CHAPTER 3 - CAMPUS PRESERVATION

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The Morningside Heights Campus of Columbia University is predominately a Beaux Arts academic ensemble set within the confines of a dense urban neighborhood. The groupings of buildings and open spaces were each intended to define and enhance the other. The stewardship of the historic buildings and the maintenance of a balance between the old and the new are critical to retain the special quality of the campus. Successful maintenance, restoration, and new construction on this campus must result from thoughtful analysis of historic factors and current and future conditions at Columbia University.

3.1 ARCHITECTURAL CHARACTERISTICS

Core Campus

The style of Core Campus buildings is classical in the best Beaux Arts tradition. The arrangement of the originally planned campus buildings was established by the 1894 McKim, Mead & White master plan, which followed the Beaux Arts ideal of axially arranged urban spaces. Each of the pre-1928 buildings contributes in a specific way to the organization of the whole: the details, facades, and ornament relate the building not only to its neighbors but to the arrangement of courtyards and open space which organize the campus, spatially and architecturally. With the exception of Buell Hall, which is the only building remaining on the campus from the Bloomingdale Asylum, the pre-1928 campus is composed of two basic types of buildings: object buildings and boundary buildings, which serve to define open spaces. This distinction is evident not only in their plans but in the articulation of the individual elements in each building. While the general details and arrangement of basic building elements are similar, at the same time, there is a wealth of detail unique to each building. The perceptive viewer will delight in this subtle complexity of detail.

Low, Earl, and St. Paul’s have centralized plans and are important object buildings, anchoring the physical organization of the campus and occupying a specific axis at its heart. These buildings are special: while they each utilize a Renaissance tripartite organization in their massing, special details, such as a centralized plan, domes, pediments, monumental porticoes, and unique materials distinguish these three buildings from the others on Core Campus. Low, which is the central focus of the master plan, follows a Greek cross plan and is modeled on the Pantheon. Low is also the only structure built entirely of stone. St. Paul’s and Earl, located east and west of the library’s central axis, resemble domed, central-plan Italian Renaissance churches in red brick and limestone. Earl is fronted with a portico accessed by a long flight of steps and is capped with a shallow dome. St. Paul’s, by Howells & Stokes, is the counterpart to Earl, with a cruciform plan and green tile roof unique to this part of campus.

The other pre-1928 buildings have a longitudinal distribution, serving to define the courts and bound the secondary open spaces. All of these buildings have in common certain general architectural characteristics: they are four stories in height, constructed of overburnt red brick with limestone trim, and have a similar facade organization. Additionally, the ordering of entrances on these buildings contributes to the hierarchy of open spaces which they front. Lewisohn is the only one of these “boundary” buildings not designed by the office of McKim, Mead & White. The architect for this building was Arnold Brunner. Although its materials are brick and limestone, its general detailing is larger in scale and less restrained than the McKim buildings on Core Campus.

Buildings designed by other architects and constructed before World War II deviate slightly from, yet are still deferential to, the McKim, Mead & White plan. At the south end of campus, Butler, designed by James Gamble Rogers and completed in 1934, has a footprint that is larger than most of the earlier proposals for this site by the office of McKim, Mead & White. The monumental colonnade reflects that of Low, helping to define South Field as a cohesive, bounded, formal, open space. South Field is further defined by the arrangement of Hartley, Wallach, Hamilton, and John Jay, and Furnald and Journalism. The secondary relationships established between these boundary buildings create the quadrangles on the east and western sides of South Field. The architecture of these buildings serves to link them to the buildings north of College Walk: the composition includes the same granite base, although higher; a middle section articulated by monumental
windows and entrances; and an attic story defined by a strong cornice and a hipped roof.

Later additions to Core Campus are sited according to the Master Plan organization, although their height and general appearance distinguish them from the earlier buildings in this area of the campus. Uris is built within the ground-floor envelope established by the lower two levels of University Hall. Yet, its height and the modern materials which comprise its exterior envelope contrast with the pre-1928 buildings which surround it. Carman, on the southern portion of Core Campus, is built on one of the sites prescribed in the Master Plan. However, similarly to Uris, the treatment of the boxlike exterior sets it apart from the other buildings constructed in the area, even though its height and massing are similar to John Jay on the southeast corner of the campus. The Lerner Student Activity Center, scheduled for completion in 1999, has been located on two of the original master plan building sites on the southwest corner of campus. The portion of Lerner constructed between the two original building sites has a transparent glass front respecting the original McKim, Mead & White open space. The building is contemporary in its facade organization and interpretation of traditional materials.

**East Campus and North Campus**

East Campus, the next area of expansion after South Field, is less easily defined in general terms than Core Campus: while there are several pre-1928 buildings occupying this “superblock,” the contrasts between contemporary buildings and the older buildings are perhaps the most striking feature of this area of the university campus. President’s House and Faculty House face Morningside Drive and are of similar scale and treatment. Wien Hall, the first women’s dormitory, shares with President’s House and Faculty House a general colonial style which is compatible with Core Campus: these buildings are similarly composed of a rusticated limestone base, a red-brick facade with limestone trim, and brick window surrounds. Casa Italiana is an Italian Renaissance-style building which features many of the same characteristics of the earlier buildings on Core Campus, including a tripartite organization, centralized entrance, symmetrical facade, and traditional building materials.

