

ILLINOIS STATE UNIVERSITY

DESIGN GUIDELINES

Effective February 1, 2023

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I. <u>ABSTRACT</u>

- A. Illinois State University campus buildings and landscapes contribute directly to the quality of the experience and life and effectiveness of the work of students, faculty, and staff. The creation and maintenance of the campus is a very high priority for Illinois State University. The role that each building and landscape element plays in the composition of the total campus is just as important as the role played in meeting the specific needs identified in the project's program requirements. These design guidelines will direct the design of campus facilities for each construction project, major repair, and renovation projects.
- B. Separate from the *Illinois State University Facilities Standards*, it is the intent of the *Illinois State University Design Guidelines* to be the source of guidance and information for designers and consultants to reference throughout the design process for Illinois State University for planning, design, and construction projects.



II. <u>DEFINITION OF TERMS</u>

- A. It is important to understand terminology when discussing or using *Illinois State* University Design Guidelines. The following are Illinois State University's generally accepted definitions of the types of space and building areas that are relevant to application of these guidelines. These definitions are consistent with those used by the Postsecondary Education Facilities Inventory and Classification Manual (FICM), published by the U.S. Department of Educational Research and Improvement, NCES 92-165r. FICM is a standard reference document used by nearly all universities across the country, including Illinois State University.
- B. Gross Square Feet GSF (also called BGSF-building gross square feet) GSF is the total area of all floors of a building. This includes the area within the outside faces of exterior walls and floor penetration areas, however insignificant. GSF also includes all building structural, mechanical, and other infrastructure systems, all building circulation space, and all support space such as public toilets, lobbies, etc. Gross area also includes space located above and below grade including basements. The hatched area of Figure D-1 defines the GSF of a building:



Figure D-1

C. Net Assignable Square Feet – NASF (also called NSF or ASF-net square feet or assignable square feet). NASF refers to the space inside a room, as measured from interior wall to interior wall, including "nooks and crannies" which may exist in older buildings. It does not include building circulation, or areas such as restrooms, elevators, and stairs. This is the space that is available for assignment to an occupant or for a specific use. These guidelines are presented in terms of "NASF." The hatched areas of Figure D-2 show the NASF of the building. Note that the corridors, restrooms, elevators, etc. are not included in the NASF.







III. <u>BUILDING DESIGN</u>

- A. "Campus Architectural Quad Style"
 - 1. New buildings and additions on the Illinois State University Quad shall be "Collegiate Georgian" in architectural vernacular or be approved by Illinois State University to be in a sympathetic or contextual form as represented by current examples on campus. The Quad and entry are defined by the following plan:







- 2. Buildings should create an external form relationship between the base, body, and roof/cornice of the building. The building should create a harmonious balance between voids (i.e. glazing) and solids (i.e. brick). The front entry should be human scaled/focused, be architecturally prominent and address and respond to pedestrian paths. Roofs should be hipped, gabled, or a combination of the two. Flat roofs, when necessary due to building size, should be hidden by use of sloped roofs or a parapet. Buildings and additions will be composed and massed to fit with the neighboring building scale and proportions. Any new building site on the Quad will respect and reinforce the existing spatial geometry and integrity of the Quad entry and the Quad.
- 3. Georgian building forms and massing should be articulated with offsets, recesses, and outsets to humanize the scale of the building. In general, Quad buildings should be a minimum of 3 stories in height and a maximum of 5 stories in height.
- 4. Buildings, where possible, should allow infiltration of natural light into most interior occupied spaces, except where it would not be conducive by function.
- 5. The Illinois State University campus is a certified Arboretum and teaching laboratory. Therefore, modified Quad environment settings resulting from new buildings or additions should maintain a living laboratory. However, they should not diminish or take attention away from the campus teaching and instructional elements. The resulting campus-built environment will support *Educate-Connect-Elevate: Illinois State The Strategic Plan 2018-2023, Master Plan Update 2010-2030, Illinois State University Sustainability Strategic Plan (pending approval), and the academic mission of the University.*
- 6. Proposed architectural style deviations resulting from site issues or necessary building functions, must have written approval, in advance, by Illinois State University Facilities Planning, Design, and Construction.
- B. "Campus Architectural Non-Quad Styles"
 - 1. The Illinois State University campus includes other existing properties and building locations not located on the Quad. These locations contain buildings and environments of different ages, types, and architectural styles. New buildings and additions in these locations shall be "contextual" and sympathetic with the existing campus and our non-campus neighbors. Illinois State University Facilities Planning, Design, and Construction will be the design authority for determining proposed building appropriateness and contextual fit.



- 2. Buildings should create an external form relationship with its site, surrounding environment, the street, and its neighbors. The building should create a harmonious balance between voids (i.e. glazing) and solids (i.e. brick). Entries should be human scaled/focused and respond to and be of pedestrian scale. Buildings and additions will be composed and massed to fit with their environment and neighboring buildings scale and proportions.
- 3. Buildings, where possible, should allow infiltration of natural light into most interior occupied spaces, except where it would not be conducive by function.
- 4. Proposed architectural style deviations resulting from site issues or necessary building functions, must have written approval, in advance, by Illinois State University Facilities Planning, Design, and Construction.
- C. Building Site Development Issues
 - 1. Buildings should address minimum clearances and required access for complete campus emergency vehicle access and create pedestrian pathways and "A Pedestrian Approach."
 - 2. Buildings should be oriented for maximum solar benefits. Buildings should provide a physical and visual connection between interior and exterior. Buildings should minimize the reduction of existing green space and, wherever possible, capture green space. The campus shall have exterior spaces that provide "sun pockets" in the fall and spring and cool, shady settings in the summer to create and optimize micro-climates.
 - 3. The designer shall consider the existing environment and design the project to be in harmony with the surrounding buildings and campus. In designing new structures and additions, the contextual scale and architectural style of adjacent buildings and other surroundings shall be considered so that the resulting building group or area shall present a unified and coordinated composition.
 - 4. Illinois State University offers a broad range of learning opportunities. The Illinois State University campus is a certified Arboretum. Therefore, new or modified exterior environments for group encounters and individual reflection should be coordinated with campus and Arboretum needs. Exterior "way finding" to provide direction to users of the campus will be part of all design and construction projects.



