

UCCS CAMPUS CONSTRUCTION STANDARDS

INTRODUCTION- GENERAL DESIGN CONSIDERATIONS

A sound, functional plan is the single most important factor in obtaining an acceptable solution to the Building Program. This can best be achieved through a careful study of the space relationships and a thorough understanding of the needs of the users as expressed in the Program Plan and in subsequent meetings and discussions held between the Architect and the Stakeholders.

It must also be recognized that changing curricula and modifications of space are frequent occurrences in the University operation. Flexibility should be a consideration in any plan to accommodate anticipated as well as unanticipated changes and future growth.

Exterior design of the building is expected to be compatible with neighboring buildings and with the campus as a whole. Exterior materials as well as the building form will be examined very carefully at every step of the process to ensure compliance with the requirements of the project and University standards. This will be reviewed and approved by the Design Review Board for compliance to the Long Range Development Plan, Campus Master Plan, Landscape Guidelines and Design Guidelines.

It is neither the policy nor the intent of the University to limit the creative individuality of the Architect in design or selection of materials. The guidelines and requirements presented in the Design Guidelines are based upon university's experience with materials and construction methods and details that have resulted in the fewest problems in operation and maintenance, and in the best service and life of materials and equipment. Uniformity in the use of materials and equipment throughout the campus limits the range of cleaning and maintenance products and reduces the variety of parts and materials which must be stocked for repairs and replacements as well as providing a continuity of aesthetic and functional user-experiences.

New materials and products and new methods of construction, when proven sound, may justify changes from these standards. Special consideration shall be given to technology and careful analysis to accommodate future advancement. Design with building sustainability concepts shall be discussed, considered and integrated into the Project. Planning for technological flexibility within budgetary constraints is a primary task. Proposals to use such new applications shall be reviewed

and approved by the Owner's Representative prior to presenting them to the Stakeholders and incorporating them into the Documents. General durability of construction, selection of appropriate materials and long term maintenance shall be a primary concern during the design and shall be specifically identified in the Construction Documents. In no cases shall any materials containing asbestos be included in the design or construction. Certification of asbestos-free design will be required from both designers and contractors.

Energy conservation must be given special consideration in the design of new or remodeled University buildings. UCCS requires a life cycle cost analysis, where appropriate, on major components of new facilities and renovation projects. A building operating cost analysis shall be reviewed with the Owner's Representative at the Design Development and Construction Documents Phases.

UCCS supports and promotes sustainable and environmentally conscious building design, a systematic consideration of a project's true cost to the environment and energy resources. Sustainable design concepts should be applied within the budgetary and programmatic constraints of the specific projects. A primary motivating premise for sustainability is to make wise resource decisions that will minimize our impact on future generations. Our University campus becomes a prominent forum for educating the public, promoting a higher community consciousness and leading by example. The building and associated landscape can have a substantial influences on teaching and learning. The benefits of improved indoor air quality, energy conservation and enhanced visual surroundings promote a healthy and productive environment for inhabitants.

During the design process, a reasonable and feasible analysis of possible strategies shall be developed and discussed to understand the financial and programmatic impact of the strategies on the entire Project. The level of analysis shall be proportional to the project and determined at the beginning of the project. The Consultants shall facilitate an integrated multi-disciplinary design process that evolves through the entire design and construction process. Discussion and review of potential strategies shall be conducted with the Stakeholders at each design phase. A commissioning plan shall be produced and an implementation process developed for projects with substantial mechanical or electrical work. Consideration of mechanical and lighting system

efficiency, daylighting schemes, reduction/elimination of environmentally harmful substances, regional material availability, water conservation, and indigenous or xeric plant usage are general strategies that should be evaluated. LEED may be used as the benchmark to evaluate a "Green Building" project, and, if so, will be identified in the start of design. If a LEED certification level is to be included in the Project Program, this design expertise and assistance will be required of the Architect and their Consultants.

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will institute a system to internally audit buildings to achieve a LEED Silver or equivalent certification.

PART A -THE BUILDING PROGRAM

For larger Projects, the University will provide the Architect with a written Program Plan. The typical Program Plan includes the following:

Introduction

A statement of the nature and function of the end use of the facility, background information regarding development of the project to date, and identification of the site.

Project Cost Considerations

An estimated Project Cost is included in the Program Plan. The Architect should be especially concerned with the amount identified as Construction Cost. The heading "Construction Cost" normally includes all built-in or fixed equipment for the Project. It is the responsibility of the Architect to design within that estimated figure or immediately advise the Owner's Representative that this cannot be accomplished. The Owner may budget and provide certain aspects of the Project (furnishings, special equipment, etc.) The Architect shall thoroughly review these costs with the Stakeholders and Owner's Representative assisting in developing the overall Project Budget.