The original plan represented by President’s House, Faculty House, and Casa Italiana was modified in the 1950s by the architectural firm Harrison and Abramowitz’s designs. This plan joined the original East Campus block between West 116th and 117th streets with the block to the north. The new East Campus “superblock” was planned as a raised platform with three new buildings connected to Core Campus by a bridge over Amsterdam Avenue. Greene Hall and International Affairs have a distinct modernist aesthetic and were originally designed with entrances which addressed the upper plaza of East Campus. However, the monumental and symmetrical facade organization of International Affairs, with its central plaza level entrance further emphasized by steps, responds to the classical principles of the Beaux Arts with a modern vocabulary. The 21-story East Campus residence hall by Gwathmey Siegel is the tallest building on the Columbia University campus. It, too, responds to the new organization and architectural language of East Campus. These East Campus buildings introduce a new vocabulary of a greater scale and contemporary materials to the campus vernacular and to the original buildings constructed in the area of East Campus.

The Grove, or North Campus, was originally conceived as a sloping landscaped open space and developed in the 1920s as an expansion area for science facilities, with Chandler, Schermerhorn Extension, and Pupin following the earlier master plans. These buildings, designed by the office of McKim, Mead & White, maintain the style, materials, and fenestration of Core Campus. Pupin, at fifteen stories, is much taller than other Core Campus structures, but its scale and facade organization are sympathetic to the earlier buildings.

Mudd Hall, by Voorhees, Walker, Smith & Smith, with its massive size and flat roof, departs from the North Campus symmetry established by the earlier buildings. Despite its materials (red brick and limestone), which are similar to Pupin, its western counterpart, Mudd Hall, extends beyond the footprint which might have been indicated by Pupin and its relationship to the other earlier buildings on North Campus. Fairchild Center, Computer Science, the extension to Havemeyer Hall, and Schapiro Hall differ from each other and from the older campus architecture in style, scale, size, and materials. Their responses to the historic context vary with each individual building. Although skillfully rendered, Fairchild’s relationship to its site undermines the axes and circulation patterns established by the older plans. The contemporary exterior treatments of the Havemeyer Extension and Computer Science are more sen-
Standing Seam Copper Roof
Copper Cornice
Wood Windows
Red Brick & Limestone Walls
Decorative Ironwork
Granite Base

Symmetrical Facade Organization
Align with Lower Campus
Materials: Traditional Building

Avery Building

Standing Seam Roof
Metal Cornice
Attic Windows
Red Brick & Stone Colored Tile
3 Rows Typical Windows
Brick Base

Materials: Contemporary Building

Havemeyer Extension

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School of Journalism

Window Hierarchy

Base Window
Monumental Window
Typical Window
Attic Window

View of Havemeyer Extension illustrating the alignment of the cornice and window courses and the referential use of similar materials.

Exhibit 3-1
sitive in terms of material and siting. The Havemeyer addition maintains the preestablished building height of four stories and introduces sympathetic materials such as red brick and limestone color tile.

**Miscellaneous**

In addition to the buildings, the Columbia campus is enhanced by the installation of numerous ornamental elements, many of which are class gifts. These items include ornamental gates, statues and fountains, stone benches, stained-glass windows, stone pylons, and other decorative elements. The earlier ones are of classical proportions and detailing, in keeping with the style of the original campus, such as the limestone bench in front of St. Paul’s or the ornamental entrance gates at both ends of College Walk.

### 3.2 MODERN INTERVENTIONS

New interventions in existing buildings affect their architectural integrity in varying degrees, ranging from the minor impact caused by exposed conduit to the substantial change brought by a building addition. Throughout the campus many alterations or additions can be found coexisting more or less in harmony with the original historic fabric. These include appropriate additions to existing buildings such as the Havemeyer Extension, the Computer Science addition, and the entrance to Uris. Others are less successful, such as the recently installed Journalism dormers. The more successful additions respect the design of the original buildings; use compatible or complementary materials; do not overpower, block, or compromise important elements of the original, and have a scale sympathetic to the existing fabric.

**Roof Dormers**

Gabled and square shed dormers are found throughout campus and are integral to the architectural vocabulary. A version of the original square dormer found on Hamilton has been reproduced on the north and south sections of the roof of Journalism with larger panes of glass and approximately four times the number of dormers. Although the addition of dormers may be an appropriate modification, the number, scale, and proportions of the dormers in this instance have compromised the original roof profile and facade composition. This should be avoided in the future.
**Barrier-Free Access**

There are several types of handicapped ramps on Core Campus, including temporary installations built of wood and metal. These are unsightly and should be replaced, as planned, as part of the permanent installation of Columbia’s ADA compliance program. Permanent ramps range from less successful concrete with inappropriate contemporary metal railings, to the more appropriate granite, limestone, and brick types with proper details and ornamental bronze railings. In the future, ramps should be positioned close to building walls where possible to minimize their visual impact. Materials and style should be compatible with the buildings they serve.

