



Design Guidelines and Review of Campus Projects

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Introduction

The Penn Campus, on its West Philadelphia site, has evolved over more than a century, with each new building added in a way that expressed its particular time. As a result, there is not a single overriding building style, and many different materials may be found side by side. Nonetheless, the campus has acquired a special character: it is an “academic crossroads” where people from twelve schools and many disciplines rub shoulders and share ideas. Its character is set by the density of schools and buildings, the scale, materials, and proportions of its older structures, and the green matrix of landscape extending outward from Blanche Levy Park.

The campus development plan, prepared by the Olin Partnership and collaborators and adopted by the trustees in 2001, sets guiding principles and recommendations for future development. Each new building and site improvement project should be consistent with the plan, or carries the burden of showing how it improves upon the plan. The following document addresses the principles common to all buildings and sites within the University, while the Site Development Guidelines within the Campus Development Plan set parameters for certain suggested projects.

These basic guidelines and principles are an integral part of the campus development plan. They outline the ways that new buildings and open space should take account of neighboring structures, and serve the population intended. They also outline a design and review process that ensures that the specific surroundings and the campus as a whole are taken into account in each new building project.

Design Principles

Buildings and Spaces that Promote Intellectual and Social Exchange

The purpose of a campus is to bring together people from various backgrounds, experiences and perspectives in an environment that creates the potential for intellectual and social exchange. While the physical character and quality of a campus is defined by both its buildings and its open space, it is the open space which has the greatest potential for unifying and equalizing the shared space of the campus. It can promote the sense of community derived from actively shared space, and provide for the enriching experiences of both planned and chance encounter. Comprised of streets, walkways, greens, courtyards, plazas, gardens and playfields, open space has the potential to knit together the diverse elements of the campus in a coherent way.

Individual buildings should also be designed to maximize the opportunities for social and intellectual exchange. Public spaces should be generous, provide places for conversations, and be visible to those using buildings and passing by them. Each school should have both indoor and outdoor spaces suitable for gatherings and social occasions. While there will always be pressure to maximize the proportion of dedicated spaces in buildings, their success will ultimately depend upon balancing the public and private spaces.

Heights of Structures

Buildings should be in scale with the surrounding structures, and the streets and public ways that are adjacent to them. Typically, structures should not be taller than approximately 75 feet fronting on major east-west streets (Spruce, Walnut) and approximately 50 feet fronting on pedestrian ways such as Locust Walk, Hamilton Walk or Smith Walk. If portions of the buildings must be taller, they should be set back a minimum of 15 feet from the street wall, with lower portions facing the street. On north-south streets, building heights should relate to the predominant heights of existing structures. Care should be taken not to cast shadows on open spaces or important walkways, particularly during the daylight hours of 11 am to 3 pm.

New structures should mediate the impacts of existing tall structures, by being intermediate in height, and buffering ground level walkways and open spaces from winds.

Predominant Materials

Many materials have been used on campus over the years, and to good effect. The large number of dark brown brick buildings (e.g. The Quad, Irvine Auditorium, and the University Museum) are complemented by buildings whose predominant materials are red brick (e.g. Fisher Fine Arts Library and Hayden Hall), green serpentine ashlar masonry (e.g. College and Logan Halls) and cream ashlar masonry (e.g. the Annenberg School.)

Brown brick establishes a general tenor for the campus, while complementary materials are used successfully--and in some cases dramatically--to signal the different functions and ownership of buildings and to take advantage of particular sites and other design opportunities. While there should be no hard and fast rule, the presumption is that this pattern should continue, and that dark brown brick will be the point of departure for new structures. The historic buildings utilizing this brick usually feature burned brick headers and limestone trim giving the buildings an individual richness as well as the appearance of campus accord. Architects and designers are encouraged to thoroughly explore and expand on this basic vocabulary, and to find ways to contribute to the interplay of materials and textures.

New construction need not duplicate these historical features, however consideration should be made towards achieving a similar richness through the detail and fenestration of individual facades. For example, both Hill House and the Richards Building use the dark brown brick in unique and modern expressions, while being comfortable neighbors to the surrounding historical buildings.

Future residential structures should use materials that are warm (such as brick and wood) and should be of a scale and proportion appropriate to living spaces. They should reinforce the social patterns being promoted through the system of college houses.

Commercial structures adjacent to the campus may depart from the predominant campus materials, but should be respectful in other ways (program, scale, contribution of life onto streets, etc.) to the campus, and should not overwhelm their residential or commercial neighbors.

Building Orientation

Most campus buildings are seen from perimeter streets as well as the campus interior, and lower ones from above as well, and should be designed so that they contribute to the buildings, streets, and pedestrian ways on each side.

Building entrances should be visible to those arriving on the campus, and should contribute to the life and activity of streets and walks. Where buildings front on public streets there should be public entrances and attractive, open streetscape facing the street.

Building entrances are frequently the meeting places, and gathering places of those using buildings, and should be designed to encourage interaction.

