy can be provided on the floor below.

Occupant Load. The number of persons for which the means of egress of a *building* or portion of a *building* is designed.

Operable Part. A component of an *element* used to insert or withdraw objects, or to activate, deactivate, or adjust the *element*.

Path of Travel.

(1) A *path of travel* includes a continuous, unobstructed way of pedestrian passage by means of which the altered area may be approached, entered, and exited, and which connects the altered area with an exterior approach (including sidewalks, streets, and parking areas), an *entrance* to the *facility*, and other parts of the *facility*.

(2) An *accessible path of travel* may consist of *walks* and sidewalks, *curb ramps* and other interior or exterior pedestrian *ramps*; clear floor paths through lobbies, corridors, rooms, and other improved areas; parking access aisles; elevators and lifts; or a combination of these *elements*.

In transportation *facilities* covered by 49 CFR 37, an *accessible path of travel* may include *walks* and sidewalks, *curb ramps* and other interior or exterior pedestrian *ramps*, clear floor paths through corridors, waiting areas, concourses, and other improved areas, parking access aisles, elevators and lifts, bridges, tunnels, or other passageways between platforms, or a combination of these and other *elements*.

(3) For the purposes of this code, the term "*path of travel*" also includes the restrooms, telephones, and drinking fountains serving the altered area.

Pictogram. A pictorial symbol that represents activities, *facilities*, or concepts.

Play Area. A portion of a *site* containing play components designed and constructed for children.

Play Component. An *element* intended to generate specific opportunities for play, socialization, or learning. Play components are manufactured or natural; and are stand-alone or part of a composite play structure.

Professional Office of a Health Care Provider. A location where a person or entity, regulated by a State to provide professional services related to the physical or mental health of an individual, makes such services available to the public. The *facility* housing the "*professional office of a health care provider*" only includes floor levels housing at least one health care provider, or any floor level designed or intended for use by at least one health care provider.

Public accommodation. A *private entity* that owns, leases (or leases to), or operates a *place of public accommodation*.

Public Building or Facility. A *building* or *facility* or portion of a *building* or *facility* designed, constructed, or altered by, on behalf of, or for the use of a *public entity* subject to title II of the ADA and 28 CFR part 35 or to title II of the ADA and 49 CFR 37.41 or 37.43.

Public entity.

(1) Any State or local government;

(2) Any department, agency, special purpose district, or other instrumentality of a State or States or local government; and

(3) The National Railroad Passenger Corporation, and any commuter authority (as defined in section 103(8) of the Rail Passenger Service Act). (45 U.S.C. 541)

Public Entrance. An *entrance* that is not a *service entrance* or a *restricted entrance*.

Public Use. Interior or exterior rooms, *spaces*, or *elements* that are made available to the public. *Public use* may be provided at a *building* or *facility* that is privately or publicly owned.

Public Way. Any street, alley or other parcel of land open to the outside air leading to a public street, which has been deeded, dedicated or otherwise permanently appropriated to the public for *public use* and which has a clear width and height of not less than 10 feet (3050 mm).

Ramp. A walking surface that has a *running slope* steeper than 1:20.

Readily Achievable. Easily accomplishable and able to be carried out without much difficulty or expense.

Restricted Entrance. An *entrance* that is made available for *common use* on a controlled basis but not *public use* and that is not a *service entrance*.

Running Slope. The slope that is parallel to the direction of travel (see *cross slope*).

Service Entrance. An *entrance* intended primarily for delivery of goods or services

Site. A parcel of land bounded by a property line or a designated portion of a public right-of-way.

Soft Contained Play Structure. A play structure made up of one or more play components where the user enters a fully enclosed play environment that utilizes pliable materials, such as plastic, netting, or fabric.

Space. A definable area, such as a room, toilet room, hall, *assembly area*, *entrance*, storage room, alcove, courtyard, or lobby.

Story. That portion of a *building* or *facility* designed for human occupancy included between the upper surface of a floor and upper surface of the floor or roof next above. A *story* containing one or more *mezzanines* has more than one floor level.