**Exterior Elevators**

Two freestanding exterior elevators have been installed which connect the upper campus with the street level. Although both are clad with red brick and have aluminum overhangs, their designs are different. The elevator at Dodge is more sympathetic to the original architecture of the campus. It is trimmed with a limestone cornice, while the one near the Havemeyer Extension has tile facades and is unsympathetic to the character of the Columbia campus.

**Fire Stairs**

Exterior painted steel fire stairs exist on several buildings, such as Buell and Earl. These provide an alternate means of egress from the upper floors as required by the building code and must remain in a safe and secure condition where necessary. They should be maintained, cleaned, rustproofed, and painted to maintain a safe condition.

**Mechanical Equipment**

Exposed mechanical equipment on existing structures is a common problem observed throughout campus, negatively affecting both traditional pre-1928 buildings and contemporary structures. These interventions constitute afterthoughts and have not been properly integrated with the original design. For example, a large duct behind President’s House and the roof risers at Faculty House are both visible from West 116th Street. More thoughtful consideration should be given to such interventions in the future by running mechanical elements internally or shielding with screens.
**Banners**

Decorative banners have been installed in numerous locations around the campus for both wayfinding and informational purposes. Special consideration must be given to the location, size, and mounting details of the banners. Any proposal for banners within campus open spaces must be submitted to the office of the University Architect for review and approval. No permanent banners will be permitted on campus light poles; however, those intended to remain for a period longer than one month must be approved by the office of the University Architect.

### 3.3 CAMPUS MAINTENANCE PROGRAMS

The first and most economical step in the maintenance of the campus historic fabric is preventive maintenance which addresses the building problems before they become serious. This not only reduces long-term costs but also prolongs performance, efficiency, appearance, and image by increasing the life of existing materials, an ecologically and financially preferable course.

The second and more intensive level of intervention is the restoration or rehabilitation of the historic fabric. This improves the existing condition without wholesale replacement by the use of materials physically and aesthetically compatible with the historic fabric. For example, the repair of deteriorated window sills is preferred over the replacement of the window unit in its entirety.

The third and least desirable, but sometimes necessary, intervention is the replacement of the historic fabric. This approach may be taken when the condition of the building element has deteriorated to the point of precluding restoration, or the element is missing altogether. This is often the case with the replacement of failed wood entrance doors with new doors to match the original.

### Campus Building Assessment Programs

In response to the need for accurate information regarding the condition of its buildings, Columbia University currently has several ongoing monitoring programs for its on-campus buildings. These include the following:

1. **Capital Renewal Program.** The purpose of the Capital Renewal Program is to assess the campus building conditions for capital improvement needs. The assessment is based on a survey of campus spaces, and the findings from the survey and their respective costs are utilized to develop the university Five-Year Capital Plan. These findings are not linked to design recommendations but are comprised of an evaluation of all building systems and components in such categories as ADA compliance, life/fire safety systems, electrical, plumbing, HVAC, structural, interior finishes, exterior and site elements. Approximately ninety structures on four campuses are assessed in an ongoing, three-year cycle. Capital renewal projects undertaken each year provide improvements to building entrances, mechanical systems, windows, public spaces, classroom and athletic facilities.

2. **Local Law #10, Condition Analysis.** The University buildings that front on public streets are required to comply with the Administrative Code of the City of New York Local Law #10 (1980), Section C26-105.3. The building exteriors are analyzed and field examined for material condition and structural integrity. The process documents items, such as cracks, that may have developed in the masonry, deterioration of mortar joints, and the condition of building projections for any signs of structural fatigue that may require repair. This law was established to protect the safety and welfare of the public walking next to these buildings. The repair recommendations are recorded and the high-priority items are corrected. Approximately thirty-eight University buildings are required to be surveyed annually. The condition reports are filed with the New York City Department of Buildings every fifth year.

3. **Roof Survey Reports.** The purpose of the roof surveys is to evaluate the condition of all building roofs on campus. Roofing materials, parapet walls, cornices, skylights, elevator shafts, and stair enclosures are assessed in the survey. Special attention is given to the original copper roofs on campus because of their age and condition. The recommended repairs are prioritized and done annually. Approximately fifty-one buildings are assessed as part of this roof survey/repair program.
3.4 MAINTENANCE RECOMMENDATIONS

Facades

The facades of the buildings on Core Campus are as important as their overall layout in helping to define the courtyards and open spaces on the campus. All of the pre-1928 buildings with the exception of Buell Hall have a tripartite horizontal organization that establishes a base, a middle, and a top. This is balanced by a vertical subdivision articulated by pilasters, columns, quoins, and recesses in the plane of the wall. The facade arrangements are symmetrical, with emphasis on the middle portion, which is either recessed, projected, or accentuated at its base by an articulated entrance and sometimes by a pedimented roof, as in the case of Schermerhorn.

The object buildings, Low, Earl, and St. Paul’s, have a three-dimensional massing, starting with a strong base and terminating with a dome that provides the monumental focal point. The other pre-1928 court-defining buildings on Core Campus have a more two-dimensional exterior treatment with relatively flat facades of uniform height, supporting their function as background and boundary for the open courts. Butler Library was designed to complement the Classical Revival style of the earlier McKim, Mead & White buildings; however, its general treatment is more two dimensional than that of its counterpart across South Field.

