COLUMBIA COLLEGE CHICAGO
CAMPUS PRESERVATION PLAN

Volume II

Description of Architectural Styles, Historic Building Preservation Guidelines and Glossary

Submitted by
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COLUMBIA COLLEGE CHICAGO CAMPUS PRESERVATION PLAN

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VOLUME II: DESCRIPTION OF ARCHITECTURAL STYLES, HISTORIC BUILDING PRESERVATION GUIDELINES AND GLOSSARY

INTRODUCTION

Columbia College is located in the South Loop of Chicago where it owns and occupies nine historic buildings. The South Loop is located just south of the city's central business district and is roughly bounded by Michigan Avenue to the east, Congress Parkway to the north, the Chicago River to the west and Roosevelt Road to the south.

The South Loop is one of the oldest neighborhoods in the city. Many wealthy Chicagoans resided in this area and in the 1850s and 1860s, mansions, townhouses and churches were built; often along Michigan and Wabash Avenues.

In 1871, the makeup of this residential district changed after the Chicago Fire destroyed a large portion of the city. The South Loop was untouched by the fire and as a result, businesses to the north relocated to the unharmed area. Michigan and Wabash Avenues became prominent thoroughfares in the South Loop as offices, warehouses, and showrooms were established and the area became a robust commercial district.

Commercial development was supported by six railroad depots that punctuated the South Loop. The railroad provided stores, warehouses, and offices with direct transportation of goods and people to and from the area. One such company that prospered from the adjacency to the Dearborn Street Train Station was the Lakeside Press. Here paper could be easily received and published books could be easily shipped. Currently the Lakeside Press building is a Columbia College Dormitory.

With the surge of big business and the shortage of land in downtown Chicago, land prices and taxes soared. In response, the skyscraper was developed between 1880 and 1910. The advent of this steel-framed building type enabled architects and engineers to design taller buildings. Innovations that made the skyscraper possible included: new foundation techniques, the refinement of the elevator, and the advent of terra cotta, a material used for fireproofing and ornamentation.

The skyscraper became a solution for many architects and clients in downtown Chicago. In the skyscraper's first decades, architects configured the facades of these buildings to emulate the Classical architectural column with a base, shaft, and capital. Architects designed these buildings using architectural styles of the time, adapted for the tall building type.

Some of the earliest skyscrapers in Chicago were designed by William Le Baron Jenney, one of the most significant architects and engineers in the development of the skyscraper. In Jenney's designs, the steel structure was expressed through the architecture of the primary facades. Jenney took advantage of the steel frame by making the exterior walls structurally independent from the rest of the building, creating what is known as a "curtain wall." The curtain wall allowed large windows to dominate the facades, permitting light to flood into interior spaces. This style of skyscraper design, with large windows and

an outwardly expressed steel structure, became known as the Chicago Commercial Style. Columbia College has two examples of the Chicago Commercial skyscraper: the 1104 Wabash Campus (Ludington Building) and Columbia College Wabash Campus (Brunswick Building).

In 1893, Chicago held the World's Fair in Jackson Park on the south side of the city. Daniel H. Burnham, an influential Chicago architect, led the fair's design and construction. He turned to prominent eastern architects for their guidance and assistance. As a result, the influences of classicism and formal planning dominated the fair. Shortly after the World's Fair of 1893, the City Beautiful Movement swept the country. Cities and towns built public buildings in the style of Beaux-Arts Classicism and formal plans of cities were developed. Daniel Burnham created a formal plan for Chicago in 1909 that included radial boulevards and parks. Although this plan was never fully realized, portions of it were developed and are evident at Michigan Avenue and Grant Park near the Columbia College Campus.

Classical and Renaissance styles emerged in the last portion of the 19th century and approximately lasted until 1920. These revival styles were refined versions of the earlier revival styles in the nineteenth century. Columbia College has three revival style examples from the early 20th century: Columbia College Main Campus, Columbia College 624 Michigan Campus, and Columbia College Music Department.