IV. <u>SUSTAINABILITY</u>

- A. All design and construction should support the University's sustainability goals. For additional information, see *Illinois State University Sustainability Strategic Plan* (pending approval). Following are Illinois State University objectives:
 - 1. Maintain long-term commitment to reducing university-wide energy consumption and greenhouse gas emissions.
 - 2. Increase campus lighting efficiency.
 - 3. Support transitions to renewable energy.
 - 4. Design and build with LEED ideals and principles regardless of LEED certification.

V. <u>LEED INTENTIONS</u>

- A. LEED[™] (Leadership in Energy and Environmental Design) Green Building Rating System[®] is a voluntary, consensus-based national standard for developing highperformance, sustainable buildings. The University supports the ideals and intentions of this program. The University supports integration into the project of any facet of this program that benefits sustainability, the proposed building, the environment, and the University. Along with design and construction efforts, the University expects that designers will provide clear direction to contractors to recycle from the construction site in accordance with the intent and requirements of this program to help reduce landfill consumption. The University desires concise, simple, and straightforward documentation of these efforts and achievements for Illinois State University's records.
- B. While the University reserves the decision to seek LEED certification for any building or project, each designer shall endeavor to incorporate LEED ideals and applications as warranted by project type or potential. Illinois State University, as an institution, is committed to acting as a responsible steward of our environment. Therefore, the construction and/or renovation of buildings must serve the University for a very long time.
- C. Illinois State University shall adopt the principles and requirements of the latest version of "Leadership in Energy and Environmental Design (LEED) Green Building Guidelines and Rating System". These principles and requirements are intended to provide direction to designers for the sustainable planning, design, construction, and commissioning of new building and major renovation projects at Illinois State University. The objective is to use resources effectively and efficiently. This will improve the comfort, health, and safety of occupants and visitors while limiting the detrimental effects to the environment. All these factors contribute to Illinois State University high-performance buildings lower total life cycle costs.



VI. LANDSCAPE AND SITE DESIGN

- A. Concept Information and Guidelines
 - The Illinois State University campus is designated as The Fell Arboretum. The University continues to strive towards the goal of providing a diversified group of trees and shrubs on our campus. This diversification in plant material allows us to meet one of the main objectives of the Fell Arboretum; the creation of a complete living laboratory for the instructors, students and visitors. More information can be found at <u>https://arboretum.illinoisstate.edu/</u>. The selection and planting of additional plant species, onto the campus of Illinois State University, should be done with the Fell Arboretum objectives in mind. Illinois State University follows the *Tree Campus Higher Education Certification Guidelines (TCHE)*. Furthermore, Illinois State University has the following additional campus landscape design goals:
 - a) Serve as an educational tool/classroom
 - b) Encourage learning, both formal and informal
 - c) Provide spaces for study and meditation
 - d) Provide a campus organization reflecting the heritage and traditions of the University
 - e) Offer historical continuity of plant life
 - f) Present a harmonious balance of campus unity and diversity
 - g) Establish an identity for major disciplines and activities
 - h) Provide pedestrians the priority of use on campus
 - i) Develop campus boundaries that serve the overlapping interests and needs of the university and the surrounding community
 - 2. At the beginning of design, a mandatory site walk-through with the ISU Project Manager, ISU Grounds, and the design consultant shall take place to clarify and discuss site limitations, expectations of tree protection and concerns regarding all plant materials.
 - 3. ISU Grounds shall aid in determining the construction staging area for preservation of the heritage trees and for protecting the diverse plant material existing on campus. Protection will include durable fencing and other measures to restrict access to the root zone of trees and plants during construction activities.
 - 4. ISU Grounds shall select and approve actual plant materials to be installed.



B. Maintenance and Warranty

- 1. Complete Maintenance During Warranty Period: Maintenance shall consist of pruning, watering, cultivating, weeding, mulching, tightening, repairing of guys and stakes, wrapping repair, resetting plants to proper grades or upright condition, restoration of planting saucer, and furnishing and applying such sprays or other items as are necessary to keep the plantings free of insects and disease and in thriving condition.
- 2. Repair Damage: The Contractor shall further guarantee that during the warranty period, the Contractor will make good any defects to the Work and all damage caused to University property by such defects or by the Work required to remedy such defects. The warranty period shall include two dormant cycles for all landscaping materials including grass.
- 3. Decision to Replace: At any time within the period of the warranty, the Contractor is responsible for any plant that is dead, dying, in a declining condition, or that has failed to flourish in such a manner that its usefulness or appearance has been impaired due to inferior or defective materials, workmanship or inadequate protection. The decision of the ISU Grounds for making replacements shall be conclusive and binding upon the Contractor. The Contractor shall also make good all damage to persons or property caused by defective workmanship or materials.
- 4. Trees and Shrubs: Any trees or shrubs found to be unacceptable as described above shall be removed from the site and replaced during the next planting season.
- 5. Execution:
 - a) Soil: The contractor will furnish a soil analysis of planting beds soil, by a qualified-testing laboratory, to the ISU Project Manager, for confirmation by the design consultant and ISU Grounds prior to installation. Soil analysis is to include soil pH, texture, and classification. The contractor shall not begin installation of plant material without the written approval of the ISU Grounds. Soil conditions or specifications shall be reviewed by the ISU Grounds prior to releasing for bids.
 - b) Protection: Protect plants at all times from conditions detrimental to the health of the plants. Plants that cannot be planted immediately on delivery shall be kept in shade or sun, according to their specific requirements, with balled and burlap (B&B) material well protected with soil, wood chips, shredded bark, or other acceptable material. Plants shall be kept watered. Plants shall not remain unplanted for longer than 3 days after delivery.