Post–World War II buildings on Core Campus vary greatly in their attitude toward the historic facade organization of the earlier buildings. Uris has a limestone and aluminum-curtain wall facade that is of a scale and size much larger than the original Master Plan buildings. Its exterior organization does not respond to the classical tripartite division of the original buildings, and its architectural emphasis is vertical. The recent addition to Uris conceptually relates to the classical forms of the campus better than the original construction. Carman emphasizes the vertical rather than the horizontal in the organization of its facade, with a curtain wall punctuated by pierlike elements extending the height of the building.

The facades of the earlier buildings on North Campus, including Chandler, Schermerhorn Extension, and Pupin, maintain the style, materials, and fenestration of Core Campus. The facades of the newer buildings, however, have less in common with Core Campus architecture. Fairchild has a panelized tile facade and screen wall, isolating it from the other more traditional structures. At the Havemeyer addition, the introduction of sympathetic materials such as red brick and limestone-colored tile and the utilization of contemporary recessed windows helps to link it to the earlier buildings in the area of North Campus.

On East Campus, President’s House and Faculty House are four-story red-brick buildings articulated by a rusticated limestone base and trim and brick window surrounds. Wien Hall shares the classical facade organization of the pre-1928 buildings on Core Campus, such as the tripartite and symmetrical organization of the facade, a centralized entrance, a strong cornice line, traditional building materials (red brick, limestone, wood, copper) and decorative articulation. The modern buildings constructed after the creation of the East Campus “superblock” are made up of a completely different material palette and facade organization and hence present a different set of maintenance issues. Greene Hall is enclosed by a series of concrete vertical fins that wrap the building exterior. The facade of International Affairs is also constructed of concrete with an aluminum curtain wall at the fire stairs. The elevation of the East Campus residence hall is composed of panelized brick and stucco, resulting in a flat, two-dimensional appearance.

The most common problem affecting the historic fabric in Core Campus is the failure of masonry joints or the presence of inappropriate repairs to masonry. Spalling, delamination, masonry unit displacement, incorrectly selected patch materials, cracks, holes, and obsolete attachments are apparent in a few random areas on campus. The masonry structures on North and East campuses share the problems of Core Campus, such as the presence of open joints that need to be repointed, or inappropriate repairs that should be removed and replaced by aesthetically and physically compatible materials. Concrete buildings, such as International Affairs, may be affected by the typical concerns related to reinforced concrete construction, such as carbonation, corrosion of the ferrous reinforcement, cracks, spalling, and surface disintegration.
Guidelines

1. **Repointing and Sealing Masonry Units**: Open masonry joints should be repointed to avoid potential leaks and freeze-thaw damage. Special care must be paid, however, to the materials and methods used in such repairs. Nonmatching mortar materials or incompatible caulking should be removed as well and replaced by a repointing mix that is aesthetically and physically compatible with the masonry.

**Applications**

- It is critical to conduct a thorough visual inspection of the mortar joints to identify the extent of repair required and the major components of the existing mortar (sand color, texture, type of cement, etc.).
- Testing of the existing brick and mortar will establish compressive strengths for the new mortar material.
- Specify a mortar composition with a lower compressive strength than the adjacent masonry to avoid cracking and spalling of the stone or brick during thermal expansion of the wall.
- Prepare joints by removing existing mortar to a uniform depth approximately 2.5 times the joint width.
- Care should be taken not to undertake any water-based cleaning method during periods of cold weather when water within the masonry can freeze and cause spalling and cracking.
- The use of rubber or plastic caulks in masonry may create a vapor barrier that traps moisture inside the joint or forces it to exit through the adjacent masonry, therefore increasing its rate of decay by promoting spalling at the edges of the unit.
- The same principle applies to high-cement-content mortars used to repoint porous masonry. In this case the mortar or joints become harder and less permeable than the brick or stone; therefore trapped moisture tends to migrate through the more porous masonry.
- The use of lead joint covers is an appropriate technique and could be used in horizontal joints such as stringcourses in hidden locations.
2. **Repairing/Replacing Masonry Units:** The occurrences of spalling, delamination, and displacement are minimal and may be for the most part left without intervention unless they constitute a safety hazard. Repair and replacement of masonry units should be undertaken where such hazards occur.

**Applications**

- The nonmatching cementitious patches should be removed and replaced by more appropriate composite patching mixes, customized to replicate the color, texture, and composition of the adjacent masonry.
- In areas of high use, such as steps, the installation of stone dutchmen may be a more appropriate and durable solution.
- Cracks should be monitored for structural stability and patched with appropriate mixes to avoid water penetration and freeze-thaw damage.
- Ferrous attachments should be removed to avoid further damage to the masonry caused by the expansion of the oxidizing metal.