In the 1920s through the 1930s, Art Deco, a style of architecture different from the Classical Styles, became popular. Art Deco originated from the modern European form of art and architecture, Art Nouveau. Rather than using delicate ornamentation like those of Art Nouveau, Art Deco stressed hard-edged geometrical patterns. In 1933, Art Deco was reinforced in Chicago when the city hosted its second World's Fair. The fair was called The Century of Progress to commemorate Chicago's 100th anniversary. Columbia College has two Art Deco buildings that were built in the 1920s: The Columbia College Dance Center and Getz Theater Building; Columbia College 11th Street Campus.

Concurrently in the 1920s, theater businesses began to occupy the South Loop in what was called "Film Row." A mile long strip of South Wabash Street housed major studios including Paramount, Metro-Goldwyn-Mayer, Columbia, and Warner Brothers. Here theater owners could find the latest movies to show at their theaters, which were located throughout the Midwest. This business was quite lucrative through the 1940s. By 1960, a time when crime became prevalent in the South Loop, the film industry moved to safer areas of the city. The Columbia College Dance Center, originally known as Paramount Publix Film Exchange, is an example of a film building built in 1929 during the heyday of "Film Row."

In the 1930s a second type of modern architecture called Art Moderne emerged in Chicago. This modernistic architecture was influenced by the streamline design of ships, planes, and automobiles of the thirties. Art Moderne buildings had a horizontal emphasis with smooth surfaces,

ribbon windows, curved corners, and bold shadows. The Art Moderne style was used at the Columbia College Main Campus, 600 S. Michigan Avenue, when the building was remodeled at the exterior first two floors, in the elevator lobby of floor one, and in the east stairway of floors two through twelve.

Since the 1970s, the South Loop has continuously revitalized. Currently the Columbia College Campus has nine historic buildings contributing to the fabric of Chicago's South Loop. These buildings are primarily concentrated along Michigan and Wabash Avenues. Each building contributes to the evolution of the area and together they make up a significant part of the South Loop's urban framework.

These buildings encompass a range of construction periods and architectural styles. The following is a list of architectural styles by building.

Building	Style
72 E. 11th Street	Art Deco
33 E. Congress Parkway	Renaissance Revival
600 S. Michigan Avenue	Classical Revival with Art Moderne (remodeling)
624 S. Michigan Avenue	Beaux Arts
1014 S. Michigan Avenue	Classical Revival with Beaux Arts features (remodeling)
1306 S. Michigan Avenue	Art Deco
731 S. Plymouth Court	Romanesque Revival
623 S. Wabash Avenue	Chicago Commercial with Gothic Revival
1104 S. Wabash Avenue	Chicago Commercial

Descriptions of these architectural styles follow.

DESCRIPTION OF ARCHITECTURAL STYLES

The following styles are employed at Columbia College's historic buildings. The dates in parentheses indicate the relative time period of each style in Chicago.

Art Deco (1925 – 1940)

Art Deco became popular in commercial and public buildings in the 1920s and early 1930s. Art Deco abandoned past styles of architecture and embraced modern design ideas including; inventive ornamentation, linear/hard edge composition, cubic forms and flat surfaces. Common characteristics are:

- Motifs with zigzag patterns, chevron patterns, and faceted surfaces
- Ornamentation in interconnected curvilinear and floral patterns
- Ornamentation in machine-like patterns
- Decorative window spandrels, decorative door and window openings, and decorative string coursing and roof/parapet lines
- Vertical piers or other vertical projections
- Wide range of materials from crafted terra cotta to machine-age metal alloys
- Decorative interior features such as grilles, panels, and decorative trim

The Art Deco Style can be found at the 72 E. 11th Street and at the 1306 S. Michigan Avenue buildings.

Art Moderne (1930 – 1945)

Art Moderne followed Art Deco and was most common in residential buildings; however the style made its way into some public and commercial buildings. Due to the influences of the Great Depression and the stark International Style of Europe, excess ornamentation was eliminated, leaving severe detailing and flat surfaces. Automobile age streamlining was signified by Art Moderne materials and design. Common characteristics are:

- Geometric volumes; often cubic or cylindrical
- Smooth surfaces
- Minimal ornamentation
- Horizontal bands of windows and spandrels that curve at corners
- Horizontal emphasis
- Low and wide proportions
- Flat roofs
- Aluminum and stainless steel door and window trim, railings, and balusters

The Art Moderne Style can be found at the 600 S. Michigan Avenue building at the remodeled portions.