Structural Frame. The columns and the girders, beams, and trusses having direct connections to the columns and all other members that are essential to the stability of the *building* or *facility* as a whole.

Tactile. An object that can be perceived using the sense of touch.

Technically Infeasible. With respect to an *alteration* of a *building* or a *facility*, something that

has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member that is an essential part of the *structural frame*; or because other existing physical or *site* constraints prohibit modification or *addition* of *elements*, *spaces*, or features that are in full and strict compliance with the minimum requirements.

Transfer Device. Equipment designed to facilitate the transfer of a person from a *wheelchair* or other mobility aid to and from an *amusement ride seat*.

TTY. An abbreviation for teletypewriter. Machinery that employs interactive text-based communication through the transmission of coded signals across the telephone network. *TTYs* may include, for example, devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons) or computers with special modems. *TTYs* are also called text telephones.

Use Zone. The ground level area beneath and immediately adjacent to a play structure or play equipment that is designated by ASTM F 1487 (incorporated by reference, see "Referenced Standards" in Chapter 1) for unrestricted circulation around the play equipment and where it is predicted that a user would land when falling from or exiting the play equipment.

Walk. An exterior prepared surface for pedestrian use, including pedestrian areas such as plazas and courts.

Wheelchair. A manually-operated or power-driven device designed primarily for use by an individual with a mobility *disability* for the main purpose of indoor or of both indoor and outdoor locomotion. This definition does not apply to Federal wilderness areas; *wheelchairs* in such areas are defined in section 508(c)(2) of the ADA, 42 U.S.C. 12207(c)(2).

Wheelchair Space. *Space* for a single *wheelchair* and its occupant.

Work Area Equipment. Any machine, instrument, engine, motor, pump, conveyor, or other apparatus used to perform work. As used in this code, this term shall apply only to equipment that is permanently installed or built-in in *employee work areas*. *Work area equipment* does not include passenger elevators and other *accessible* means of vertical transportation.

207 ACCESSIBLE MEANS OF EGRESS

207.1.1

Barriers at common or emergency *entrances* and exits of business establishments conducting business with the general public that are existing, under construction, or under contract for construction which would prevent a person from using such *entrances* or exits shall be removed.

203.5 Machinery Spaces.

Spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment shall not be required to comply with these requirements or to be on an *accessible* route. Machinery *spaces* include, but are not limited to, elevator pits or elevator penthouses; mechanical, electrical or communications equipment rooms; piping or equipment catwalks; water or sewage treatment pump rooms and stations; electric substations and transformer vaults; and highway and tunnel utility *facilities*.

213 TOILET FACILITIES AND BATHING FACILITIES

213.1 General.

Where toilet *facilities* and bathing *facilities* are provided, they shall comply with 213. Where toilet *facilities* and bathing *facilities* are provided in *facilities* permitted by 206.2.3 Exceptions 1 and 2 not to connect stories by an *accessible* route, toilet *facilities* and bathing *facilities* shall be provided on a *story* connected by an *accessible* route to an *accessible entrance*.

211 DRINKING FOUNTAINS

211.2 Minimum Number.

No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with 602.1 through 602.6 and one drinking fountain shall comply with 602.7.

EXCEPTION: Where a single drinking fountain complies with 602.1 through 602.6 and 602.7, it shall be permitted to be substituted for two separate drinking fountains.

211.2 The minimum number of drinking fountains is two. One should comply with 602.1 and one with 602.7.

216 SIGNS

216.1 General.

Signs shall be provided in accordance with 216 and shall comply with 703.

EXCEPTIONS:

1. *Building* directories, menus, seat and row designations in *assembly areas*, occupant names, *building* addresses, and company names and logos shall not be required to comply with 216.
2. In parking *facilities*, signs shall not be required to comply with 216.2, 216.3, and 216.6 through 216.12.
3. Temporary, 7 days or less, signs shall not be required to comply with 216.
4. In detention and correctional *facilities*, signs not located in *public use* areas shall not be required to comply with 216.