- c) Remove Materials from Site: All excess excavated materials shall be disposed of off-site by the Contractor. The Contractor shall be responsible for removing all rubbish, waste materials, or other debris from the site at the completion of each working day.
- d) Setting Plant: Set plants in planting holes with the root flare at finish grade. Set plant plumb and brace rigidly into position until prepared topsoil has been tamped solidly around ball and roots so that the plant will be of the same depth one year later.
- e) Backfill and Water: Backfill planting holes with excavated material. When planting holes have been backfilled about 1/2 full, water thoroughly, eliminating all air pockets
- 6. Site Design
 - a) The following site design items should be considered when designing the exterior environment for Illinois State University campus landscape improvements:
 - (1) Hardscape:
 - (a) Major sidewalks on the Quad will be no less than 12' wide with 6'x6' picture frame tooling
 - (b) Major sidewalks will be no less than 10' wide with 5'x5' picture frame tooling.
 - (c) Minor sidewalks will be 5' wide with picture frame tooling.
 - (2) Greenscape:
 - (a) The University expects to develop green spaces associated with construction projects. Likewise, the University may endeavor to specifically develop separate green space projects. Landforms, berms, and other landscaping elements are encouraged, in appropriate locations, to build upon the existing campus arboretum and to provide spaces for reflection, study, or meditation. New greenscape should provide visual cues for moving from one space or building to another and assist with wayfinding on campus.
 - (3) Outdoor Lighting:
 - (a) Light poles shall be consistent throughout campus.
 - (b) In-ground fixtures must be flush with concrete or landscaping to avoid damage by mowers and/or snowplows.
 - (4) Outdoor Seating:
 - (a) Outdoor public spaces shall have permanently installed outdoor benches and tables. Anchored versus freestanding seating shall be determined for each project.
 - (i) No anchored furnishings shall be allowed on above-grade plazas.



- (b) Fixed benches
- (c) Fixed tables
- (5) Landscaped Screening:
 - (a) Landscape screens shall maintain 10'-0" clear minimum distance from high-voltage electrical equipment. Obtain ISU FM and ISU EHS written approval for reduced clearances.
- (6) Exterior Plants: See "Exhibit DG-3: Landscape Design Guidelines."

VII. <u>SAFETY</u>

- A. Emergency Responder Access:
 - 1. Meet and coordinate with ISU FPDC and ISU EHS to ensure emergency access to all campus buildings.
 - 2. Knox box shall be supplied by ISU EHS and installed by contractor.
- B. Carbon-Monoxide Detection Sensors:
 - 1. Provide as required to be code compliant and as required by the IL State Fire Marshall.
 - a) Provide in new buildings that have sources of combustion which includes interior emergency generators.
 - 2. Carbon monoxide detection systems shall be tied into the building fire alarm panel.
 - a) Exceptions require written approval from ISU EHS.
- C. Fire Extinguishers:
 - 1. Provide fire extinguishers as required to be code compliant. Provide additional fire extinguishers as required by ISU EHS.
 - a) Submit separate drawings with noted fire extinguisher locations and details highlighted for ISU FPDC and ISU EHS to review.
- D. Automated External Defibrillator (AED):
 - 1. Install an AED in all new buildings and additions. Install additional per ISU EHS direction. In general, provide one AED per every two stories.
 - 2. AED equipment, cabinet, and signage shall be ISU EHS supplied and contractor installed.



- 3. ISU EHS shall be notified when AEDs are scheduled to be removed and or permanently relocated prior to construction projects. All AED cabinets and AEDs are to be returned to EHS upon removal due to construction.
- 4. Provide AEDs in public circulation spaces where wall depth allows. Install fully recessed or semi-recessed cabinets that can house ISU EHS approved AEDs. Standard surface mount AED cabinets are the last option for cabinet configuration and must be approved by ISU EHS and ISU FPDC.
- 5. Install AED 3-D wall sign and cabinets to meet ADA requirements.
- E. Fall Protection:
 - 1. For all new buildings, additions, and/or renovations, provide fall protection not only to be code compliant; but also, to eliminate and mitigate fall hazards in order to lower the risk for ISU employees working at heights. See "Exhibit DG-5: Fall Protection Guidelines" for additional information.
- F. Public Safety Cameras:
 - 1. In any new building, addition, or remodeling project, exceptional care and attention should be spent early in the planning process to the areas where public safety camera coverage may be needed. The areas to be covered by cameras should be identified, along with the level of detail required using the DORI model outlined below.
 - 2. Meet and coordinate with the ISU Chief of Police, Emergency Management Director, and ISU Project Manager so that a design review can be conducted. Obtain written approval for acceptable camera types, quantities, and locations.
 - a) The Senior Assistant Director of Student Affairs IT should be consulted so the site can be designed in "Axis Site Designer", which allows ISU to determine exact camera locations along with the ideal camera models, based on the requirements gathered during the design review where the DORI needs were identified.
 - 3. Illinois State University uses Axis P-series, and above, Power over Ethernet (PoE) IP cameras, due to their consistent best in class performance and long-term reliability. These cameras all connect to a Milestone XProtect video management system.
 - 4. Public Safety Camera Design: DORI Model
 - a) Detection: The detection level allows for reliable and easy determination of whether a person or vehicle is present.



- b) Observation: The observation level gives characteristic details of an individual, such as distinctive clothing, while allowing a view of activity surrounding an incident.
- c) Recognition: The recognition level determines with a high degree of certainty whether an individual shown is the same as someone that has been seen before.
- d) Identify: The identification level enables the identity of an individual beyond a reasonable doubt.
- G. Roof Access:
 - 1. Provide safe, secure roof access as required to be code compliant.
 - 2. If the roof needs to be accessed for maintenance, provide the following:
 - a) For new buildings and additions, ISU requires same level access or internal stair or ship ladder access.
 - (1) If a stairwell is a part of the design, then roof access shall be either same level or internal stair/ship ladder.
 - (2) Alternating tread stairs/ladders are not allowed.
 - b) If stairs are not possible, interior ladders with roof hatches will require written approval from ISU FPDC.
 - (1) Provide minimum 36"x36" opening for maintenance materials to fit through. Other opening sizes require special approval by ISU FPDC and ISU EHS.
 - c) Where exterior fixed ladders are provided to transverse different roof heights, fixed ladders shall meet the current OSHA requirements.
 - (1) Provide fall protection where required to be code compliant.
 - 3. Where roof hatches are provided, enclose with a guardrail system around the roof hatch as required to meet the current OSHA requirements.
 - 4. See "Exhibit DG-5: Fall Protection Guidelines" for additional roof access criteria.

VIII. SPACE REQUIREMENTS

- A. Loading Docks:
 - 1. Provide loading docks when required by the scope of work or project program.
 - a) Typically, loading docks are provided at residence halls and dining centers.