Beaux Arts (1880 – 1930)

Beaux Arts is a classical style that was prevalent in prosperous urban centers in America around the turn of the 20th century. Beaux Arts was the most common style studied at L'Ecole des Beaux Arts in France and includes freely adapted elements of French architecture of the 16th, 17th, and 18th centuries. Prominent American architects such as Richard Morris Hunt, Charles McKim, and Louis Sullivan studied at the Ecole and later designed buildings for the Columbian Exposition at the Chicago World's Fair in 1893. Common characteristics are:

- Classical elements
- Formal composition
- Symmetrical facade
- Masonry walls
- Rusticated masonry base with exaggerated joints
- Quoins, pilasters, and columns (often paired)
- Prominent cornice
- Roofline balustrades and balustraded window balconies
- Rectangular windows with lintels overhead
- Elaborately decorated wall surfaces: decorative garlands, floral patterns, shields, cartouches, decorative swags, medallions etc.

The Beaux Arts Style can be found at the 624 S. Michigan Avenue and at 1014 S. Michigan Avenue buildings.

Chicago Commercial (1885 – 1920)

The Chicago Commercial Style developed from the need to build taller buildings in the dense Chicago city center. Construction technology which made the skyscraper feasible included the structural innovations of talented Chicago architects such as William Le Baron Jenney. The advent of the elevator and new technologies of materials such as terra cotta and steel also contributed to the success of the Chicago Commercial building. Common characteristics are:

- Steel-frame construction; expressed on the exterior through the slender piers and horizontal courses
- Curtain wall facades with large expanses of glass
- Chicago style windows (large fixed windows flanked by double-hung windows)
- Projecting bays that runs the full length of the building
- Large storefront windows
- Open floor plan
- Terminating cornice
- Suppressed ornament; ornament typically is located at piers, spandrels, and the cornice
- Flat roof

The Chicago Commercial Style can be found at the 623 S. Wabash Avenue and 1104 S. Wabash Avenue buildings.

Classical Revival (1895 – 1950)

The Classical Revival Style of the 20th century (also known as Neoclassical Revival) was influenced by the Columbian Exposition at the Chicago World's Fair of 1893 and is a refinement of the Beaux Arts tradition. As architects used their academic backgrounds, they found a renewed interest in forms of classical antiquity. Common characteristics are:

- Symmetrical façade, often with a portico
- Unadorned roof line; side-gabled roof, hipped roof, or gambrel roof
- Modillions and dentils
- Double-hung windows with lintels above; symmetrically arranged often in pairs or groups of three
- Doorway at center of façade

The 20th century Classical Revival Style can be found at the 1014 S. Michigan Avenue building.

Gothic Revival (1830 – late 19th century)

The Gothic Revival Style revitalized the forms and the principles of Gothic Architecture, a style prevalent in the High Middle Ages in Western Europe from the mid-12th century to the 16th century. Gothic Architecture first appeared in cathedrals and is articulated by vertically and rich decorations. Gothic Revival emerged in the 1830's in homes, churches, and some public buildings. The style was also used in the ornamentation of early skyscrapers. Common characteristics are:

- Foliated ornament
- Decorative brackets and finials
- Pointed arches
- Towers and turrets

The Gothic Revival Style can be found in details (now mostly removed or obscured) of the 623 S. Wabash Avenue building.

Renaissance Revival (1890 – 1920)

The Renaissance Revival Style originated from Renaissance Architecture, a style that developed in Italy in the 15th century from classical art and learning. The Renaissance Revival of the period 1890 to 1920 is very grand, elaborate, and distinguished. Common characteristics are:

- Classical orders
- Arched openings, quoins, pilasters, and columns (often paired)
- Each floor may have a different order or different window trim or surround
- Rusticated masonry base with exaggerated joints
- Horizontal divisions created by string courses
- Strong cornice with heavy brackets and lavishly detailed moldings
- Balustrade at roofline

Renaissance Revival Style elements can be found at the 33 East Congress building.