216.3 Directional and Informational Signs.

Signs that provide direction to or information about interior *spaces* and *facilities* of the *site* shall comply with 703.5.

Advisory 216.3 Directional and Informational Signs.

Information about interior spaces and facilities includes rules of conduct, occupant load, and similar signs. Signs providing direction to rooms or spaces include those that identify egress routes.

216.4.1 Exit Doors.

Doors at exit passageways, exit discharge, and exit stairways shall be identified by *tactile* signs complying with 703.1, 703.2, and 703.5.

Exits must be identified by tactile signs complying with 703.1, 703.2, and 703.5.

Advisory 302.1 General.

A stable surface is one that remains unchanged by contaminants or applied force, so that when the contaminant or force is removed, the surface returns to its original condition. A firm surface resists deformation by either indentations or particles moving on its surface. A slip-resistant surface provides sufficient frictional counterforce to the forces exerted in walking to permit safe ambulation.

304.3.1 Circular Space.

The turning *space* shall be a *space* of 60 inches (1525 mm) diameter minimum. The *space* shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space.

The turning *space* shall be a T-shaped *space* within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The *space* shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

A T-shaped turning space must be within a minimum of 60 inch square with arms and base a minimum of 36 inches wide. The arms of the "T" shall be free from obstructions a minimum of 12 inches in each direction, and the base should be free of obstructions for a minimum of 24 inches. This space is permitted to include knee and toe clearance complying with 306 at either the end of the base or one arm.

403.5.2 Clear Width at Turn.

Where the *accessible* route makes a 180 degree turn around an *element* which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

403.5.3 Passing Spaces.

An *accessible* route with a clear width less than 60 inches (1525 mm) shall provide passing *spaces* at intervals of 200 feet (61 m) maximum. Passing *spaces* shall be either: a *space* 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection

609.3 Spacing.

The *space* between the wall and the grab bar shall be 1 1/2 inches (38 mm). The *space* between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The *space* between the grab bar and projecting objects above shall be 12

inches (305 mm) minimum.

EXCEPTION: The *space* between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be 1 1/2 inches (38 mm) minimum.

Space between the wall and the grab bar should be 1 ½ inches; the space between the grab bar and projecting objects below and at the ends should be a minimum of 1 ½ inches. The space between projecting objects above and the grab bar should be a minimum of 12 inches. An exception to the spacing of grab bars is in showers, where space between the grab bars and shower controls, shower fittings, and other grab bars above are permitted to be a minimum of 1 ½ inches.

609.4 Position of Grab Bars.

Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for *children's use* complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

Grab bars should be in a horizontal direction at a minimum length of 33 inches and 36 inches above the finished floor, measured from the finished floor to the top of the gripping surface. An exception to this rule is for children's use, where the grab bars should be installed horizontally at a minimum of 18 inches and a maximum of 27 inches above the finished floor measured to the top of the gripping surface.

802 WHEELCHAIR SPACES, COMPANION SEATS, AND DESIGNATED AISLE SEATS

802.1.2 Width.

A single *wheelchair space* shall be 36 inches (915 mm) wide minimum. Where two adjacent *wheelchair spaces* are provided, each *wheelchair space* shall be 33 inches (840 mm) wide minimum.

CHAPTER 12

SECTION 1204 TEMPERATURE CONTROL

1204.1 Equipment and systems.

Interior spaces intended for human occupancy shall be provided with active or passive space-heating systems capable of maintaining a minimum indoor temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.

Exception: Interior spaces where the primary purpose is not associated with human comfort.

1205.2 Natural light.

The minimum net glazed area shall not be less than 8 percent of the floor area of the room served.

1205.3 Artificial light.

Artificial light shall be provided that is adequate to provide an average illumination of 10 foot-candles (107 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

1205.4 Stairway illumination.

Stairways within *dwelling units* and *exterior stairways* serving a *dwelling unit* shall have an illumination level on tread runs of not less than 1 foot-candle (11 lux). *Stairs* in other occupancies shall be governed by Chapter 10.