Project Time Considerations

The Program Plan usually incorporates a tentative time schedule indicating when various phases of the work are expected to be completed. This schedule is based on a critical occupancy date(s) which in turn relate to other planned programs and the UCCS academic calendar. A revised time schedule may be developed after discussions between the Architect and the Owner's Representative.

Space Requirements Summary

Net areas given in the Program Plan are preliminary. Given the significant time period which elapses between the approval of the Program Plan and the start of the Schematic Design Phase, the Architect shall be responsible for confirming the current space requirements. The proposed space

requirements and functional relationships must be reviewed and approved by the Owner's Representative and the Stakeholders during the Programming Phase.

PART B- SITE CONSIDERATIONS

General

The site for a proposed new building is determined, by the Design Review Board, to conform to the Campus Master Plan, Long Range Development Plan and Landscape Guidelines. The Architect shall design the building with attention not only to its relationship to nearby buildings, but to the open spaces and landscaping around it. Careful attention shall be given to entrances and their effect on pedestrian travel patterns, and to service drives and loading dock locations.

In the Schematic Design, the Architect shall be aware of the location of utility lines that will serve the building and locate the mechanical equipment room and transformer room in relation to those lines.

Site Design Criteria

- A. The portion of walkway adjoining building entries shall have an appropriate "doormat" of specially designed materials consistent with the Landscape Master Plan as administered by the DRB.
- B. Design sidewalks, terraces and patios to support snow removal equipment or Fire department access shall be design in accordance with the Soils Engineer's recommendations and of a material consistent with the Landscape Master Plan as administered by the DRB.
- C. Locate walks away from walls, which may cause snow drifting. Where walls must adjoin walks or paved areas the walls should be designed with openings to allow for snow removal.
- D. Avoid surface drainage of storm water across walks.
- E. Primary entrances to buildings shall be wheelchair accessible. This shall be discussed with the Owner Representative and identified on the drawings, including the path to the building from the parking access and the primary accessible route(s) connecting to the Campus.
- F. Fixed objects to be part of the landscaping of the building should be designed for ease of maintenance and snow removal.

G. Use of window wells and below grade open structures should be avoided possible. The proposed design of such features requires approval of the Owner's Representative prior to incorporation into the design.

H. Maximum slope for banks is 3:1 (Horizontal: Vertical). Use 4:1 or less where possible.

I. Provide for protection of existing plant material during construction.

J. Service drives shall have a minimum inside radius of 35 feet. Verify all requirements for Fire Department access including paving materials and Fire Lane location and configuration.

K. UCCS waste removal is provided by commercial companies. Container sizes and frequency of disposal shall be investigated by the Architect with the assistance from UCCS Facilities Services. Space for containers should be in service areas, and/or adjoining grade flush with front of dock in an appropriate trash enclosure construction. Provision shall be made for recycling containers.

L. Bicycles are major method of transportation on the campus. Bicycle parking area should be considered in the development of the site plan for the building. Appropriate standard bicycle racks as identified in DIVISION 12 are required and shall be located during the design process.

M. Submit Schematic Design/Design Development/Construction Documents site plan showing layout of new site utilities to the Owner's Representative for use by Facilities Services. The Owner will advise the Architect concerning the central utilities extension proximity to the project site and any required extensions that will be included in the project budget.

N. With LEED Certified Projects, there are several Credits associated with site utilization and proper consideration must be an integral part of the design process.

O. UCCS standard site accessories as identified in DIVISION 12 are required and shall be located during the design process.

PART C- NON-PROGRAMMED SPACE REQUIREMENTS

Corridors

Attention should be given to adequate corridor widths for the loads generated by the particular occupancy of each part of the Project. Obviously corridors serving classrooms must be wider than

those to offices. When possible, doors opening in the direction of the exitway should be recessed in an alcove to prevent intrusion into the pedestrian flow. Provide drinking fountains and other public facilities such as benches to serve the building occupants. The area under drinking fountains and recycling bins shall have an impervious floor material.

Similar analysis shall be made for determination of number and size of elevators and number and size of public toilets.

Public Toilets

- A. Provide adequate and Code compliant facilities to accommodate building occupants including physically handicapped. Particularly in remodel projects, toilet count shall be reviewed with the Code Official to provide a reasonable accommodation in an existing condition.

The Code Officials will determine the required fixture count. It is particularly important in building renovation and/or addition projects to discuss and resolve this issue early in the design process.

In order to accommodate our LGBT users, new buildings and major renovations are to incorporate at least two single-user restrooms.

- B. Countertops
 - 1. Avoid posts or legs to support countertops.
 - 2. Fabricate of solid surface materials.
- C. Accessories: Provide and install accessories as per DIVISION 10
- D. COORDINATE MOUNTING HEIGHTS WITH TILE WAINSCOTS TO ENSURE THAT ACCESSORIES ARE EITHER ENTIRELY ON OR ENTIRELY OFF THE TILE.