3. **Cleaning and Graffiti Removal:** Cleaning and graffiti removal are constant problems for all masonry and stone surfaces. The cleaning of masonry should always employ the least aggressive method first, such as low-pressure water wash. More aggressive methods, such as increasing higher chemical solutions or mild abrasives, should be used only in areas of significant staining. Graffiti should continue to be removed immediately to discourage recurrent vandalism. Areas prone to this attack may be protected by a sacrificial graffiti protection coating that is removed with every cleaning. This coating process reduces stain penetration and simplifies the removal process but requires periodic application. Leaching and efflorescence indicate the presence of water traveling through masonry and the joints and may recur after cleaning if the originating cause is not eliminated. Biological growth indicates a constant presence of moisture. After cleaning, walls should be treated periodically with an appropriate biocide to discourage future growth.
4. **Bird-Deterrent Systems**: The existence of unsightly or nonperforming bird-deterrent systems is another maintenance concern on campus. Inappropriate devices should be removed and more appropriate systems should be installed, such as thin-gauge nylon netting and wire systems supported by noncorrosive anchors placed within joints, not through the masonry unit.

5. **Aluminum and Glass Facades**: More contemporary aluminum and glass facades should be maintained in a manner appropriate to their material. In addition to the problems of soiling and stains, aluminum and glass facades present other concerns, such as the failure of gaskets and sealants. Modern materials such as aluminum, plastics, and other synthetic elements also need to be inspected and maintained periodically, with particular attention paid to panel displacement and damage, air and water infiltration, broken glass or failed sealants, and deteriorated finishes.

**Roofs/Cornices/Chimneys**

Roofs and cornices play an important role not only in terms of aesthetics but also in terms of building maintenance. The cornice and roofline of a building complete its composition and protect the structure from water infiltration at the top. The maintenance and preservation of these building elements are critical to the appearance of the campus as well as to the continued life of the buildings.

The primary cornice line on Core Campus is a consistent one, broken only by the taller three buildings at the southern edge of the campus: John Jay, Butler, and Carman. This line is maintained between the northern and southern portions of Core Campus, despite the significant difference in elevation, through the introduction of a full-story base in the buildings south of College Walk. The cornice lines are important elements in the individual buildings as well, and run uninterrupted around the perimeter of each building, broken only by a pediment at Schermerhorn and at Havemeyer. A secondary stringcourse, typically one or two stories below the roof, is articulated by a continuous stone entablature which helps to define the attic level within the tripartite organization of the facade. The object buildings receive special treatment at the cornice level: Low, Earl, and St. Paul’s have an
entablature that includes either a brick frieze with tile inlays, a stone balustrade, or a plain stone frieze with carved inscriptions.

Typically, the cornices on the pre-1928 buildings on Core Campus are made of sheet copper and are decorated with a variety of decorative elements ranging from lions’ heads, to floral motifs, garlands, and triglyphs. Low has a stone cornice carved with similar ornamental motifs. The earlier buildings on North and East campuses have copper cornices with pressed decorations, or, as at Casa Italiana, a stone cornice supported by ornamental brackets. The post-1928 buildings have concrete or stone copings and parapet walls such as at Fairchild and at East Campus Residence Hall, or aluminum-clad overhangs as at Uris. Schapiro CEPSR, however, is the exception and has a projecting stone cornice.

Roofs are generally hipped with standing seam-copper cladding, penetrated by brick chimneys, skylights, and dormers. The centralized buildings, such as Low, Earl, and St. Paul’s, have a combination of gables and domes clad in sheet copper, clay tile, or stone, accentuated by lanterns as in Earl and St. Paul’s. Carman and Butler, built in 1959 and 1934 respectively, have flat roofs. The pre-1928 buildings have standing seam-copper roofs apparently in good condition that are maintained closely by Columbia’s Facilities Management Department. The staff conducts annual inspections to assess the condition of the roofing material, flashing, joints, gutters, leaders, scuppers, skylights, vents, and other roof penetrations. The newly restored Casa Italiana has a clay tile roof. The post-1928 structures have flat built up roofs with the exception of Schapiro CEPSR, and their maintenance plan should also include seasonal inspections and on-going maintenance.

Two other elements which are related to the cornice and rooflines of the buildings are dormers and chimneys. There are a number of dormer types visible on Core Campus, varying from polygonal with a gabled roof as seen in Hartley, to square with a flat roof of Hamilton. Single dormer windows sit atop John Jay. Traditionally, the dormers are always clad in copper with wood windows with little glazing. Several brick chimneys which are original to the buildings are apparently in good condition, although they must be examined periodically to determine their structural stability, pointing condition, and flashing. If not in use they may be capped with a weathertight cover.

**Guidelines:**

1. Maintain existing historic roofs, cornices and chimneys in their original materials, design and colors.

   **Applications:**
   - Continue annual inspection procedures for all roof and cornice elements. Particular attention should be paid to gutter lines, roofing, and flashing at roof drains, soldered seams in copper fabrications and all roof penetration assemblies.
   - Where possible, repair existing materials and replace missing elements with materials to match the original fabric.
   - Maintain individual elements to prevent leaks, joint failure, and detachment.

2. Repairs should be made only with in-kind materials in those campus buildings which have unique roofs, such as Casa Italiana and St. Paul’s. If compatible alternative materials do not exist, these roofs should be entirely replaced with in-kind materials.