Romanesque Revival (1840 – 1900)

The Romanesque Revival Style originated from Romanesque Architecture, a style that emerged in Western Europe in the 10th century that was based on Byzantine and Roman elements. Romanesque Revival is characterized by round arches, heavily articulated walls, barrel vaults and groin vaults. Common characteristics are:

- Round arched door and window openings
- Strong rhythms created by fenestrations
- Heavy masonry piers
- Richly profiled cornices
- Corbeling
- Horizontal divisions created by string courses and eaves

The Romanesque Revival Style can be found at the 731 S. Plymouth Court building.

HISTORIC BUILDING PRESERVATION GUIDELINES

Introduction

Based on the information gathered during the survey phase of the project all historic building materials installed at each of the surveyed buildings were identified. The Historic Building Preservation Guidelines are to be applied in areas zoned for preservation, and to architectural elements identified as historically significant. The Guidelines focus on the maintenance and restoration of historically significant materials and features and are organized by industry-wide accepted standards used for specifications.

The Historic Building Preservation Guidelines are based upon materials published by the National Park Service in their Preservation Briefs, and other technical publications developed by public agencies. The Guidelines include information (materials and methods) for the repair or replacement of damaged, deteriorated or deficient building materials, components or systems. The Guidelines also include maintenance information for routine tasks performed on building materials, components, or systems in sound condition, in order to maintain or extend their functionality, service-life or performance.

The Historic Building Preservation Guidelines are included to help in-house staff understand appropriate routine maintenance and will be useful for facility administration and staff, contractors, architects and others working on future projects. The Guidelines also address sensitive attachment devices for future campus signage, awnings and lighting.

Description: *Masonry units which include brick, terra cotta and stone are bonded together with mortar, a material made primarily from sand, lime or Portland cement/lime mixture, and water. Repointing (commonly referred to as "tuckpointing") masonry is the process of removing deteriorated mortar from the joints between the units and replacing it with new mortar. Each repointing project for all buildings including those at Columbia College is unique and must be considered individually.*

Deterioration: *Signs of mortar deterioration include disintegrating mortar, cracks in mortar joints, loose masonry, damp walls, or damaged plaster. Causes of mortar deterioration include poor original mortar, differential settlement, extreme weather exposure, or water exposure often due to leaking roofs or gutters and resulting freeze/thaw damage.*

Quality Control: *Repointing work should be done by tuckpointer with a demonstrable record of repointing historic masonry.*

04065 – MASONRY REPOINTING (TUCKPOINTING)

Repair/Restoration

- Repointing masonry should be an ongoing maintenance priority.
- Before repointing masonry, the source of any deterioration must be identified and corrected.

Replacement/Reconstruction

- Successful repointing restores the visual and physical integrity of masonry. Poor repointing can cause irreparable harm to masonry.
- New mortar should match the historic mortar in: width, color, texture, tooling, profile, and composition. The historic mortar should be tested to determine its composition.
- The sand in new mortar must match the sand of the historic mortar. Natural sand (not silica sand) should always be used.
- New mortar should have the same compressive strength as the historic mortar and a compressive strength lower than that of adjacent masonry units. (Mortar stronger than adjacent masonry causes damage to the masonry.)
- New mortar shall be vapor permeable, allowing moisture to escape the masonry wall.
- Consider seasonal and site difficulties before repointing so weather or other activities do not interfere with the repointing.
- When deciding on appropriate mortar, use samples cured in channels for comparison.
- Use test panels in discreet locations on the building to demonstrate procedures, workmanship, appearance, mortar color and joint style.

Visible patches of repointing

Repointing of primary and secondary facades

Repointing terra cotta

Only proceed with the work after review of samples and mock-ups that demonstrate workers' techiniques and finall appearance.

Further information: *For an in depth discussion of masonry repointing see Preservation Brief No. 2, "Repointing Mortar Joints in Historic Masonry Buildings." Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.*

- For successful bonding, existing mortar shall be removed to a minimum depth of 2 to 2-1/2 times the width of the joint. Any loose or disintegrated mortar beyond that depth should be removed as well. Use appropriate tools so as not to harm the masonry units when removing existing mortar.