1207.2 Air-borne sound.

Walls, partitions and floor/ceiling assemblies separating *dwelling units* from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to *dwelling unit* entrance doors; however, such doors shall be tight fitting to the frame and sill.

1207.3 Structure-borne sound.

Floor/ceiling assemblies between *dwelling units* or between a *dwelling unit* and a public or service area within the structure shall have an impact insulation class (IIC) rating of not less than 50 (45 if field tested) when tested in accordance with ASTM E 492.



Design Considerations from Literature

Color in Healthcare Environments - A Research Report

Designers have come to an agreement that the healthcare environment should be friendly and therapeutic not only for the patients but for the caregivers, visitors and the entire community. With that said, color plays an important role in achieving this. Color is used not only for healing mental illnesses but studies have shown that it can also be used for physical illnesses. Although color for healing physical illnesses has not yet been accepted, it is very evident that color can make a difference for the human psyche. A good example of how color can play an important role in a healthcare facility is:

"Consider the following example from an informative book about special care environments for people who suffer from dementia: Yellow-based pinks, such as salmon, coral, peach, or a soft yellow-orange will provide residents with pleasing surroundings. The pale tints, soft apricot and peach, accent the skin's own natural pigmentation, and all of the colors, are the most flattering to human skin tones. Turquoise and aquamarine, considered "universal" colors, also compliment most people's skin tones. When people look better, they feel better! (Brawley, 1997, pp. 108-109)"

Furniture Design Features and Healthcare Outcomes

This article breaks down the importance of Furniture Design in a healthcare facility, into eight major Goals which are shown below.

EBD Goal 1: Reduce surface contamination linked to healthcare associated infections

- Surfaces are easily cleaned, with no surface joints or seams.
- Materials for upholstery are impervious (nonporous).
- Surfaces are nonporous and smooth.

EBD Goal 2: Reduce patient falls and associated injuries

- Chair seat height is adjustable.
- Chair has armrests.
- Space beneath the chair supports foot position changes.
- Chair seat posterior tilt angle and seat back recline facilitate patient egress.
- Chairs are sturdy, stable, and cannot be easily tipped over.

- Rolling furniture includes locking rollers or casters.
- Chairs have no sharp or hard edges that can injure patients who fall or trip.

EBD Goal 3: Decrease medication errors

- Lighting fixtures should provide 90-150 foot candle illumination and an adjustable 50-watt high intensity task lamp for furniture with built-in lighting that is used in a medication safety zone.
- Furniture is configurable to create a sense of privacy to minimize visual distractions and interruptions from sound and noise during medication transcription, preparation, dispensing, and administration activities.

EBD Goal 4: Improve communication and social support for patients and family members

- Furniture can be configured into small flexible groupings that are easily adjusted to accommodate a varying numbers of individuals in a variety of healthcare settings.
- Wide-size and age variations are supported.
- Acoustic and visual patient privacy are supported.

EBD Goal 5: Decrease patient, family member, and staff stress and fatigue

- Materials suggest a link to nature.
- Appearance is attractive and non-institutional.
- Furniture is tested for safe and comfortable use by all, including morbidly obese individuals.

EBD Goal 6: Improve staff effectiveness, efficiency, and communication

- Furniture is easily adjustable to individual worker's ergonomic needs.
- Design enables care coordination and information sharing.
- Materials are sound absorbing.

EBD Goal 7: Improve environmental safety

- Materials do not contain volatile organic compounds (VOC), such as formaldehyde and benzene.

