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## General Guidelines

### A) General

#### 1) Definitions

- a. The University: Northern Illinois University; NIU.
- b. Prime Professional (s): Architects and Engineers and Contractors.
- c. EHS: NIU Environmental Health and Safety department.

### B) Construction Standards

- 1) The Northern Illinois University (NIU) Design and Construction Standards (hereinafter referred to as the Standards) should serve as a guide to all Prime Professionals retained by the University to plan, design and construct new campus buildings, or the major renovation of existing buildings and site work. These Standards are effective as of the date updated and noted at the upper left of each document, but are subject to change at any time.
- 2) These Standards are available on the University's website at: [www.niu.edu/aes/resources/standards](http://www.niu.edu/aes/resources/standards)
- 3) These Standards are obviously not intended to be an exhaustive set of basic instructions on good practice for design and construction of University buildings. The Standards are, however, intended to be a set of instructions to those concerned, to convey the particular needs and policies of this University with regard to development and uniformity of its physical facilities.
- 4) The University, through its design review procedures, comments and recommendations, does not release or alleviate the Prime Professional from his/her responsibility and legal liability relating to equipment, materials, code compliance, serviceability of systems, capacity, Guide compliance, budget, site observation of the work in progress, system operation, shop drawing review, contract document interpretation, schedule, errors, omissions and/or all other non-delegable duties and obligations as a professional.
- 5) Because of the monumental scope of the subject of design and construction standards, these documents will be continually expanded and revised to record more detail or to document changing needs to maintain its continued relevance.
- 6) Prime Professionals are free to propose variations that meet or exceed the Standard, provided that the variations are brought to the attention of the University's Representative, **in writing**, for review prior to incorporation into the project and at the appropriate stages of design and prior to their implementation.

- 7) If you have questions about these standards please contact the University's Architectural/Engineering Services Department

#### C) Prime Professional's Responsibilities

- 1) The University's Architectural/Engineering Services Department will be the liaison between the University and the Prime Professional throughout the planning, design and construction.
- 2) After reviewing the architectural program, it is expected that the Prime Professional; will visit the campus along with its sub-consultants to become familiar with existing site and/or building conditions, and discuss the overall project with University officials. The University will make available existing site survey information for utilities and general topography, as well as any existing building information that is at hand. The Prime Professional shall be responsible for verifying existing site and building conditions or providing new survey information if required. Renovations or work in existing structures will require a detailed review of available contract documents, field measurements to verify the accuracy of previous as-built documents, and the review of structural constraints. The Prime Professional shall discuss with the University such items as utilities, long-range planning and information which relates to the approach toward construction on the University campus.
- 3) Relationships with the press and publicity agencies regarding progress reports and graphic representations of the building shall not be the prerogative of the Prime Professional. The University will release any and all such pertinent information.

#### D) Scheduling

- 1) Work on any construction project must accommodate the University's calendar of classes and special events. The Prime Professional must communicate with NIU Architectural/Engineering Services Department to identify specific requirements for timing of the construction work to be included in the construction documents. University classes and special events may limit normal working hours by the contractor. Specific requirements for time frames or staging of the construction must be reviewed in detail with the University and outlined in detail in the construction documents.

#### E) Documentation

- 1) Construction documents shall clearly note provisions for future needs. Expansion capabilities such as empty conduits, extra electrical capacity, oversized structural components, etc., shall be indicated on applicable drawings for future identification and implementation.

#### F) Model Building Code Requirements

- 1) Buildings and structures are to be designed and constructed to conform to applicable model building codes and standards as adopted and codified by the State of Illinois Capital Development Board (CDB) (Public Act 096-0704). Such codes include but may not be limited to:
  - NFPA 101, Life Safety Code and associated references;
  - International Building Code (2006 or later editions edition);
  - International Existing Building Code (2006 or later editions);
  - International Property Maintenance Code (2006 or later editions edition);
  - National Electric Code (NFPA 70) (2008 or later editions);
  - Illinois Plumbing Code;
  - Energy Conservation Code;
  - Illinois Accessibility Code.

**Please note:** Northern Illinois University reserves the right to that request the Prime Professional use a more current edition of the codes listed above as long as it is at least as stringent as the codified edition as it serves in the best interest of the project. Prime Professionals are directed to use the most current edition of the code especially in circumstances in which there is no specific edition listed in section F)1).

- 2) Northern Illinois University also reserves the right to require that codes not otherwise listed in section F)1) be referenced and used as necessary on campus construction and renovation projects. Other applicable codes such as the International Mechanical Code, consensus standards (e.g. NFPA, ASNI, ASME, ASHRAE, ASTM, etc.) and industry best practices may be applicable to the project being considered.
- 3) Projects involving site work shall be designed to adhere to the Illinois Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES), the Environmental Barriers Act, and other state/federal environmental rules and regulations where applicable.
- 4) Sanitary sewer and domestic water work shall conform to the standards of the Dekalb Sanitary District.
- 5) The Prime Professional should direct all model building code inquiries to Architectural and Engineering Services.
- 6) The Prime Professional should direct all fire and life safety code inquiries to the Environmental Health and Safety (EHS) Department.