- To fill the joint, apply repointing mortar in 1/4 inch layers. When the joint is filled, tool it to match the historic joint. Before the mortar is initially set (typically 1-2 hours after application) the face of the masonry around the joint may be cleaned with a stiff natural or nylon brush. No mortar should remain on the face of each masonry unit.

- There are no substitute materials for mortar in historic buildings. Waterproof caulking compounds or similar waterproof materials are especially harmful when repointing masonry units because they hinder the migration of moisture from the masonry.

- If a hard, high Portland cement content mortar has been previously installed as a repointing mortar it will require extra skill to remove without damaging the masonry.

Description: *Brick masonry is made from the weathering, firing, and cooling of clay units. Brick is bonded together with mortar. There are two types of brick used at Columbia College; face brick and common brick. Face brick is located most often on primary facades while common brick is located on secondary facades. The brick at Columbia College is arranged in a number of bonds, or patterns. Brick is used as a structural element (i.e. load bearing walls etc.) and to clad building exteriors.*

Deterioration: *Signs of brick deterioration include crumbling or spalling of the brick surface, cracked or missing brick units, missing mortar, and efflorescence. Causes of deterioration include water-related deterioration, freeze/thaw degradation, water-soluble salts, acid precipitation, air pollution, and poor repairs including inappropriate repointing.*

Quality Control:
Brick replacement work should only be performed by worker's with experience in

04200 – BRICK MASONRY

Preservation/Maintenance

- Historic brick masonry should be preserved and maintained.
- Refer to Masonry Cleaning Restoration Guidelines for information on acceptable cleaning methods.
- Repointing should be an ongoing maintenance priority. Refer to Masonry Repointing Preservation Guideline for more information.
- Waterproof coating or painting of brick masonry on primary facades is not recommended. Breathable masonry coatings can be applied to brick masonry. Particularly if it has been damaged from previous sandblasting and is highly permeable.
- Paint coatings for masonry on secondary facades or non-historic additions should be breathable. Coatings termed "breathable masonry coatings" are specifically formulated for exterior masonry applications.

Repair/Restoration

- Before repairs or replacements are made to damaged brick masonry, the source of the deterioration should be identified and corrected.
- When water-related deterioration is caused by poor detailing, new weep holes or new flashing may need to be added.

Replacement/Reconstruction

- In general bricks cannot be repaired. Depending on the degree of failure, brick masonry may need to be carefully cut out and replaced when units are cracked, disintegrated, or spalled. Bricks should be replaced in kind with brick of the same color, color

Brick masonry in the Flemish bond

Cream brick in American Common Bond

historic masonry repair. Only proceed with the work after review of samples and mock-ups that demonstrate worker's techniques and final appearance.

Further Information: *For an in depth discussion of brick masonry deterioration see Conserving Buildings; A Guide to Techniques and Materials, by Martin E. Weaver and Preservation Briefs 1 & 2.*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

range, texture, and size.

- When brick has become detached from backing masonry or inner wythes, it must be securely reattached. In extreme cases where wythes are bulging or masonry is unstable, the brick may need to be taken down and rebuilt. Joint widths should be recorded and accurately reproduced when the masonry is rebuilt.

- When using recycled salvaged bricks for replacement, a representative sample of brick should be tested for salt contents and quality.

- No substitute materials are acceptable for brick replacement.

Painted brick

Description: *Terra cotta is an enriched molded clay brick or block. Types of terra cotta used at Columbia College's buildings include matte, slip glazed terra cotta, glazed architectural terra cotta, and fire proof construction terra cotta. Glazed architectural terra cotta is used to clad building exteriors while fire proof construction terra cotta is used for masonry arch floor framing and fire proof cladding of steel structural framing.*

Deterioration: *Signs of terra cotta deterioration include crazing, cracking, spalling, staining, and displacement. Causes of deterioration include water-related deterioration, deterioration of the metal anchoring systems, deterioration of mortar, stress-related deterioration, and inappropriate repairs.*

Quality Control: *Examination and determination of a repair scope for terra cotta should be performed by an experienced professional. Only proceed with the work after review of samples and mock-ups that demonstrate worker's techniques and*

04250 – TERRA COTTA

Preservation/Maintenance

- Historic terra cotta should be preserved and maintained.
- Before repairs or replacements are made to damaged terra cotta, the source of the deterioration must be identified and corrected.