EBD Goal 8: Represent the best investment

- Reflect and reinforce the organizational mission, strategic goals, and brand.
- Integrate new with existing furniture and objects for facility renovation projects.
- Pieces can be flexibly reconfigured and moved to support changing and emerging missions.
- Provide casters or glides to reduce floor damage.
- Check that there are no hard protuberances that may damage walls; check chair rail heights.
- Manufacturer provides results of safety and durability testing.
- Manufacturer describes the specific evidence that has been used to design the product.
- Manufacturer includes a warranty appropriate to use, such as furniture used all day, every day.
- Replacement parts are available.
- Repairs can be done in the healthcare facility.
- Manufacturer or local dealer can assist with furniture repair and refurbishing.
- Environmental services (housekeeping) staff can easily maintain furniture.
- A Group Purchasing Organization (GPO) can be used when purchasing furniture."

The Impact of Light on Outcomes in Healthcare Settings

In this article there is a comparison of studies and how higher light levels increase performance and how an increase in light is necessary as age increases. It also goes into detail about how light can affect mood and perception and in the long-run decrease the length of stay in a medical facility, improve sleep, reduce depression, and improving work among the staff. It is shown that windows that give access to daylight allow increased satisfaction in the work place. This article specifically states:

"Adequate and appropriate exposure to light is critical for health and well-being of patients as well as staff in healthcare settings. A combination of daylight and electric light can meet these needs. Natural light should be incorporated into lighting design in healthcare settings, not only because it is beneficial to patients and staff, but also because it is light delivered at no cost and in a form that most people prefer. Another factor that affects performance on visual tasks is age, and the need for light increases as a function of age due to reduced transmittance of aging eye lenses."

This article also gives a breakdown of the importance of light shown below:

Visual task performance

- Task performance improves with increased light levels.
- The need for light for visual task performance increases with age.
- Higher lighting levels were associated with fewer medication-dispensing errors in a pharmacy

Exposure to daylight

- Reduces depression among patients with seasonal affective disorder and bipolar depression.
- Decreases length of stay in hospitals.
- Improves sleep and circadian rhythms.
- Lessens agitation among dementia patients, ease pain.
- Improves adjustment to night-shift work among staff.

Better outcomes for patients on the unit's bright side

- Experienced less perceived stress.
- Experienced less pain.
- Took 22% less analgesic medication per hour.
- Incurred 21% less medication costs (Walch et al., 2005).

Windows

- People prefer daylight to artificial sources of light for work and prefer to be close to windows.
- Glare and thermal discomfort may impact mood and task performance negatively.

Lighting in healthcare settings

- Provide windows for access to natural daylight in patient rooms, along with provisions for controlling glare and temperature.
- Orient patient rooms to maximize early-morning sun exposure.
- Assess adequacy of lighting levels in staff work areas.
- Provide high lighting levels for complex visual tasks.
- Provide windows in staff break rooms so staff has access to natural light.



Case Studies

Tallahassee Memorial Hospital

Way finding and signage:

Signs were prevalent around the hospital with directions to emergency exits in red to signify their importance and spot easily at a quick glance. However, not everyone likes to walk around looking at the ceiling, so if you happen to miss a sign, it is very easy to get turned around within the interior of the hospital. The entire hospital is the same cream and green color with countless doors and wood railings lining the wall. The artwork did not make much of a statement either, creating hardly any landmarks. This makes it very difficult to navigate when everything looks alike. Also, the hallways that ventured out from the atrium (the implied heart of the informational floor) were very long with no nurses' stations along the way. Though it's nice the railings offer support for those who need assistance walking, such long corridors with no places for rest or attention is overwhelming, especially the sick. Way finding at the exterior of the hospital and for parking was also confusing and busy because the location of the hospital is at the corner of a busy intersection that does not allow for much expansion or roads.

Universal Design:

Water fountains, bathrooms, sinks, railings, ramps, non-slip surfaces, and more were all accessible and incorporated into the design of the hospital.

Privacy and sound control:

The atrium had a grand piano that was playing itself. This may appear to be pleasant except the area was so quiet and empty that hearing the piano play sounded eerie. The main floor was not loud, and patients were not heard at the time of visit. There was no privacy of storage areas however, which displayed unused stacks of chairs, tables, and wheelchairs in and adjacent to the atrium.