**Windows**

The windows and doors of the buildings at Columbia are an integral part of the character of the place. They have the capacity to detract from the perception of a well-integrated ensemble of buildings or disrupt the facade of an individual building, because of poor maintenance or insensitive replacement. Careful maintenance and a sound program of window replacement help to alleviate the potential for this problem.

Most of the windows in the pre-1928 Core Campus were wood. Many appear to be original to the buildings with the most common type being a one-over-one double-hung sash. The style and size of windows vary according to their location: the windows at the base are usually small, square and lack a decorative surround; the main level windows are large with decorative enframements, arches, divided transoms and, as can be seen at Kent, sometimes extend two stories tall; the windows on the typical floors are rectangular with a
stone or brick surround or a simple stone lintel and sill; attic windows are small and sometimes square or, as in Schermerhorn or Earl, small and round. Window grilles of wrought iron are part of the lower level window system on several buildings, and their designs vary from the simple and massive grillwork at Low to the more delicate and ornamental treatment at Avery. This kind of ironwork detailing is integral to the window system and is an important part of the facade. In general, the historic windows on Core Campus are structurally sound but showing visible signs of paint failure, normal weathering, checking, and minor joint and sealant failures. Paint analyses and early photographs indicate that a deep green or other dark paint color was generally used on the wood windows throughout Core Campus. According to personal accounts, the color was changed in the 1970s to the light limestone color now prevalent on campus. A schedule of recommended paint colors for windows follows this section on page 3.17.

Numerous kinds of modifications have affected historic windows and have thus diminished the historic quality of many buildings in all areas of the Columbia campus. A variety of replacement aluminum windows have been installed on campus buildings on Core, North, and East campuses. Some replacements closely replicate the character of the original molding profiles, as in Havemeyer, with excellent results. However, in cases such as Furnald, the aluminum sashes are thicker and flatter than the original wood windows, detracting from the overall appearance of the building. Air-conditioning units, vents, and inappropriate security grilles are the most visible modern interventions negatively affecting the appearance of windows. Some of the iron grilles and gates have peeling paint and rust, and in some cases the expansion of the rusted metal has provoked the spalling of the supporting masonry.

Guidelines

1. Maintain original wood windows wherever possible.

Applications

- Perform a comprehensive physical inspection to assess the conditions of the frame and sash components, the paint finish, the glass and glazing, interior and exterior trims and sealants, and general operation of the unit.
• Small sections of deteriorated wood windows may be consolidated: repaired by removing damaged wood and filling voids with epoxy-based systems that can be sanded, routed, and painted.

• Traditional carpentry techniques for splices and parts replacement (dutchman repairs) should be used for sills and other larger deteriorated elements.

• The consolidation and painting of damaged wood sills is recommended instead of the observed practice of encapsulating them with aluminum covers.

• Consider repairing frames and replacing only sash.

• Wood windows should be painted every five to eight years with appropriate paint systems to avoid water penetration and rot. Prior to painting, peeling paint should be removed by cleaning, light scraping, and hand sanding to ensure proper bonding of the new coatings. Wholesale paint stripping should be discouraged unless doors or windows are “painted-shut,” or if new wood is pieced-in and a smooth transition is required. It is recommended that at the time of the next scheduled painting cycle the windows and frames of all historic buildings on Core Campus be returned to their original color, as determined by paint analysis.

• Glazing putty and weather stripping should be replaced as necessary to eliminate air and water infiltration. Remove all existing putty, coat with linseed oil, and prime paint prior to installation of glass, glazing points, and glazing compounds.

• All perimeter joints should be sealed to eliminate water penetration that may cause damage to interior finishes and wall systems.

2. If existing historic windows and frames are not repairable, new windows should replicate the thickness, molding, profile, configuration, and color of the historic windows.

3. If it is not feasible to replace historic windows with windows that match the historic condition, new windows should be sympathetic and appropriate.
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Application

• Alternative materials, such as aluminum, may be used for replacement windows. However, the thickness, molding, profiles, light subdivision, and color of the original should be strictly replicated. High quality shop-applied fluorocarbon finishes (e.g., “Kynar,” “Duranar,” etc.) should be specified. Modern aluminum windows require less maintenance, generally retain their finish, and fit longer than wood window units. However, they should be inspected regularly for gasket and sealant failure.

4. The selection of wood versus aluminum windows should be carefully studied on a case-by-case basis. Generally, during a replacement program, all windows should be specified of the same material. A possible exception could be considered in the case of the taller residential campus buildings such as Wien, wherein the most visible windows at grade are monumental wood units, while the upper floor standard double-hung windows could be aluminum.

5. Remove unnecessary modern interventions where possible and diminish the overall effect of necessary additions through a program of standardization.

Applications

• Security grilles should replicate the original design used elsewhere on campus, or at least be designed in a style which is appropriate to the period of the building. In all cases, the treatment should be uniform and the method of attachment should avoid initial or future damage to the supporting masonry.

• Install storm sashes as needed for energy conservation or ultraviolet/infrared filtering on the interior side of the window and should respect the window configuration, color and frame thickness.