Repair/Restoration

- Abrasive cleaning measures, including sandblasting, should never be used. See Masonry Cleaning Preservation Guideline for details on acceptable cleaning methods.
- Repointing should be an ongoing maintenance priority. Refer to Masonry Repointing Preservation Guideline.
- Joint sealants selected for their appropriate qualities can be used to fill holes and static, non-moving cracks as well as moving or active cracks. Joint sealants used must have expansion properties similar to the terra cotta.
- Repair voids in terra cotta with products specifically formulated for terra cotta patching. Do not bridge joints with a patch.
- Terra cotta with spalled glaze or minor material spalling should be coated with acrylic-based, proprietary products or masonry paints. (Paint only the spalled area, not entire unit.)
- When water-related deterioration is caused by insufficient detailing, new weep holes or new flashing should be considered. In some cases this will require resetting terra cotta.

Replacement/Reconstruction

- For severely spalled or otherwise damaged units consider

Matte, glazed terra cotta that has been painted

terra cotta surface and details

Clay tile, kind of gets the idea

final appearance.

Further Information: *For an in depth discussion of terra cotta deterioration see Preservation Brief No. 7 "The Preservation of Glazed Architectural Terra Cotta" and Preservation Brief No. 16 "The Use of Substitute Materials on Historic Building Exteriors." Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.*

replacing the unit.

- Terra cotta units in highly visible locations should always be replaced in kind.

- Deteriorated units located in a field of existing masonry and terra cotta should be replaced in kind. Because each material behaves differently (expansion/contraction, absorption, strength) the continuous use of terra cotta ensures the soundness of the overall wall.

- When replacing large areas of deteriorated or missing terra cotta, the use of a substitute material may be considered. Substitue materials used to replace terra cotta include stone, glass fiber reinforced concrete (GFRC) and cast aluminum. The replacement should match the dimensions, surface patterns, texture, colors and physical characteristics of the historic terra cotta.

Description: *Limestone is a sedimentary rock that is characterized by its workability, its relatively good weather resistance and by its layered composition. Indiana limestone is used for ornamentation and to sheath building exteriors at Columbia College. In Chicago both "Joliet" (dolomitic) and "Indiana" or "Bedford" limestone (Oolitic) was used historically.*

Deterioration: *Signs of limestone deterioration include face delamination, cracking, weathering, pitting, salt fretting, stone displacement, stone disintegration, efflorescence, or deteriorated mortar. Causes of deterioration include structural movement, water related deterioration, freeze/thaw damage, improper bedding orientation, delamination, deicing salt damage, acid rain, pollution, corrosion of metal anchors, or historically poor stone.*

Quality Control: *Examination and determination of a repair scope for limestone should be performed by an experienced professional. Only proceed with the work*

04412 – LIMESTONE

Preservation/Maintenance

- Historic limestone should be preserved and maintained.
- For cleaning refer to Masonry Cleaning Preservation Guideline. Before cleaning limestone, determine whether cleaning is necessary. Acidic cleaners will chemically interact and dissolve limestone.
- Repointing limestone should be an ongoing maintenance priority. See Masonry Repointing Preservation Guideline.
- Breathable water repellents should only be used in extreme cases and after careful analysis and long term testing of a representative area.
- Avoid the use of joint sealants at steel lintels or at areas with metal anchors. Sealants trap moisture and accelerate corrosion of metal elements.
- Do not paint limestone.

Repair/Restoration

- Before repairs or replacements are made to damaged limestone, the source of the deterioration must be identified and corrected.
- When water-related deterioration is caused by insufficient or incorrect detailing, new weep holes or new flashing may need to be considered. In some cases this may require stone to be removed and reset.
- Repairs should be carried out under optimum weather conditions and completed with sufficient time to allow for the masonry to dry before freezing conditions occur.