Ergonomics:

Hallways seemed wide enough to allow two wheelchairs to pass at once, but not too wide as it does not get extremely high traffic flow on a regular basis. Chairs in the front lobby, atrium, and in other sitting areas were wide and sturdy which allows seating for all types of individuals.

Art:

Art on the wall was dated, insignificant, and unattractive. The atrium displayed local artwork for sale alongside the ramp (of all places) which added a nice community-like feel. Most of the artwork was hung crooked and at awkward places.

Color and psychology:

Better colors could have been chosen to create contrast and points of interest, which would ultimately help improve way finding. More color could also make certain areas more pleasant and enjoyable for visitors, patients and staff.

Furniture and furnishings:

Furniture was abundant and the lack of visitors made most of the spaces look large and empty. The materials used on the furniture were vinyl and veneer offering an easy to clean surface. Placement of certain pieces of furniture was odd, such as one chair in the corner of a hallway or chairs in a glass sunroom inside the parking garage.

Maintenance:

At the time of the visit, no maintenance people were seen cleaning. In fact, for a hospital, the floors, bathrooms, and walls looked rather dirty. Age probably did not help this notation since the hospital is rather old allowing more wear and tear to show.

Finishes:

Easy to clean finishes were utilized on furniture, seating, railings, ramps, walls, and floors.

Artificial Lighting:

Fluorescent tube lighting lit most of the hallways, offices, and provided consistent light in the lobby, atrium and other areas when natural lighting is not offered.

Natural Lighting:

There was a decent amount of natural lighting. The atrium had filtered natural light (or what we assumed to be natural light, it may have been a ceiling of artificial light pretending to be natural) providing some energy to the activity in the atrium, the ceiling of fogged glass looked dirty and could have allowed more light to come through. There were some walls with large windows of daylight. Unfortunately, those views were of parking lots, the interior of the parking garage, congested roads, and exterior walls.

St. Mary's Hospital (specifically, the newly Advanced Medical Pavilion)

Way finding and signage:

The custom designed floors made of MARMORETTE provide implied guidelines and paths for the patients for better way finding and designation used in areas such as the blood infusion and diagnostic imaging centers, ultrasound rooms and mammography rooms.

Universal Design:

Railings are incorporated in the design and look like chair rails. Floors are smooth for easy gliding with walkers and wheelchairs.

Privacy and sound control:

Privacy is embodied with custom glass, metal, and masonry obstructions that reinforce the notion of the natural rocky mesas surrounding St. Mary's Hospital through color, texture, and shape. Separate rooms are also stationed for specific examinations, consultations, and testing to allow for further confidentiality.

Ergonomics:

Hallways seem to be wide enough (from looking at pictures) for two wheelchairs to pass. Chairs seem large and sturdy and ample amounts of space give room for strolling.

Art:

The design and architecture of the space itself is a work of art. As if that isn't enough, artwork does thoughtfully fill blank spaces of the wall with reinforcing images of the concept of the Pavilion.

Sustainable design and materials:

Sustainability was a major concern throughout the design process. Linoleum was used wherever possible. MARMORETTE, a material made of natural, renewable raw materials, was also utilized a lot. It gives an aesthetic appearance and has excellent durability. NATURAL OPTIONS luxury solid vinyl and Standard EXCELON Imperial were also used in the creation of the space.

Color and Psychology:

Natural hues were artfully chosen to provide a warm and homey feeling, which the hospital says is "important for psychological well-being." The colors and materials also play a major role in emphasizing the concept and bring the outdoors in.

Furniture and Finishes:

Easy to clean, natural products were used on furnishings and finishes. High traffic areas were accounted for and compensated for with durable materials.

Artificial Lighting:

Artificial lights are utilized in exam rooms and hallways for consistent and controlled lighting. They are incorporated in the design in a thoughtful manner.

Natural Lighting:

In order to bring the rocky mesas and the high plains of the Grand Junction in the hospital, views of the outdoors were a must. A visually striking structure composed of two three-story angled wings that represent the rocky mesas meet in a central wedge-shaped that contains the atrium. It represents a cool, shaded canyon.