- B. Vending Machine Areas:
 - 1. Confirm whether or not vending machines are required as part of the project. Inclusion of vending machines require written approval from ISU FM and ISU FPDC.
- C. All Gender Restrooms:
 - 1. All new buildings shall include a minimum of one (1) new all gender restroom (single user).
 - a) ISU prefers that there be more than the minimum number of all gender restrooms whenever feasible.
- D. Lactation Room:
 - 1. All new buildings shall include one (1) new lactation room. Confirm occupancy load for the lactation room with ISU FPDC.
 - a) Provide the following in each lactation room:
 - (1) Small sink with countertop.
 - (2) Baby changing station.
 - (3) Space for glider(s)/rocking chair(s) and side table(s).
- E. Custodial Closets:
 - 1. Each floor should be equipped with at least one centrally located custodial room. Recommended room size is 8' x 12'; but no smaller than 6' x 7' with 8' minimum clear height.
 - a) Provide the following in each custodial room:
 - (1) Utility floor sink (24"x24" with depth of at least 6") and hot and cold water service with hose attachment fixture.
 - (2) Space that is large enough to accommodate a custodial cart (26" x 46") and other frequently used equipment.
 - (3) Provide enough power to accommodate charging of custodial tools and equipment.
 - 2. In addition, accommodate one (per building minimum) main custodial storage room, 8'x10' size.
- F. Restrooms:
 - 1. For all new buildings and additions, provide 3'-0" x 5'-0" clear in all standard toilet stalls. Provide code compliant clear floor space in all ADA accessible stalls.



G. Offices:

- 1. The following guidelines define the sizes and layouts for the various types of offices at Illinois State University. During the design process it is important to incorporate the following where possible:
 - a) Application of a modular planning approach, to preserve flexibility of office use over time. For example, co-locating offices of similar sizes and types to accommodate future needs and changes in academic programs and administrative functions.
 - b) Placement of offices in the building core, rather than along the windowed side of buildings, in order to create flexibility as well as to promote air movement and air quality and to maximize light penetration for all building occupants.
 - c) Where required, offices may be configured into suites or along hallways. However, consideration should always be given to providing "open office" arrangements where possible.
 - d) Arrange for, when possible, diffuse natural lighting into the building to supplement artificial lighting for workspace lighting.
- 2. The sample plans that follow are representative only. They are provided to demonstrate sample diagrammatic office layouts, for the purpose of visualizing office spaces and possible furniture layouts for the applicable spaces at Illinois State University. This list is not intended to be exhaustive or include all spaces in future projects but be provided for reference and comparison purposes.
 - a) PRESIDENT / VICE PRESIDENT / ASSOCIATE OR ASSISTANT VICE PRESIDENT
 - Upper-level administrative offices (President/Provost/Vice President/Assistant Vice-President/ Associate Vice-President) shall be uniquely designed and sized to best serve the function of that office.



b) DEAN / DIRECTOR / CHAIR

(1) Dean/Director/Chair office should be a single, private office intended to accommodate a desk, files, bookshelf, and a meeting area for an additional 4-6 people. Administrative offices should be large enough to enable the occupant to perform their functional responsibilities. Dean/Director/Chair offices at Illinois State University range from 200-250 square feet and should be approximately 240 NASF. Sample office layouts are illustrated in Figures 1A and 1B:











c) ASSISTANTS / ASSOCIATES / FACULTY

 Faculty offices should allow for faculty members to perform their office functions and be able to meet with two additional people. Approximately 80 lineal feet of shelving should be included in all faculty offices. Faculty offices at Illinois State University range from 120-130 square feet and be approximately 125 NASF. Sample office layouts are illustrated in Figures 2A and 2B:



Figure 2A

Figure 2B

d) The Illinois State University guideline for staff office space ranges from 64-125 NASF / per person. This space may be a cubicle space, shared office, or private office, depending upon the nature of the work. Part-time staff should be in shared spaces or cubicles at the smaller end of the range.



3. The following chart illustrates recommended space allocations by employee:

Group	Position	Office Type	Recommended NASF
Dean	Dean	Office	240
	Assistant Dean	Office	240
	Associate Dean	Office	240
Faculty	Tenure Track – Full Time	Office	125
	Tenure Track – Part Time	Shared Office or Cubicle	80
	Non-Tenure Track – Full Time	Office	125
	Non-Tenure Track – Part Time	Shared Office or Cubicle	80
Emeriti	Active	Office	125
	Non-Active	Shared Office or Cubicle	80
Other	Lecturers	Shared Office or Cubicle	80
Teaching	Sr. Lecturers	Shared Office or Cubicle	80
	Consulting Faculty	Shared Office or Cubicle	80
	Visiting Faculty	Shared Office or Cubicle	80
Others	Affiliates	Shared Office or Cubicle	80
	Visiting Scholars	Shared Office or Cubicle	80
	Fellows	Shared Office or Cubicle	80
	Research Associates	Shared Office or Cubicle	80
Staff	Program Directors	Office	125
	Directors	Shared Office or Cubicle	125
	Assistant Directors	Shared Office or Cubicle	125
	Managers	Cubicle	80
	Supervisors	Cubicle	80
	Full Time	Cubicle	64-100
	Hoteling / Shared	Cubicle	64-100
	Part Time	Cubicle	64-100
	Research Associates	Shared Office or Cubicle	80
	Student Workers	Cubicle	36-64
Students	RA's	Cubicle	36-64
	TA's	Cubicle	36-64
	Grad Students	Cubicle	36-48



- 4. One of the most challenging aspects of allocating office space for Illinois State University staff has to do with determining which staff members should have a private office and which should have a cubicle or open office environment. Many staff will automatically resist cubicles or open office settings, even though such settings have specific merits and are commonplace in universities and college environments in this country.
- 5. The following guidelines for staff cubicle/office/teaming spaces will be the basis of design for allocating office spaces on campus. The decision to allocate an office or a cubicle or a teaming environment to Illinois State University staff members should be made based on the type of work an individual performs. The following factors will be used to determine workspace assignments:
 - a) Job position, rank, and classification
 - b) Time appointment (full-time versus part-time, seasonal versus year-round, job share versus more traditional job arrangements)
 - c) Supervisory and/or managerial role
 - d) Nature/frequency of interaction with internal or external client groups
 - e) Nature/frequency of confidential communication in person or on the telephone
 - f) Nature/frequency of working with other members of a team pursuing similar tasks
 - g) Nature/frequency of processing confidential data
 - h) Nature/frequency of handling equipment/material that requires secure space
 - i) Volume of noise associated with departmental activity or individual job role
 - j) Degree of isolation required for focus and completion of routine job duties

6. STAFF SUPPORT SPACES

a) Staff areas are often larger, open spaces that accommodate a variety of functions such as secretarial, clerical, filing, reception and other support functions. Separate, but adjacent, workroom, mailroom and storage room functions may be a part of these areas. Employee workspace allocations should be per the above chart. In addition, appropriate space should be allocated for required work equipment and furniture with appropriate dedicated work areas, aisles, and clearances.