Limestone addition under window


Crack in limestone facade


Piers of limestone ornament

after review of samples and mock-ups that demonstrate worker's techniques and final appearance.

Further Information: *For an in depth discussion of stone deterioration see Conserving Buildings; A Guide to Techniques and Materials by Martin E. Weaver, Masonry; How to Care for Old and Historic Brick and Stone by Mark London, and Indiana Limestone Institute of America, Inc. and their handbooks.*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

- Limestone can be repaired with a mechanical repair or plastic repair. The type of repair depends on the type and severity of deterioration. All patching must match the original stone in color, texture and surface treatment.

- Mechanical Repair – A mechanical repair involves replacing damaged or missing material by attaching a new piece of masonry to the surface. Mechanical repairs are used on stone that has cracked, delaminated or exfoliated, and on masonry that has been detached from the wall. Types of mechanical repairs include:

  - Reattachment – Pins, typically stainless steel, are drilled in both the base and replacement stones and the holes are filled with epoxy. Epoxy is placed on the surface of the broken stone, and the two portions of stone are joined together.

  - Dutchman Repair – At a stone with a small piece that is chipped or damaged, a new piece of stone can be used as a patch. After the damaged stone has been properly cut out, the replacement stone can be installed and should be tight to the original stone with a minimal Portland cement layer (not a joint).

  - Crack Repair – Small cracks can be repaired by injecting epoxy into the crack after the crack is covered with non-oily modeling clay. Large cracks may indicate other deterioration and repair should be based on specifics of the condition.

- Plastic Repair or Composite Patch – A plastic repair is a series of cementitious patching layers used to reconstruct small areas of stone. Plastic repairs are used on stone that has delaminated, exfoliated or spalled, or areas of missing stone. Patches must match the color, texture and surface treatment of the original stone.

Replacement/Reconstruction

- When repair is not feasible limestone can be replaced in-kind. Indiana limestone is available and affordable.

- For intricately carved stone, replacement in cast stone or glass fiber reinforced concrete (GFRC) may be considered. The substitute material should match the color, texture and surface treatment of the original stone.

- When stones have been detached from backing masonry or inner wythes, they must be securely reattached. In extreme cases where wythes are bulging or stonemasonry is unstable, the stonework may need to be taken down and rebuilt. A numbering system should be used on each stone so that the stonework can be accurately restored. Joint widths should also be recorded.

- Corroded metal elements along with all traces of sulfur should be removed from the limestone. Non-corroding metal should replace the original or be coated to prevent corrosion jacking.

Description: *Granite is an igneous rock that is dense, hard, wear resistant, and typically has a speckled appearance. Because of its durability, granite is used as a base for building exteriors and as a floor surface at entrances at Columbia College.*

Deterioration: *Signs of granite deterioration include blistering, flaking, peeling, cracks, spalling, stone displacement, efflorescence, or deteriorated mortar. Causes of deterioration include structural movement, weathering, iron staining, pollution, and deicing salt related deterioration.*

Quality Control: *Examination and determination of a repair scope for granite should be performed by an experienced professional. Only proceed with the work after review of samples and mock-ups that demonstrate worker's techniques and final appearance.*

Further Information: *For an in depth discussion of granite deterioration see Conserving Buildings: A*

04413 – GRANITE

Preservation/Maintenance

- Historic granite should be preserved and maintained.
- For cleaning refer to Masonry Cleaning Preservation Guideline. Before cleaning granite, carefully determine whether cleaning is necessary.
- Repointing granite should be an ongoing maintenance priority. High strength mortar (Type S) is typically appropriate for exterior granite. Refer to Masonry Repointing Preservation Guideline for details on repointing.
- Breathable water repellents should only be used in extreme cases and after careful analysis and long term testing of a representative area.
- Keep granite floors dry and use temporary nonskid treads on granite steps to avoid slip from water. Avoid the use of de-icing salts, which will contribute to surface spalling.
- Do not paint granite.