Case Study Comparison Chart

	PS-1	PS-2	PS-3
Name	Tallahassee Memorial Hospital (TMH)	St. Mary's Hospital (more specifically, the new Advanced Medical Pavilion)	Bethesda Memorial Hospital
Location	Located on the corner of Magnolia and Miccosukee Road, Tallahassee, Florida	Between Denver, Colorado and Salt Lake City, Utah	Seacrest Blvd, Boynton Beach, Florida
Function	General hospital surrounded by more specific specialty medical buildings	Hospital and cancer center, supported by Armstrong, which exudes a warm and welcoming and healing atmosphere through their design and beautiful backdrop of nature.	General hospital with special units focused on heart care, cancer research, orthopedics, and rehab.
Lighting	Little natural light with poor views. Atrium had a filtered glass ceiling (possibly artificial light, unsure). Lots of artificial, especially fluorescent light fixtures, filled the	Mostly artificial from what can be observed from photos with casings of natural light and a view of nature. Cove lighting seems to be used in several rooms	Mostly artificial light but ample amounts of natural light near entries and main interaction areas.

	hallways	to soften the atmosphere	Artificial light from ceiling and wall hanging fixtures.
Color Scheme	<p>Greens and cream. Some blue and gold were also utilized.</p> <p>Not very attractive or welcoming, however, it wasn't completely unfavorable</p>	<p>Natural hues are used and support the imagery of the Grand Junction landscape which is also represented through the masonry, flooring, brick work, glass and metal in the interior.</p>	<p>Mostly natural colors were utilized with an emphasis on tan and white. Accents of green and blue were present making the scheme exciting</p>
Furniture	<p>Simple pieces were placed in somewhat awkward and empty spaces of the hospital. Easy to clean materials are utilized which gave it a semi-cold and unwelcoming sensation</p>	<p>Designed to create a warm and homey feel with the flooring. Linoleum is used wherever possible for sustainability reasons along with other recycled materials like Marmorette. High technology is also a huge influence for the patients of this facility.</p>	<p>Simply designed pieces with wooden frames and fabric with a consistent pattern. Seats were surprisingly comfortable and spacious</p>

Major and Minor Space Requirements

IND 4218 - Interior Design Studio II - Undergraduate

Medical Clinic

Summer 2012

Room Name/Function	Qty	Net SF each	Total NSF	Comments
Exam/Consult				
Exam Room	9	120	1,080	3 per Physician
Patient Toilet (unisex)	1	70	70	Provide a 5' turn around and required ADA Clearances at fixtures.
Staff Conference room	1	200	200	
Nurse Station		300	300	Space for 3 nurses, 1 nurse per physician, this may be a single station with 3 work spaces or individual nurse stations.
Medication Storage / Alcove	3	60	180	
Work Room	1	120	120	Scanning, printer, copier, fax, file cabinet
Lab	1	250	250	Located to provide easy access by all nurses
X-Ray /Imaging Area	1	300	300	Located to provide easy access by all nurses
Waiting and Reception/Education				
Waiting, Patients	1	500	500	Provide seating for 20
Reception/Check-In	3	60	180	Provide 3 check in points no less than 3' wide
Triage: Vitals and Weigh-in	1	20	20	Patient vitals in semiprivate alcove
Scheduling/Check-Out	2	120	240	
Wheelchair Storage - Lobby	1	20	20	Needs to accommodate (4) Wheelchairs
Public toilets- Mens	1	300	300	Provide 3 stalls, 1 must be Accessible and 2 sinks
Public toilets- Womens	1	300	300	Provide 3 stalls, 1 must be Accessible and 2 sinks
Patient Education/Consultation	3	120	360	
Offices and Workstations				
Office, Physician	3	120	360	Desk, credenza, desk chair, (2) guest chairs,
Office, Case Mgr / Social Worker	1	140	140	Desk, credenza, desk chair, (2) guest chairs,
Office, Financial Counselor	1	120	120	Located near reception/check-out, Desk, credenza, desk chair, (2) guest chairs
Staff Toilet	1	140	140	Men/Women
Staff Locker/Lounge	1	200	200	Locker for each staff member, small kitchen area with refrigerator, microwave and sink.
Support spaces				
Clean Supply	1	100	100	Minimum 10 sq. ft. per exam room
Housekeeping/Janitor's Closet	1	80	80	
Storage Room(s)/closet(s)			150	Distributed throughout clinic areas
Mechanical Room	1	250	250	
Electrical Room	1	250	250	
Soiled Linen	1	50	50	Minimum 5 sq. ft. per exam room, centrally located or distributed throughout clinic.
Recycling Center	1	30	30	
Total NSF			6,290	
Net-to-Gross Factor			1.5	
Total DGSF			9,435	