- 7. CONFERENCE ROOMS
 - a) Conference rooms range from small to large based on program requirements. Area requirement for conference rooms should be calculated at 25-30 square feet per person. Examples of small and large conference rooms are illustrated in Figures 3A and 3B:







3B Large Conference Room

8. CLASSROOMS

a) Allocation of classroom space will be determined by the following factors:

- (1) *Classroom Space Assignment and Use Analysis*: Provide an adequate number and size of classrooms in the appropriate locations to serve academic needs.
 - (a) How many large or medium-sized classrooms are needed?
 - (b) How many smaller seminar rooms are needed?
 - (c) What additional classrooms will be available in what buildings at what times?
- (2) *Classroom Space per Seat*: Provide correctly sized spaces *per seat* within any given classroom.
 - (a) Are classrooms intended for 100 students sized to seat 100 students with appropriate furniture?
- (3) Classroom Technology Support: Provide required program technology
 - (a) Is the classroom capable of supporting the teaching needs of the faculty?
 - (b) Is the room large enough?
 - (c) Is the technology in the right place?
 - (d) Is the technology available at the right time?
 - (e) Is the technology fixed or moveable?
 - (f) Does it provide the appropriate space per student seat?
 - (g) What are the technology requirements?





- (4) *Classroom Acoustics*: Provide required acoustics to support teaching and technology.
 - (a) Are classrooms separated acoustically from hallways, equipment rooms, or other classrooms?
 - (b) Are classrooms finished appropriately to reduce reverberation of the spoken/presented word to enhance intelligibility?
- (5) *Classroom Geometry*: Provide the required geometry to support teaching and technology.
 - (a) Ceiling height and viewing distance to the display must be considered when planning a new classroom. The minimum acceptable viewing distance for any display is 6 times the height of the display and in some cases depending on the purpose of the room should not exceed 4 times the height. The bottom of any display should not be lower than 36" AFF. In an 8' ceiling environment then the distance to the farthest viewer should not exceed 24'.
- (6) Flexibility of Classroom Space: Provide the required flexibility.
 - (a) The configuration of the room and furniture layout should have the ability to change as the pedagogy evolves.
- b) As these factors demonstrate, defining and allocating classroom space is a complex undertaking. These guidelines will help estimate the actual size of classrooms needed for new construction or for renovation projects for proposed changes to existing classroom space. They also help to assess the efficiency of existing classroom space concerning the adequacy of existing rooms to accommodate assigned numbers of students and the technology required.
- c) These factors and issues are addressed on a regular basis by the Office of the Registrar, which schedules most of Illinois State University's classroom space. Learning Spaces and Audio/Visual Technologies will be involved with designing and outfitting classrooms with technology. The Office of the Registrar, working with ISU Facilities Planning, Design, and Construction, weighs these issues and works with schools and departments in the design of new classrooms and the renovation of existing rooms. The involvement of the Registrar and Learning Spaces and Audio/Visual Technologies are key success factors, because of the need to coordinate classroom uses and functions across the campus in order to meet Illinois State University's academic needs. ISU Facilities Planning, Design, and Construction will help by advising about key issues such as grouping classrooms, clustering classroom support, and providing formal and informal breakout spaces. All of these can affect classroom design.



d) Classrooms

(1) The following table presents a range of guidelines for different types of classroom spaces. Actual space per seat, in a classroom may vary depending on existing room configuration as well as type of furniture and seating used (fixed versus movable, tablet arms of varying sizes, tables, or theater-type seating). Classrooms are increasingly outfitted to accommodate sophisticated audiovisual equipment, streaming video, etc. Subsequently the size of the rooms may need to be increased to accommodate this equipment and its support. In general, basic technology needs include a projector, monitor, white board, ethernet connection, instructor cart, and video capacity. The guidelines chart below accommodate these types of needs. Recommendations for seminar rooms for 25 or fewer persons are also applicable to these guidelines for conference rooms.

Classroom Space Guidelines										
Room Category	Occupant Load	Moveable Chairs w/ 15-20" Tablet Arms NASF**	Fixed Pedestal or Riser Mounted Seating w/ Tablet Arms NASF**	Auditorium Seating NASF**	Moveable Table & Chairs NASF**	Fixed Pedestal Table & Chairs NASF**				
Seminar / Conference Rooms	0-25	N/A	N/A	N/A	25-30	N/A				
Small Classrooms	0-49	25-30	20	N/A	25-30	22-25				
Medium Classrooms	50-99	25-30	20	15-18	25-30	22-25				
/ Lecture Halls*	100-149	N/A	18-20	15-18	25-30	22-25				
Large Classrooms	150-299	N/A	18-20	15-18	25-30	22-25				
/ Lecture Halls*	300+	N/A	18-20	15-18	25-30	22-25				
Provide multiple exits for occupant loads exceeding 49. ** Table assumes flat_non-sloping floors										
rable assumes hat, non-sloping noors										

(2) Classrooms shall be sized to accommodate the program requirements. Classroom geometry and layout will be carefully planned for the program and to provide future flexibility.