The academic activities of the University, in so far as they are compatible, should be visible to passers-by. Windows should be placed to light and provide views to internal spaces, but also to give walks and streets the security and richness that derives from the visibility of adjacent activity. Highly reflective or deeply tinted glass should not be used on the campus.

Landscape, Streetscape and Signage

Structures should be sited and designed to form lively and secure public ways, that have surveillance from occupants throughout the day and night. The object is to provide spaces that are defensible and used.

Each project should take responsibility for improving adjacent streets and pedestrian ways, by including funds in its budget to bring these up to campus standards. The campus palate of landscape materials, walkways, lighting, signage and street furniture must be used on all public spaces that are part of building projects. These elements should be used to create both active gathering and contemplative spaces, and to reinforce linkages and gateways within the campus and at its edge. Spaces that are courtyards of individual schools or buildings can depart from these guidelines to some extent, but only if it is necessary to convey special identity.

Every project should provide secure bicycle parking areas. Residential projects should provide these areas internally, where possible.

Commitment to Accessibility

The university is committed to providing equal access to all buildings for those with disabilities, and to doing so in a dignified manner. All new construction must comply with the Americans with Disabilities Act (ADA) guidelines. Renovations of historic buildings should seek to improve access for disabled persons in a manner compatible with their historic integrity.

Functional and Mechanical Facilities

Areas devoted exclusively to building loading and services, to the removal of trash, or to mechanical equipment should be designed so that their visibility from public areas, including walkways, is minimized. Rooftop mechanical equipment should be enclosed in structures that are integrated into the building design. Acoustic mitigation should be required to ensure the quality of the pedestrian environment.

Architectural Style

Buildings on the campus reflect many styles, and the essential quality of the campus is one of buildings that speak in their own voice about their purposes and the era in which they were built. It is the landscape and public spaces that integrate these buildings into a coherent whole.

New buildings should express the aesthetic ideas of our times, so that as we look back on them they also become a cultural record of ideas about architecture and campus life. Penn's finest older buildings (as examples, the Quad, the Fisher Fine Arts Library, Hayden Hall, Hill House, the Richards Memorial Research Building) are admired internationally for their contributions to architecture and campus design. The university should engage architects who are recognized leaders, and aspire to design each structure so it not only suits its occupants and addresses its physical and historical context, but also contributes to ways of thinking about buildings.

Respect for Cultural Resources

Many of the existing structures on campus have local, regional or national historic significance, and are included on the corresponding registers of historic structures. Portions of the campus are included in locally designated historic districts. An inventory of all campus buildings has been prepared by the University, outlining each structure's level of importance as a cultural resource, and the specific aspects of the buildings that deserve special protection. New buildings, or adaptations to existing structures must take this into account.

As noted below, a special subcommittee on cultural resources will review all projects that have a bearing on culturally significant buildings before moving forward to obtain city or state permits. Restoration, renovation, or additions to many buildings on campus will require review and approval by the Philadelphia Historical Commission. The responsibility of the Cultural Resources Committee goes beyond the Historical Commission and includes changes to building interiors, which the city is unable to review.

Integration of Art in Buildings

The university has a percent-for-arts policy, and each new building project should include a budget and program for works of art. These may be integral to the building (eg, murals or artistic expressions in spaces), works purchased for permanent display in particular locations, or works commissioned for the structure. Whenever possible projects should strive to create new art that advances the way we think about the world we inhabit.

Responsible Use of Energy and Natural Resources

Each project should undertake a comprehensive analysis to diminish the use of energy and reduce the use of non-renewable resources. The university intends to be a leader and champion of environmentally sensitive design, demanding innovation and creativity from our design consultants and helping to educate our community.

The university is committed to creating a campus environment that moves beyond merely sustainable, to one that actively improves the quality of life and the environment for its users. Our goals include:

- Reducing dependence on non-renewable resources by using appropriate recycled materials and by promoting adaptive reuse of existing structures
- Reducing marginal energy costs by promoting selection of locally manufactured or fabricated products and materials
- Siting new structures mindful of orientation, shading and the effect on adjacent buildings and spaces
- Using landscape design to create healthy and ecologically appropriate spaces, provide pleasant outdoor environments, reduce exterior lighting demand and minimize stormwater runoff
- Minimizing maintenance and operating costs by employing whole-systems lifecycle evaluation to determine the true project costs, and by integrating innovative daylighting and building engineering solutions at project inception
- Improving indoor environmental quality
- Adopting monitoring, measuring and feedback systems to establish baselines of energy usage and building performance, against which the university can evaluate improvements and set goals for future projects
- Maximizing building flexibility to satisfy the varied demands of current and future users and residents
- Reduce energy consumption of building and site systems (HVAC, hot water, lighting) through the use of appropriate mechanical and construction technology (natural cooling, light recovery, passive solar design, etc.)

The construction, as well as design, process should also respect these goals.