General Furniture Assessment

Space	Furniture Needed	Approx. Number	Activity	Special Needs	Users
Exam Rooms	Exam tables	9	Examining patients	Accommodate children and adults. Easy to clean materials.	Patients
Conference Room	Large table and Chairs	1 table 10 chairs	Hold meetings	Comfortable seating. Adjustable executive chairs	Staff
Nurse Station	Chairs	3	Nurses obtain information here	Comfortable seating. Adjustable executive chairs	Staff
Patient Waiting Area	Chairs and end tables	5 end tables 20 chairs	Patients wait to be seen.	Comfortable seating. Easy to clean materials that accommodate children, adults and 4 wheelchairs.	Patients
Reception/Check In	Chairs	3	Staff will Check patients in.	Comfortable seating. Chairs must be easily maneuverable.	Staff
Scheduling/Check out	Chairs	2	Staff will schedule Patients appointments and Check them out.	Comfortable seating. Chairs must be easily maneuverable.	Staff
Physicians Office	Desks Credenzas Desk chairs Guest chairs	3 desks 3 credenzas 3 desk chairs 6 guest chairs	Physicians will speak with Patients in a private setting.	Comfortable seating. Adjustable Desk Chairs. Guest Chairs must accommodate children and adults and can be easily cleaned.	Staff and Patients

Space	Furniture Needed	Approx. Number	Activity	Special Needs	Users
Case Mgr./Social Worker Office	Desk Credenza Desk Chair Guest Chairs	1 Desk 1 Credenza 1 Desk Chair 2 Guest Chairs	Manages client services in a private setting.	Comfortable seating. Adjustable Desk Chairs. Guest Chairs must accommodate children and adults and can be easily cleaned.	Staff and Patients
Financial Counselor Office	Desk Credenza Desk Chair Guest Chairs	1 Desk 1 Credenza 1 Desk Chair 2 Guest Chairs	Helps Patients with their financial needs.	Comfortable seating. Adjustable Desk Chairs. Guest Chairs must accommodate children and adults and can be easily cleaned.	Staff and Patients
Staff Locker/Lounge	Small Dining table Chairs	1 Table 2 Chairs	Staff eats and keeps their belongings here.		Staff



Exam/Consult

- Exam Rooms- These areas will need a consistent light source. Recessed Fluorescent lighting would be ideal which allows for an even overall light source.
- Nurse Station- This area would also need Recessed Fluorescent lighting as well as task lighting.

Waiting and Reception/Education

- Patients waiting area- This area should have access to natural light to keep the patients moral up. Large Windows would be an easy way to bring in the natural light. This area should also have incandescent lighting on end tables as well as hanging overhead lighting.
- Reception area- This area will need recessed fluorescent lighting as well as task lighting.

Offices and Workstations

- Offices- These areas will need task lighting as well as overhead lighting. The overhead lighting may be hanging or track lighting.
- Lounge- This area can have natural lighting as well as overhead lighting. A small window would allow for ample amounts of natural light.

Support Spaces

- Cleaning/Storage/Mechanical etc- These areas can have overhead incandescent lighting. These areas are inhabited for short periods of time so no recessed lighting is needed.



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