IX. INTERIOR DESIGN

- A. These Interior Design Guidelines are to guide the design process for construction and renovation projects at Illinois State University. These guidelines apply to all interior elements including furniture. They are intended to achieve a consistent level of furniture and finish quality across the entire Illinois State University campus. One goal of these guidelines is to simplify and reduce the long-term maintenance costs for Illinois State University. This will be done by reducing required campus replacement attic stock and limiting maintenance inventory for repair and touch up materials such as paint.
 - 1. General Principles
 - a) Interior Design Guidelines have been carefully made to support the design aesthetic and use of each campus building.
 - (1) Finishes: Finishes include carpet, resilient flooring, porcelain and ceramic tile, paint, wallcovering, upholstery, ACT, and hard ceilings. These products are evaluated for performance, durability, and design.
 - (2) Furniture: Guidelines apply to both workstations and free-standing furniture. The furniture is evaluated for many factors including durability, depth of product lines, ease of re-configuration, and design. This evaluation takes into account experience with various furniture manufacturers including the actual product, warranty issues, and past service experience from local vendors.
 - (3) Upholstery: Upholstery must meet or exceed specific application testing for all public seating areas. Upholstery must include high performance fabrics for all public seating areas and other areas which receive high usage.
 - (a) Upholstery must have a "W" or "W/S" cleaning code for water-based solution cleaning, which is the standard cleaning method used by ISU Facilities Maintenance.
 - (4) Products: Refer to the separate companion document "Illinois State University Facilities Construction Standards" for the latest specific applicable Interior Design product standards.
 - b) Project designs should consider the functions of the spaces and coordinate those spaces between adjacent existing spaces where applicable. The spaces should be designed to assist first time users through clarity of "wayfinding," towards defined destinations.
 - c) Psychological impact of colors should be considered in the design process. Colors should be chosen to coordinate with existing established building and campus standards, except where emphasis of elements is needed. Finishes and materials should be comfortable and durable to accommodate both lounge and classroom settings.



- B. Every design and construction project is important to Illinois State University. Consistency and quality are valued across our campus for what they add and contribute to the "Illinois State University Experience". These guidelines are designed to be flexible enough to allow for innovation and creativity. We strongly urge you to contact Illinois State University Facilities Planning, Design, and Construction for help with your campus project as soon as possible. Please contact us at: http://facilities.illinoisstate.edu/facilities_planning/request
- C. The following section provides guidelines for selection of standard materials for typical specific campus uses and applications. These lists are not intended to be exhaustive or include all spaces in future projects but are provided here as a reference for standard Illinois State University spaces.
 - 1. Basic Interior Design Standard Building Elements
 - a) Ceilings
 - (1) Public (Classrooms, Labs, Hallways, Restrooms, Work Rooms, etc.)
 - (a) 2' x 2' acoustical ceiling tile (A.C.T.)
 - (b) Gypsum Board (painted)
 - (i) Highly Durable
 - (ii) Easily cleaned
 - (c) Wood Ceiling Assembly(pre-approval required)
 - (2) Non-Public (Offices, Conference Rooms)
 - (a) 2' x 2' acoustical ceiling tile
 - (b) Gypsum Board (painted)
 - b) Floors
 - (1) Public (Hallways, Restrooms, Work Rooms, etc.)
 - (a) Terrazzo
 - (b) Solid Vinyl Tile
 - (c) Vinyl Composition Tile
 - (d) Ceramic/Porcelain Tile
 - (e) Walk-Off Carpet Tile
 - (2) Classrooms and Computer Labs
 - (a) Carpet Tile
 - (b) Solid Vinyl Tile
 - (c) Vinyl Composition Tile
 - (3) Labs
 - (a) Vinyl Composition Tile
 - (b) Chemical Resistant Sheet Vinyl
 - (c) Finished Concrete



- (4) Kitchens and Dish Rooms
 - (a) Quarry Tile
- (5) Non-Public (Offices, Conference Rooms)
 - (a) Carpet Tile
- (6) Mechanical and Electrical Rooms
 - (a) Epoxy Paint
- c) Walls
 - (1) Public
 - (a) Tile
 - (b) Burnished Block
 - (c) Gypsum Board (Painted)
 - (2) Non-Public
 - (a) Gypsum Board (Painted)
- d) Furnishings (excluding Technology)
 - (1) Classrooms
 - (a) Classrooms shall have tablet armchairs or tables and chairs.
 - (b) Classrooms shall have at least one whiteboard and one instructor cart with an instructor stool.
 - (2) Offices
 - (a) Offices shall have a desk, task chair, and at least one guest chair. Filing and shelving should be determined by departmental use requirements.
 - (3) Laboratories
 - (a) Laboratories shall have all equipment necessary for proper lab function, including lab tables and stools for student use.
 - (4) Libraries
 - (a) Libraries shall include tables and chairs as well as lounge furniture for different areas.
 - (b) Furnishings shall include power capabilities when appropriate.
 - (5) Residence Halls
 - (a) Residence halls shall have lounge furniture in public areas.
 - (b) Student rooms shall include a bed, desk, and a desk chair per occupant. A wardrobe unit shall be included for residences without closets.



- (6) Public Spaces
 - (a) Indoor public spaces shall have lounge furniture and/or benches.
 - (b) In non-sprinkled areas, upholstered furniture must comply with CAL 133.
- (7) Window Treatments
 - (a) All new window treatments shall be roller shades.
 - (b) Windows may be treated with film, solar film, or security film.

X. <u>ROOM NUMBERING</u>

- A. ISU Facilities Planning, Design, and Construction shall provide the room numbers. Submit floor plans to obtain room numbers. Tentative room numbers may be requested during schematic design (SD) or design development (DD) phases. Room numbers shall be confirmed during each subsequent design phase.
- B. See the "Exhibit DG-4: Room Numbering Guidelines" which outlines the procedures and rules for assigning room numbers to all spaces in the Illinois State University campus. These guidelines are provided so that Architectural and Engineering consultants have a better understanding of the room numbering process for all renovation and new construction projects. The room numbering guideline applies to all recreational, academic, administrative buildings, residence halls and any leased properties.

XI. <u>SIGNAGE AND WAYFINDING</u>

- A. All design and construction projects should include a wayfinding component. Illinois State University's Signage and Wayfinding program should be implemented for all Illinois State University's facilities. Exterior "wayfinding" should provide direction to users of the campus and will be part of renovation and construction projects. This program addresses a hierarchical, coordinated, and systematic wayfinding program with signage components including, but not limited to:
 - 1. Exterior Signage and Wayfinding Elements:
 - a) Campus wayfinding through both signage and sense of place (landmarks, walkways, landscaping, etc.)
 - b) Campus boundary definition or identification
 - c) Campus entry or gateway designation
 - d) Non-illuminated and illuminated sign types
 - e) Building identification
 - f) Electronic signage and media
 - g) Donor recognition
 - h) ADA compliance



- 2. Interior Signage and Wayfinding Elements:
 - a) Comprehensive and effective building interior signage and wayfinding system
 - b) Recommendations for both non-illuminated and illuminated sign types
 - c) Electronic signage and media
 - d) Donor recognition
 - e) ADA compliance
- 3. Room Identification Signage All room signs shall be located on the side of the door frame, never on the door itself, and as required to meet accessibility. The sign shall be attached at a height that complies with the current ADA requirements.
- 4. Door Number Signage All doors shall be numbered with adhesive door tags located just above the middle door hinge. Illinois State University Facilities, Planning, Design, and Construction shall provide the door number. Illinois State University Facilities Management shall supply and install the Door Number Signs.
- 5. Meet with Illinois State University Facilities Planning, Design, and Construction to review ISU signage requirements and standards. Obtain Illinois State University Facilities Planning, Design, and Construction written approval for signage.
 - a) For additional information, see "Exhibit FS-10.1: Sign Standards."

