



BUILDING PROJECT PLAN REVIEW REQUIREMENTS

Revised 5/13/15

Purpose

The review of construction and renovation projects for University buildings provides the opportunity to eliminate hazards from being designed and ultimately built into campus buildings and facilities. The requirements associated with the review ensure that important environmental, health, and safety features are incorporated into the new facilities. Further, these requirements allow the University to be in compliance with all applicable governmental and consensus industry standards, as well as help to minimize the associated institutional liability.

Background

The review process generally begins with the planning phase, when a memorandum of understanding (MOU) or the program of requirements (PoR) is developed. The program of requirements (PoR) describes the nature of the project, user group, spatial usage and arrangement, as well as funding sources and amounts. A memorandum of understanding (MOU) often precedes the PoR and provides an agreement among all contributing parties as to the purpose and broad expectations of the project. These documents provide valuable information for the design team (i.e., planners, architects, engineers, health and safety professionals and project managers). The actual review begins with the initial plans and progresses through the design up to the construction documents.

The project notification is usually received via email from the Office of Facilities, Design, and Construction (FDC) along with a transmittal form. The transmittal form will provide information about the planning or design stage, review deadline, as well as date, time, and location of meetings to discuss important issues. Project documents are typically in digital form stored in an FDC folder on the K drive and can sometimes be received in hard copy format. Project documents on occasion may be reviewed at the request of FDC, the associate architect or engineer, consultants, and individual departments. Documents need to be reviewed in a timely manner and comments submitted on or before the requested deadline.

Initial Review Issues

1. Prior to reviewing the PoR and MOU, background or resource information should be assessed. This would include building files and Facility Audit Reports on existing structures to determine if problems exist that require correction;
2. Building inhabitants and user groups should be consulted to determine problems, needs, and corrective measures;
3. Other institutions or organizations should be contacted about their facilities to ensure the latest technologies are included in the project; and
4. Standards, regulations, and codes should be reviewed to ensure that requirements are incorporated into the design.

Health and Environmental Issues

1. Examine the drawings for potential hazardous or unsafe conditions associated with the project that may pose a risk to people or to the environment;





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2. Review the site plans to determine if toxic or noxious substances may be released to the air, soil, surface or ground water and sewers, as a result of the project;
3. Determine how materials will be delivered and/or picked up from the facility relative to vehicular and pedestrian traffic, which is important from the standpoint of hazardous and infectious waste management;
4. Determine the location and storage of bulk chemicals relative to code limits;
5. Determine the presence of other hazards such as noise, temperature, radiation, airborne contaminants, vibration, electrical and magnetic fields, confined space, biological agents, and moving objects;
6. Assess demolition work to determine whether hazardous materials will be disturbed and potentially cause an environmental release or human exposure; and
7. Evaluate the building materials to determine if there are any substances (e.g., asbestos, lead, mercury, PCBs) that may be toxic to humans or detrimental to the environment as a result of the project. Carcinogenic and acutely toxic building materials should be excluded from the project, unless there are no suitable substitutes.

Safety Issues

1. Assess the ergonomic features that may need to be included within the design and layout of the building. The movement or handling of large and bulky objects should be assessed to eliminate potential accidents and injury. Access to equipment, furnishings, or work activities that cause physical stress, strain, or trauma should be eliminated and alternatives offered for consideration;
2. Avoid walking and working surfaces (e.g., roofs, landings, and platforms) that can be made slippery or uneven and provide for the proper fall protection systems (e.g., standard railing, parapets, anchor points, netting, etc.) for roofs and skylights; and
3. Eliminate or minimize those designs that may result in a confined space. This can be done by placing equipment above ground or providing extensions that can be accessed without entry.
4. Review proposed construction techniques to reduce or eliminate potential hazards during construction. This will include the use of construction cranes and the use of power actuated fastener tools.
5. A Safety Health and Environment section is to be included in the specifications (project manual or on the drawings) for most projects.

Utility Issues

1. Evaluate the heating, ventilation, and air conditioning (HVAC) drawings and related documents to ensure that the system is capable of providing comfortable and hazard free working conditions. The latest HVAC standards should be referenced whenever possible. Fresh air diffusers should be located in such a manner that air is uniformly distributed throughout the occupied space. Fresh air intakes for buildings should be isolated from vehicle emissions, exhaust stacks, and other contaminant sources. Air quality sensors, monitoring equipment, and alarms should be protected from being damaged or vandalized. Similarly, the location of critical equipment or sensitive operations should be examined to ensure that they are served by the HVAC system. It may be necessary to perform calculations; to conduct site inspections; and to perform measurements to verify field conditions;
2. Assess the plumbing system to determine if it can adequately serve the safety needs of the facility. Check for the presence of traps, drains, clean-outs, acid dilution tanks, etc. for their appropriateness. Emergency





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eyewashes should be provided in those mechanical rooms where chemicals are expected to be used and there is the potential for an accidental exposure to the face and eyes; and

3. Evaluate the electrical system to determine if safety considerations have been included in the design. This would include proper grounding (i.e., earth ground), proper location and labeling of electrical panels and use of ground fault circuit interrupters (GFCIs) for electrical outlets near sinks and other moisture sources. Illumination considerations should be evaluated from a safety and comfort standpoint. Mechanical rooms, shops, restrooms and high hazard areas, generally need higher illumination levels than required by design standards. This is necessary to minimize accidents, as well as facilitate safe working conditions and good housekeeping.

Reviewed Document Procedures

1. Prepare formal written review comments with appropriate recommendations in a timely manner and forward by e-mail to the appropriate party or enter using the electronic review process;
2. Maintain copies of all comments in the project file as a reference for future reviews and for legal purposes;
3. The project review form must be completed and returned for recordkeeping purposes; and
4. File reviewed drawings and specifications in the appropriate cabinets.

Quality Assurance

The quality of construction and renovation project review can be assured by adhering to the following measures:

1. Reviewing the latest guidelines, regulations, and published documents that may affect further projects;
2. Complying with governmental regulations, consensus standards, and University requirements;
3. Reviewing the various phases of the project from the MOU and PoR to the construction documents, when provided by the office having responsibility for the work;
4. Providing a written response describing important issues and concerns in a timely manner;
5. Attending review meetings to address important health, safety and environmental issues;
6. Follow-up with the project manager and/or construction manager relative to completion of the project/installation ;
7. Conducting site visits to ensure that the important design features have actually been incorporated into the construction.