Custodian Closet

- A. A Custodian Closet is preferred on each floor of the building for storage of cleaning equipment and supplies. The minimum size space required is 75 square feet. If it is possible to provide a larger custodian room on the main floor near the service entrance and near an elevator, (minimum size 120 square feet), the space requirements on other floors may be reduced to 50 square feet.

- B. Each Custodian Closet shall be equipped curb-type utility floor sink, hose bibs, hot and cold water, and shelves. Provide adequate ventilation where battery chargers and/or other similar devices are used. Each custodian space must have adequate electrical outlets.
- C. Wall protection:
Install splash guards on all walls adjacent to mop sinks in Custodial Closets, to faucet height.
- D. Specify stainless steel edge protectors for janitor sinks.
- E. Install top and broom holders in each Custodial Closet with six holders and five hooks (Bobrick B-224 or approved substitute). Mount such that two mop holders will occur over mop sink.
- G. Custodian Closets shall not be shared with other functions (Example: telecommunications boards, pipe chases, etc.).

Waste Disposal

Waste disposal is an almost continuous operation. Waste pick-up is on a daily or more frequent basis to each building. Building custodians take waste from individual spaces to the trash containers. Verify and accommodate for the container sizes as identified by the Owner's Representative.

Biological wastes, chemical wastes and radioactive materials require special consideration and their requirements will be analyzed and programmed in specific buildings where it occurs.

Recycling

UCCS has an extensive recycling program. The Architect shall review both internal and exterior recycling collection requirements with the University and provide adequate space in their design to accomplish this efficiently. Accommodation for recycling containers both inside and outside is to be considered during the design process.

Interior Recycling Areas: Built-in recycling areas that do not interfere with pedestrian circulation are required in new and renovated buildings. Millwork to accommodate three standard bins will need a space approximately 7'-0" long x 2'-0" deep. Recycling areas are to be located near each main entrance and at each vending area. (See APPENDIX 2 for standard millwork in recycling areas)

Maintenance Personnel

When identified by the Owner's Representative, provide a secure work area for building maintenance personnel with a service sink, workbench and/or space for tools. For HVAC Mechanics, this may be in a Mechanical Room if sound levels permit.

Maintenance Storage

Provide a storage space of 100 square feet for storage of maintenance items for the building such as spare floor tiles, etc. For public spaces, additional storage may be required for events furniture.

PART D- PROVISIONS FOR THE HANDICAPPED

General

Attention is directed to the necessity of providing entrances and other architectural features of UCCS buildings for the functional use by physically handicapped persons. The following are UCCS requirements in addition to those required by Code.

Entrance Doors

Electric door openers shall be considered for use by the physically handicapped at primary entrances to all major buildings. Entrances shall be located to provide direct access from an accessible route and/or handicapped parking. This shall be reviewed with the Owner's Representative.

Elevators

All major buildings shall have an accessible elevator. In existing buildings, it may be difficult to reasonably locate a new shaft using the dimensions of a new full-sized elevator. In such cases, a cab size as identified in ADAAG 4.1.9, inside dimension of Elevators, is acceptable.

Restrooms

All major buildings shall have accessible restroom facilities. In existing buildings, it may be difficult to reasonably rearrange spaces as required in new construction. In such cases, creative reasonable solutions must be explored, including the use of Unisex facilities.

PART E- PROGRAMMED SPACE REQUIREMENTS

CLASSROOM DESIGN

Classrooms need to be a friendly, desirable facilities that promotes good relationships. A classroom design promoting interaction includes principle features as comfort, appearance and use of visual displays.

Materials should be primarily chosen with functionality, durability, cleanability, and acoustical properties in mind. Acoustical treatment is important to control sound within the room as well as reduce noise between rooms.

Generally, UCCS will include the installation of Data/Com Systems and equipment in the General Contractors scope of work. The Architect and their Consultants are responsible for coordinating these requirements and accurately indicating what is needed in the Construction Documents.

Due to the frequent sharing of classrooms by various Departments, classroom design will require flexibility and adaptability. To facilitate the use of technology within the classroom by a variety of users, UCCS has developed standards for "Smart Classrooms". See APPENDIX 3 for Smart Classroom Standards and APPENDIX 6 for vibration criteria.

Laboratory Design

See APPENDIX 4 for design and construction standards, and APPENDIX 6 for vibration criteria.

CONSTRUCTION REQUIREMENTS

Note: The buildings on the UCCS campus are divided into two categories: General Fund and Auxiliaries. General Fund Buildings include academic and administrative functions. Auxiliary buildings include dormitories, athletic, and dining facilities. In some cases, construction standards differ depending on the building category. Confirm building category with Facilities Services Project Manager.