Responsible Renovation and Upgrades to Existing Buildings

It is the intent of these guidelines to encourage responsible stewardship of all existing University buildings. Each renovation project, therefore, should include an investigation of all aspects, systems and features impacted by the specific intervention. Conditions discovered during project evaluation, design or construction that are in need of improvement cannot be ignored. Even in cases where budgetary or schedule constraints necessitate only a partial remediation, any building deficiencies brought to light are to be examined and documented so that they may be addressed at a future time.

The Design Review Process

Role of the Trustees

The trustees of the University of Pennsylvania have final responsibility for reviewing and approving all building projects on the campus. Their facility planning committee reviews projects, offers constructive advice, and ultimately recommends to the full board of trustees that projects be constructed. The trustees are also advised in this decision by the president, provost and campus design review committee.

The Design Review Committee and Cultural Resources Sub-Committee

The design review committee is chaired by the dean of the Graduate School of Fine Arts, and consists of the vice president for facilities, the university architect, the university planning consultants, several faculty members who are design professionals, and outside architects drawn from the extended university community. The committee's role is to advise the president, provost, executive vice president and trustees on the merits of projects being designed for the campus. The committee meets monthly, and on special request in case of critical issues.

For art projects on campus, the design review committee may create a special subcommittee that may include faculty and administrators beyond the committee, to provide advice and guidance to the artists involved, and to recommend approval of promising projects to the appropriate deans, the president and the trustees. This subcommittee will coordinate its work with The Office of the Curator, and its Art Advisory Committee, to review proposed art project and evaluate its suitability and maintenance requirements.

The university also has a cultural resources sub-committee, was mandated by an agreement between the university, the Philadelphia Historical Commission, and the US Department of the Interior. It is charged with reviewing all projects that affect buildings of historical importance on the campus, or within designated historical districts. The sub-committee, chaired by the dean of the Graduate School of Fine Arts, includes several faculty experts on historic preservation, a representative of the provost's office and the executive director of the City of Philadelphia Historical Commission. It meets monthly, and forwards its recommendations to university officials and the trustees, and to the Philadelphia Historical Commission and/or State Historic Commission.

The Design Review Process

Step 1: Briefing of the Architect and Design Team

An information package will be provided to the design team following its selection including:

- feasibility studies done for the project prior to a capital commitment
- the campus development plan
- design guidelines (this document)
- limits and easements on the site
- infrastructure available (such as central heating and cooling lines)
- pedestrian and vehicular circulation patterns
- preferred locations of service access
- details of any other proposed projects in the immediate vicinity

At the outset of design, the design team, client representatives and user representatives will meet with the university architect and the campus design review committee to discuss the ground rules for design. This meeting will seek to identify special architectural, historical, environmental and functional considerations that will be important to ensuring that the building contributes to overall campus development objectives.

Step 2: Design Framework

Designers of campus buildings should photograph the surroundings, research the history of structures adjacent or on the site, and draw from these investigations a set of principles as to how the structure should relate to its surroundings. This may include heights or cornice lines to be respected, open spaces or walkways to be maintained, predominant materials to be used in the building so that it harmonizes with its surroundings, scale and building envelope language, and other contextual factors.

Based on this analysis, and on the issues discussed previously, the designers should prepare a “design framework”, describing (at least):

- Context
- Analysis of the fit of the program and the site
- Massing and bulk possibilities
- Building “hold-to” lines
- Zones of pedestrian and service entry
- Facade expression lines
- Fenestration guide lines
- Suggested materials palettes and details
- Ground level expression, program, and relationship to adjacent open space

The design framework will typically include diagrams, storyboard, and photo examples, and will be discussed with the design review committee, the president and provost, and trustees facilities planning committee prior to or concurrent with presentation of conceptual design.

Step 3: Schematic Design

The schematic design presentation to both the campus design review committee and the trustees' facilities planning committee should include enough of a portrayal of the building in its context so that judgments can be made of its appropriateness. Typically this will include elevations with surrounding buildings shown, and renderings and models of the building in its context. Special attention should be paid to how the building will be experienced by pedestrians at ground level, how it will impact public open spaces (such as shadow and wind patterns), and how it will be seen from surrounding buildings.

Special attention should be paid to the ground level experience of pedestrians on campus or on surrounding streets. Perspectives should be shown from their eye level, and should include adjacent structures and landscape.

In order for the impact on utility infrastructure to be adequately planned for, the design team should, at this stage, provide an energy budget for each project outlining energy consumption, storage, and recovery; as well as a materials handling plan indicating anticipated solid waste generation and a strategy for site storage and collection.

Step 4: Design Development and Construction Documents

Design palettes should be discussed with the design review committee, along with design development drawings of facades and exterior details.

Responsibility for ensuring that the agreed upon design principles are respected during the course of preparing construction documents falls to the staff of the university architect and vice president for facilities and real estate services. Where significant departures are necessitated, proposals may be resubmitted to the design review committee for advice and opinions.

Step 5: Construction

Full-scale mockups of wall assemblies should be constructed on the site, so materials can be compared to adjacent structures, before final material decisions.

Works of public art will be reviewed by the design review committee or its subcommittee, and the Office of the Curator, for their compatibility with the architectural and campus context.