XII. ADDITIONAL REQUIREMENTS

- A. Existing Sanitary and Storm Sewer Tie-Ins:
 - 1. For all projects that require the contractor to tie into an existing sewer line, the project shall include running a camera through the existing line to ensure that the line is clear and working/sloped properly.
 - a) Camera work for the existing sewer line shall occur during design.
 - b) A/E to provide a recommendation and coordinate with ISU FPDC to determine the extent of the camera work.
 - c) If deficiencies are discovered, consult with ISU FPDC to determine how to proceed in correcting the issues prior to project completion.
- B. Skylights:
 - 1. Skylights are <u>not</u> allowed.



XIII. <u>EMERGENCY POWER</u>

A. Purpose

 The purpose of this emergency power guideline is to establish a process for Illinois State University to evaluate and priority rank campus electricity needs, electrical circuits, appliances, components, etc. for connection to available Illinois State University emergency power systems. Further this guideline will become a reference guide to assist in the evaluation of new capital expenditure requests for emergency power systems to be installed at Illinois State University facilities.

B. Definitions

- 1. An emergency power system may include one or more of the following sources:
 - a) Storage battery systems (i.e. battery powered emergency lighting units)
 - b) Independent Electricity Generator Sets
 - c) Uninterruptible Power Supply (i.e. with reserve battery powered electricity capacity)
 - d) Separate Service or Source (i.e. Dual feed, Photovoltaic)
 - e) Fuel Cell
 - f) Individual equipment that provides for temporary emergency generator hook up (i.e. transfer switch emergency generator connection panel)
- 2. This guideline is primarily concerned with Emergency Power Supply Systems (EPSS) identified in items b, c and f listed above. Emergency systems are the circuits and equipment that supply power within 10 to 120 seconds after interruption of the normal utility electrical supply. Authorities having jurisdiction, applicable codes, and the National Fire Protection Agency (NFPA) stipulate the applicable and appropriate EPSS type, classification, and the length of time they must run before being refueled ranging from 5 minutes to 48 hours. In addition, there may be additional needs for automatic transfer systems and uninterruptable power supplies to guarantee no valuable data and information is permanently lost or damaged on designated computer systems due to the NFPA allowed temporary 10 to 120 second electrical power outages during a transfer to emergency power systems.
- 3. A typical example of the use of emergency systems is to provide emergency lighting to safely evacuate buildings. These systems may also provide power to maintain life safety, fire detection, fire alarm, elevators, fire pumps, and public safety communications systems. These systems may also be designed to provide power to other systems to prevent life safety or health hazards that would result from a loss of normal electric utility power.



C. Emergency Power Priority Rank Classifications

- Four priority level classifications have been established for emergency power systems at Illinois State University. The priority levels are listed in descending priority order. To clarify, Priority 1 needs to be satisfied before Priority 2, Priority 2 needs to be satisfied before Priority 3, Priority 3 needs to be satisfied before Priority 4. The definitions of these priorities are as follows:
- 2. Priority 1 Priority 1 systems are required where failure of the equipment to perform could result in loss of human life or serious injury. Priority 1 systems comply with NFPA Level 1 System requirements. A representative list (not intended to be all inclusive) of examples follows:
 - a) Building Life Safety Systems
 - b) Fire Alarm Systems
 - c) Emergency Exit Lighting
 - d) Fire Suppression Systems/Fire Pumps (electric and jockey)
 - e) Air Compressors serving fire systems
 - f) Mechanical equipment for smoke proof enclosures
 - g) Minimum 1 elevator serving all floors of occupied high-rise buildings (i.e. greater than 75 feet above fire department vehicle access)
 - h) Emergency Communication Infrastructure Systems (i.e. Areas of rescue assistance phones/intercoms, two-way radio infrastructure)
 - i) University Police Department
 - j) Emergency Operations Center
 - k) Student Health Services Treatment Rooms and Pharmacy Medication Refrigerators
- 3. Priority 2 Priority 2 systems are required where failure of the Emergency Power Supply System to perform could result in a major or severe negative impact to a University enterprise system, function, or operation. These impacts include financial, schedule, data, information, research, and other critical University Enterprise systems. Priority 2 systems comply with NFPA Level 2 System requirements. A representative list (not intended to be all inclusive) of examples follows:
 - a) Data Centers
 - b) Telecom Closets and dedicated HVAC systems
 - c) VOIP Telephone Systems
 - d) Science Laboratory Research Projects with Continuous Power Requirements
 - e) Environmentally Sensitive Biological Research
 - f) Live Biological Research Specimens
 - g) Vivarium environments



- 4. Priority 3 Priority 3 systems are required for University asset protection and safety and security concerns. Priority 3 systems are required where failure of the Emergency Power Supply System to perform will result in damage to University physical plant assets or cause University asset, building, facility security or operational concerns for students, faculty, staff, or visitors. A representative list (not intended to be all inclusive) of examples follows:
 - a) Flood Protection Sump Pumps
 - b) Domestic Hot Water Circulating Pumps
 - c) Steam System Delivery Pumps and Electrical Components
 - d) Security Systems
 - e) Electronic Access Systems, which control entry to the building or spaces within the building, and/or systems which monitor doors in the building.
- 5. Priority 4 Priority 4 systems are required for special University operations or functions. Priority 4 systems are required where failure of the Emergency Power Supply System to perform will result in a defined targeted negative impact to a specific University Enterprise function or operation. Priority 4 systems require justification and approval on a case-by-case basis, and will only be approved when all Priority 1, 2 and 3 needs have been adequately met. A representative list (not intended to be all inclusive) of examples follows:
 - a) Special Dining Services operational needs
- 6. All Illinois State University emergency power systems shall comply with the latest edition of *NFPA 110: Standard for Emergency and Standby Power Systems*, latest published edition.
- D. Existing Emergency Power Sources and Allocations
 - 1. Illinois State University maintains an inventory of existing emergency generator locations and allocation of emergency power entitled "Illinois State University Emergency Generator Inventory Summary".