#### G) Code Analysis and Plans Review Process

- 1) It shall be the responsibility of the Prime Professional to maintain the integrity of the codes which are in force at the time of contracting for their services. The Prime Professional shall provide information on the final drawings which will indicate the group and type of occupancy, type of construction, rated corridors, rated shaft

- enclosures, occupancy separations, area separation wall(s) fire rating and opening protection, designated exterior exits, units of egress and occupancy load. Additionally, the Prime Professional shall show the total gross square footage of each level in the facility and the occupancy of each room.
- 2) The Prime Professional shall submit drawings and project specifications to Architectural/Engineering Services Department and the EHS Department to initiate the plans review process. The Prime Professional is required to incorporate comments generated during the plans review process into the bid set. Regardless of the findings from the plans review process, the Prime Professional assumes and maintains responsibility for ensuring the bid set of drawings complies with all applicable model building codes as noted in section A of this document. Should there be a difference in code interpretation between the Prime Professional and the University; the EHS Department reserves the right to issue the final interpretation as it relates to matters pertaining to applicable fire and life safety codes. Should there be a difference in code interpretation between the Prime Professional and the University, the Architectural/Engineering Services Department reserves the right to issue the final interpretation as it relates to matters pertaining to all other model building codes.
  - 3) Should fire protection and detection systems be installed, the Prime Professional shall ensure the contractor(s) submit shop drawings to Architectural/Engineering Services Department and the EHS Department for final review and approval.

#### H) Construction Oversight and Acceptance Testing

- 1) The Prime Professional is responsible to perform regularly scheduled job site inspections to ensure the contractors are executing the work in accordance with provisions outlined in the drawings and project specifications. The EHS Department and Architectural/Engineering Services Department will also perform frequent inspections in a quality control capacity to support the Prime Professional. Please note code violations identified during site visits shall be promptly addressed by the Prime Professional. This may result in a temporary stoppage of the project until such violations are abated. The EHS Department and Architectural/Engineering Services Department will issue a final interpretation in accordance with provisions outlined in section G)2) of this document to resolve any discrepancies.
- 2) Once the work is complete, the Prime Professional will notify the EHS Department and Architectural/Engineering Services Department at least five (5) days in advance to initiate the acceptance test for all fire and life safety systems (e.g. sprinkler systems, standpipe systems, fire pumps, fire alarm systems, special hazard suppression systems, emergency lighting, exit signs, and area of rescue assistance systems) and other mechanical, electrical, plumbing, and heating, ventilating and air conditioning systems. Other NIU Departments involved in this process may include the Heating Plant and Electrical Shop.

- 3) According to the State of Illinois Capital Development Board (Public Act 096-0704) newly constructed commercial buildings must pass an inspection conducted by an inspector meeting the qualifications established by CDB. This may also include existing buildings which are being substantially renovated (e.g. greater than 50% of the building will be subject to renovation) Therefore, the Prime Professional is responsible for identifying and retaining qualified inspectors to perform this service.
- 4) The Prime Professional is responsible for obtaining, organizing and issuing final acceptance test documentation to Architectural/Engineering Services Department and the EHS Department.

#### I) Site Safety

- 1) Contractors are expected to become familiar with the Contractor's Safety Handbook, found at: [www.niu.edu/aes/resources/standards](http://www.niu.edu/aes/resources/standards).

#### J) Material Selections

- 1) Appropriations for state building projects are funded with a certain degree of finality. It is expected that new facilities will not have need for major repairs or modifications for a considerable period of time. This concern should be reflected in the selection of interior and exterior materials that require a minimal amount of maintenance. Maintenance shall be a prime consideration in the selection of all finishes. Buildings should include technological progress only where there is a proven performance history.
- 2) Lecture halls, classrooms, seminar rooms, and rooms requiring privacy will need special acoustical treatment.
- 3) The University maintains an inventory of repair parts which requires a certain amount of product standardization. See individual technical sections of the Design and Construction Standards for standard product requirements. The University's Architectural/Engineering Services Department will provide additional information on product standardization.
- 4) Hazardous Materials:
  - a. Special care and attention must be given to hazardous materials. The Prime Professional must contact the Office of Architectural/Engineering Services regarding identification of suspect hazardous materials such as asbestos, lead, chemical, or radioactive materials. The University's Architectural/Engineering Services Department has on-call consultants to perform hazardous materials surveys and write abatement specifications. These consultants will be assigned the project and shall be used for such work.
  - b. Abatement, containment or handling procedures will be prescribed by the qualified/certified consultant and if required, the same consultant will provide monitoring, testing and final clearance verification. These services are a part of

the project budget and are accounted for in the Total Project Budget. All projects shall include hazardous material surveys as part of the construction documents. This shall be true whether the test results are positive or negative.