6. In a full building window-replacement program, when establishing priorities for the window specifications, special consideration should be given to those windows most visible or characteristic to the building.
Applications

- Ground-level windows, particularly those nearest entrances, should be restored or replicated to precisely match the original units. Upper-level windows should match in color and profile if replacement is specified.
- Monumental or special windows shall be restored or replicated to a high degree of historic accuracy to maintain the character-defining building elements.

Window Paint Analysis

An investigation of the original window finish colors has been undertaken for the Department of Planning, Design and Construction at Columbia by Jablonski Berkowitz Conservation, Inc. To date, four buildings on Core Campus have been analyzed to ascertain original window finish colors. Selective samples were acquired from several locations in each building, including Chandler Hall, Low Library, Butler Library, and Fayerweather Hall. The samples were matched using a standardized universal color system (Munsell) and a commercial paint color system (Benjamin Moore). However, it has been noted that the selected colors from the Benjamin Moore system represent only a close approximation of the actual color. For more accurate matches, the Munsell system should be used. The following constitutes a summary from the “Findings” section of each report. For a more detailed description of methodology and results, the original reports should be consulted.

Chandler Hall

It appears that both the window frames and sashes were painted using the same colors. Dark greens and browns were the primary colors used initially. The first finish coat was a dark yellowish green Munsell 2.5 G 2/4. While there is no Benjamin Moore paint color chip available to match this color, Pittsburgh Paint’s glossy Copper Verde is the closest commercial match. However, the Munsell color should be easily matched by any custom-color paint manufacturer.

Fayerweather Hall

Several different original finishes seem to have been used on the windows of Fayerweather Hall. Most of the sashes in the building appear to have been painted a greyish green, most closely matching the Munsell color 2.5 GY 4/2. The Benjamin Moore color chip number 476 is the closest commercial match. Evidence is inconclusive as to the original finish color of the frames in the building. Several appear to have been stripped before repainting. The earliest finish colors on these frames is a very dark grey, almost black.

Butler Library

The same color was used on both the frames and sashes at Butler Library, a very dark bluish green which looks black. This first finish coat was applied directly to the wood and metal substrates. The Benjamin Moore color chip BM “Black” most closely matches this color.

Low Library

A similar color sequence exists for both the window frames and sashes of Low Library. The original finish coat seems to have been a greenish black, which corresponds to the Munsell color 7.5GY 2/2. The closest Benjamin Moore color match is black. The subsequent two finish coats were also very dark. Later finishes are characterized by a series of dark yellow greens, then followed by the final finish coats of white and whitish grey.

Window Color Recommendation

In general, the paint analysis shows a variety of original colors on the four surveyed buildings, ranging from black to yellowish green. Based on this analysis, a new standard, PPG Duracron “Dark Green,” UC 85245, has been selected for replacement and restorations for the pre-1928 Core Campus building windows.

The colors and finishes for the entrances and monumental windows, generally at ground level, on these pre-1928 buildings should be established on an individual basis, according to archival data and paint analysis where the original window units are extant. In addition, window colors on the newer structures on Core Campus and the postwar East Campus buildings should be based upon the original architects’ design intentions. In all cases, the University Architect’s Office shall approve of the color and finish selections for this important building element.
Doors

Main entrances are typically placed in the center of the facade and are either articulated by colonnaded porticoes as at Low, Earl, St. Paul’s, Avery, and the classroom buildings along West 116th Street, identified by a pair of columns and an entablature as at Lewisohn, or simply framed by a stone molding as at Fayerweather. The original doors were paired, with a solid panel below and glass above as can be seen at Journalism and Schermerhorn. Additionally, some had decorative iron gates as in the case of Avery. Glazed transoms in a variety of configurations top the door. The appearances of these depend on the height of the door and detailing of the woodwork. In some cases, such as Journalism and Furnald, the entrances are flanked by wall-mounted light fixtures with ornamental ironwork. Historical research indicates that the academic buildings had wood doors while dormitory buildings had bronze doors. Secondary entrances have either single or paired wood paneled doors as in Lewisohn or iron gates as in Dodge, although very few remain in their original condition.

Many of the existing doors have been replaced by aluminum or wood, some more successfully than others. There is a lack of uniformity in the materials, color, finish, details, and hardware used which detracts from the overall appearance of the buildings. In addition, some original elements have been eliminated such as glazed transoms, door paneling, exposed hinges, and other decorative elements that were integral to the original design. Most secondary entrances have lower quality replacement doors, usually cluttered with security attachments.

At East Campus, a great variety of doors found on the diverse styles of buildings reflect the contemporary nature of this part of the campus. Glass and aluminum doors are prevalent in the modern buildings while the prewar entrances utilize more traditional materials and proportions. The entrance to President’s House is a unique composition, consisting of a metal and glass canopy projecting above solid wood panel doors and an arched glazed transom with ornamental ironwork below.

Doors requiring replacement should be replicated to match original designs. This is particularly critical at the main entrance of buildings. A stylistically uniform treatment should be applied to all entrances of
a particular building, although scaled down for secondary or service entrances.