- E. Emergency Power Service Connection Request Process:
 - 1. The request process for connection to Illinois State University's emergency power system is defined as follows:
 - a) If a University Department believes it has a system, piece of equipment, or other need for an emergency electrical power connection, the Dean/Director/Department Head shall complete the Request for Emergency Power Connection Form, and provide any necessary support documents, justifications, and business cases.
 - b) The Request for Emergency Power Connection Form and support documents will be forwarded to Facilities Planning, Design, and Construction through the service request section of the Facilities Planning, Design, and Construction web site located at: http://facilities.illinoisstate.edu/facilities_planning/request
 - c) The Director of Facilities Planning, Design, and Construction will then schedule a meeting of the University Emergency Power Review Committee and invite the requesting Dean/Director/Department Head to present his case to the University Emergency Power Review Committee.
 - 2. The University Emergency Power Review Committee will review the request based on:
 - a) Available power capacity in existing emergency power systems
 - b) The priority system established in this guideline
 - c) The merits of the submission
 - d) Costs and available funds to implement the request
 - 3. The University Emergency Power Review Committee will review the submission and the Chairman will advise the committee's decision in writing to the requestor within 2 weeks.
 - 4. If the request is not approved, the Dean/Director/Department Head may make a second request appeal submission to the University Emergency Power Review Committee to present additional or new supporting justifications.
- F. Emergency Power Service Review Committee
 - 1. The University Emergency Power Review Committee will be comprised of the following individuals:
 - a) Provost Office Designate
 - b) Student Affairs Office Designate
 - c) Associate Vice President for Facilities Services
 - d) Director of Facilities Planning, Design, and Construction
 - e) Director, Facilities Management
 - f) Director, Office of Energy Management



- g) Director of Ancillary Facilities Operations
- h) Director of Environmental Health and Safety

XIV. <u>IMPLEMENTATION</u>

- A. The latest iterations of these guidelines were developed from the last published Illinois State University Design Guidelines document. This document has been split into two separate documents, that include their exhibits, as follows:
 - 1. Illinois State University Design Guidelines (ISU DG)
 - a) "Exhibit DG-1: Agreement for Services"
 - b) "Exhibit DG-2: Professional Services Agreement"
 - c) "Exhibit DG-3: Landscape Design Guidelines"
 - d) "Exhibit DG-4: Room Numbering Guidelines"
 - e) "Exhibit DG-5: Fall Protection Guidelines"
 - 2. Illinois State University Facilities Standards (ISU FS)
 - a) "Exhibit FS-8.1: Electronic Access Guidelines"
 - b) "Exhibit FS-10.1: Sign Standards"
 - c) "Exhibit FS-23.1: Mechanical Insulation Schedule"
 - d) "Exhibit FS-23.2: Mechanical Details"
 - e) "Exhibit FS-23.3: Building Automation Systems Standards"
 - f) "Exhibit FS-33.1: Commissioning Requirements"
- B. These two documents are intended to be complementary and used together during the project design phase. These two documents supersede all past documents and are the Illinois State University design and construction authority as of the effective date of this document, subject to any later revision date. Illinois State University provides these documents as design guidance tools for projects at Illinois State University and expects conformance with both documents. However, these design and construction guidelines are written in a more open framework to not discourage or prohibit creativity.
- C. During a project's Design Development, if a proposed design solution is recommended that varies from, deviates from, or does not comply with these Design and Construction Guidelines, the project designer shall propose such recommendations and justifications, in writing, to Illinois State University Facilities Planning, Design, and Construction. The project designer shall include graphic presentations/representations of the proposed design solution for review and appropriate action by Illinois State University Facilities Planning, Design, and Construction. Depending on the scope and importance of the project, Illinois State University Facilities Planning, Design, and Construction may request the designer to present the recommendations and justification in person.



D. This document has been developed by Illinois State University Facilities Planning, Design, and Construction in consultation with other Illinois State University stakeholders. Illinois State University Facilities Planning, Design, and Construction conducts an annual review of this document. This is done through a defined process with a schedule for submitting proposed changes to either document. Anyone interested in submitting a proposed revision to either document should follow the process on the Facilities Planning, Design, and Construction's web site: *http://facilities.illinoisstate.edu/facilities_planning/request*

XV. <u>ACKNOWLEDGEMENTS</u>

- A. To update these guidelines we consulted, contacted, and reviewed several other universities and obtained, investigated, and reviewed several documents and models of space guidelines and their respective documents. Subsequently, these guidelines are an adaptation and modification from various sources, including Stanford University; Bowdoin College; the University of Minnesota; University of New Hampshire, and the "Leadership in Energy and Environmental Design (LEED) Green Building Guidelines and Rating System".
- B. A special thank you to the following departments for their review and contributions to the *Illinois State University Design Guidelines* and *Illinois State University Facilities Standards*.
 - 1. Facilities Services
 - a) ISU Facilities Planning, Design, and Construction (ISU FPDC)
 - (1) Architectural and Engineering
 - (2) Design
 - (3) Construction
 - (4) Real Estate
 - b) ISU Facilities Management (ISU FM)
 - (1) ISU FM Trades
 - (2) ISU Administrative Services
 - (3) ISU Sustainability
 - c) ISU Office of Energy Management
 - (1) ISU Heating Plant
 - d) ISU Ancillary Facilities Operations
 - (1) ISU Building Services
 - (2) ISU Grounds
 - (3) ISU Parking
 - (4) ISU Recycling



- e) ISU Environmental Health and Safety (ISU EHS)
- 2. ISU Technology Solutions
 - a) ISU Infrastructure Operations & Networking (ION)
 - b) ISU Learning Spaces and Audio/Visual Technologies (ISU LSAVT)
- 3. ISU Tree Campus Higher Education Committee