#### K) Classroom/Lecture Room Facilities

- 1) Effective classroom design depends on attention to detail as well as to a clear understanding of overall objectives. An understanding of the design factors that affect auditory and visual performance can result in effective classrooms.
- 2) Sound Reinforcement:
  - a. Special attention should be considered in classrooms which require sound-reinforcement systems. These audio/visual systems should be coordinated with the NIU Media Services. All sound reinforcement shall comply with ADAAG Guidelines. Certain room surfaces must be hard and properly angled to provide required reflections. Other room finishes must be soft in order to prevent late reflections or delayed rear wall reflections.

#### L) Support Spaces

- 1) Audio Visual:
  - a. Any building with classrooms shall provide an audio-visual storage closet. . The closet shall have a 36" door that opens out into a corridor.
  - b. Large lecture rooms may have requirements for audio-visual control rooms to project and coordinate A/V systems. Careful consideration for access wiring, data connections, projection screens, lecterns, and other equipment must be reviewed with the NIU Media Services, to ensure maximum flexibility of these spaces.
- 2) Mechanical/Electrical Rooms:
  - a. Mechanical room doors should open directly to the outside of buildings where practical. The Prime Professional shall incorporate knockout panels and or louvers to facilitate replacement of large items of mechanical equipment.
  - b. Electrical distribution shall be provided within mechanical rooms or in dedicated electrical equipment closets accessible to corridors or other public space. Equipment closets should be stacked vertically where possible.
  - c. Provide adequate working clearances in accordance with the National Electric Code.
- 3) Custodial Closets:
  - a. Custodial closets shall be located on each level with no dimension less than 4 ft. The sink shall be floor-mounted and located near a door. Shelves shall accommodate supplies in case lots and allow for storage of liquids in 5-or 6-gallon containers. Include a slot for a six-foot ladder. Specify hangers for wet mops over the sink and for dry mops and brooms on other walls. Walls shall have a special coating to protect from moisture and physical abuse. Doors shall be 36" wide and open out.

- 4) I.T. Equipment Rooms:
  - a. I.T. equipment rooms should be stacked vertically where possible. The minimum dimensions should be coordinated with the University's IT department. Doors shall be a minimum of 36" wide.
  - b. I.T. equipment room design must meet NIU HVAC standards.
- 5) Toilet Rooms:
  - a. Toilet rooms should be given particular attention to ensure that sight lines are controlled. Hardware and separator panels (preferably solid composition) must be of durable construction. Soap dispensers, towel dispensers and disposers and mirrors should be specified in the contract documents. All toilet room finishes shall include ceramic floor tile and full-height ceramic wall tiles. Urinals and water closets should be wall mounted. Pipe chases serving toilets and other wet areas must be no less than 24" wide and preferably 36".

#### M) Standard Office Configuration

- 1) Offices 150 sq. ft. or greater shall have the following:
  - a. A light switch or occupancy sensor immediately to the inside of all exit door openings. (Required by code)
  - b. A minimum of one electrical outlet on each of the four walls where possible or as determined by the planning process.
  - c. Outlets spaced no more than 12 feet apart on any single wall or as determined by the planning process.
  - d. Two data ports on opposite walls on all new construction and renovation.
  - e. All outlets should be installed at a minimum of 15 inches AFF to be ADA compliant.
- 2) Offices less than 150 sq. ft. shall have the following:
  - a. A light switch or occupancy sensor immediately to the inside of all exit door openings. (Required by code)
  - b. One electrical outlet on each of four walls.
  - c. Two data ports on opposite walls on all new construction and renovation.

#### N) Standard Laboratory configuration

- 1) All laboratories where hazardous materials are used or where there is a potential for use of hazardous materials, shall have:
  - a. Emergency Showers/Eyewash stations installed. These shall be units with emergency shower, eyewash in combination. Floor drains below the shower/eyewash station shall not be installed.
  - b. Fume Hoods
  - c. Sink for hand washing near the exit door
  - d. Biosafety cabinets if appropriate
  - e. Bench tops impervious to chemicals
  - f. Flooring material that is impervious to chemicals. Rugs, carpet is not acceptable.

- g. Furniture that is covered with non-porous material that can be easily cleaned and disinfected
- h. Windows that open and are fitted with screens
- i. Self-closing doors

#### O) Room Numbering

- 1) A room numbering system has been established by the University to assure that the numbering of spaces in a building will facilitate management control, be consistent from building to building, and guide people to their destinations. The Prime Professional shall submit drawings to the University's Architectural/Engineering Services Department for room numbering prior to commencing with construction documents. The room and door numbers identified on the construction documents are the same as the numbers used in the building upon completion of the project.

#### P) Signage

- 1) All interior signage shall comply with NIU Campus Interior Signage Specifications. Contact the NIU Space Administrator.
- 2) All exterior campus signage other than temporary shall meet all requirements such as size, location and set-back of NIU. Exterior fixed signage other than directional or building identification shall be approved by the University's Architectural/Engineering Services Department.

End of General Guidelines

**This section of the NIU Design Requirements establishes minimum requirements only.  
It should not be used as a complete specification.**