Guidelines

1. Maintain existing historic bronze and wood doors wherever possible.

2. If existing historic doors are not repairable, new doors should replicate the materials, dimensions, and designs of the historic door.

3. Follow the historic pattern of specifying stained-oak wood doors at Core Campus academic buildings and bronze-clad doors at the dormitory buildings. Refer to historic documents for appropriate door configurations.

4. If it is not feasible to replace historic doors with doors that match the historic condition, the design of new doors should be appropriate to the historic character of the building.

Applications

- If impossible to match the material of the historic door, match the profile of the frame to the historic condition in an alternative material such as extruded metal.

- Reflect the historic condition of the original entrance through the replication of sidelights, transoms, and bulkheads.

5. Security attachments and hardware should complement the design of the existing doors without detracting from the historic details. Such interventions and additions should be coordinated throughout campus and should be designed such that their materials and scale should minimize their impact on the historic fabric.

Applications

- Utilize recessed floor closers or concealed top-of-door closers wherever possible.

- Specify traditionally designed panic devices with narrow tubular push rods where required at public access entrances.

- All hardware should be selected with matching materials and finishes.

6. Design replacement doors and frames to provide a stylistically consistent appearance at each entrance of a building.
Miscellaneous Campus Elements

Barrier-Free Access

Ramps should be positioned close to building walls to minimize their visual impact. Materials and styles of the ramps, sidewalks, and railings should be compatible with the buildings they serve.

Site Elements

There are numerous Class Gifts throughout the campus in the form of clocks, benches, lamps, and gates that require restoration. Generally, removal of the existing coatings to bare metal and recoating with a high-quality, three-coat, enamel paint finish system should be specified for refinishing the ornamental metal unless the element was originally not painted. In this case, the metal, typically bronze or copper, should be allowed to weather naturally. The repair of existing and the replacement of missing mechanical and electrical components should be undertaken. The stone elements should be cleaned, repointed, and patched with compatible materials.

The limestone clock surround at Havemeyer, a section of Low’s cornice, and one of St. Paul’s side door lunettes are unique examples found on campus of unfinished stonework, originally intended to be decoratively carved. They all have finished counterparts in other areas of the building or in similar buildings that may be used as models if they are to be completed in the future.

Columbia has a number of significant sculptures located throughout the campus. The Committee on Art Properties oversees the selection, placement and maintenance of this art. The location of these site elements should be considered relative to the scale and use of their setting, and periodic inspections and maintenance should be performed. In addition, gifts of art should be accepted only if an endowment for maintenance in included. Refer to Chapter 5 for future discussion of the sculpture.

Mechanical Equipment

Installations of necessary mechanical equipment, such as small vents, pipes, ducts, grilles, condensing units, and cooling towers, should be minimized or clustered to reduce their negative impact on buildings. The smaller elements should be eliminated where possible or concealed with covers and grilles that are sympathetic to the building design. The larger units should be screened or enclosed with appropriate barriers to eliminate unattractive views and reduce noise. Electrical conduits for lighting and other devices should be run internally, penetrating the building at the mounting bracket or junction box.
Columbia is implementing a program to provide air conditioning from a central cooling plant to Core and North campus buildings currently serviced with through window individual AC units. While the ambitious plan is being implemented and window units are still required, new air conditioners should be selected with a low-profile design and placed in a consistent manner within the window openings.

**Exterior Elevators**

Additional exterior elevators, if planned in the future, should be of a standard design, sympathetic to the general campus context for easy identification and uniformity of style. The traditional palette of red Harvard brick, limestone, or precast trim and bases, and metal roofs should be incorporated into the design of the elevator housings. On North and East campuses, a more contemporary interpretation should be considered.

**Fire Stairs**

Exterior fire stairs should be maintained, cleaned, rustproofed, and painted to maintain a safe condition and to avoid rust stains on the adjacent wall construction. Where evidence of brick spalling exists at the ferrous anchors, these supports should be removed and replaced with a nonrusting stainless-steel units, and the damaged masonry repointed.

**Telephones/Surface-Mounted Conduit, Miscellaneous Equipment**

A program that standardizes the design of all telephone hardware with concealed conduit of a reduced size should be followed. Telephone signage should also be coordinated with the overall campus graphics and signage. Wherever possible, exposed conduit should be removed and concealed behind walls or underground, or its exposure should be minimized by running horizontal branches above eye-level and hidden by prominent trim, watertables, and cornices. Other equipment, such as security lights, cameras and other appliances, should be eliminated if deemed unnecessary. The retention of many of these items should be coordinated with the campus lighting proposals being considered. Similar to the telephone installations, the routing of conduit should be located for minimal impact on building facades.
3.5 COMMUNITY COMMENTS

Bob Roistacher – The new door from Dodge Hall to College Walk is a poor choice.

Michael Adams – There would be strong support for regilding the Alma Mater Statue in front of Low Library.

Barbara Hohol – Regilding the Alma Mater statue would be perceived as an extravagance by the University.

The above comments related to Chapter 3 were taken from minutes to meetings held during the planning process. They reflect the substance and tone of comments; they are not quotes.