Repair/Restoration

- Before repairs or replacements are made to damaged granite, the source of the deterioration must be identified and corrected.
- Repairs should be carried out under optimum weather conditions and completed with sufficient time to allow for the masonry to dry before freezing conditions occur.
- Repairs for granite include Dutchman repair, patching, and redressing the stone. All repairs must match the original in color, texture, and shape. Refer to repair descriptions outlined in the

Granite at entrance

Granite at entrance

Granite base

Guide to Techniques and Materials by Martin E. Weaver and Masonry; How to Care for Old and Historic Brick and Stone by Mark London.
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

Limestone Preservation Guideline.

Replacement/Reconstruction

- Only when repair is not feasible should replacement be considered.
- On the lower levels of a building, granite that has severely deteriorated should be replaced with new granite that matches the original.
- When stones have become detached from backing masonry or inner wythes, they must be securely reattached. In extreme cases where wythes are bulging or stonemasonry is unstable, the stonework may need to be taken down and rebuilt. A numbering system should be used on each stone so that the stonework can be accurately restored. Joint widths should also be recorded.
- Corroded metal elements and associated staining must be removed from the masonry. Ferrous metals should be painted or replaced with non-corroding metals.

Granite base

Description: *Cast stone is a concrete mixture that uses molded shapes, decorative aggregates, and pigments to emulate natural stone. The mixture includes water, sand, coarse aggregate, and cementing agents. Cast stone is used for the door surround at Columbia College's 72 East Eleventh Street building and for the base for the 600 South Michigan building.*

Deterioration: *Causes of deterioration include weathering, freeze/thaw, and de-icing salt damage. Signs of cast stone deterioration include facing delamination (the separation of the facing and core layers), spalls and impact damage.*

Quality Control: *Before patching existing cast stone, review samples followed by mock-ups at the project site demonstrating appropriate preparation and installation of patching materials and to verify that components of the mix match the appearance of the historic cast stone. Refer to the Cast Stone Institute (CSI), the National Precast Concrete Association, and the*

04720 – CAST STONE

Preservation/Maintenance

- Historic cast stone shall be preserved and maintained.
- For cleaning, refer to Masonry Cleaning Preservation Guideline. Before cleaning cast stone, carefully determine whether cleaning is necessary.
- Avoid the use of de-icing salts, which will contribute to surface spalling.
- Repointing (tuckpointing) cast stone should be an ongoing maintenance priority. Refer to Masonry Repointing Preservation Guideline.
- Breathable water repellents should only be used in extreme cases and after careful analysis and long term testing of a representative area.
- Do not paint cast stone.

Repair/Restoration

- A conservator shall repair cast stone every five years.
- Before repairs to damaged cast stone are undertaken, the source of the deterioration must be identified and corrected.
- Cast stone may be repaired with a composite patch: the cement matrix color, aggregate size, and aggregate color all should match the historic material. If more than one stone was used in the cast stone mixture, the proportion of aggregate must be equivalent to the historic mixture.
- Where spalls have a featheredge it may be necessary to cut the historic material back to a minimum uniform depth of ½" before

Cast stone door surround


Deterioration of door surround

Architectural Precast Association for recommendations and guide specifications for cast stone.

Further Information: *For an in depth discussions of cast stone deterioration see Preservation Brief No. 42 "The Maintenance, Repair, and Replacement of Historic Cast Stone" and the Cast Stone Institute's website at www.caststone.org. Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.*

patching. For deep or large patches it may be necessary to mechanically anchor the repair with nylon or stainless steel rods.

- Do not use a cementitious surface coating to repair cast stone.

Replacement/Reconstruction

- When repair is not feasible, a cast stone unit may be replaced in kind. The mix of the new cast stone must be compatible with the existing and should match the texture and detailing of the historic cast stone.

- Where cast stone was fabricated to resemble granite and is missing (ie. Wall base at 72 E. 11th Street) or requires replacement, consider replacing in granite.

- The historic cast stone at 72 E. 11th Street has decorative profiles and includes metal features. These should be thouroughly documented for replication. Metal features should be retained and reused if possible.

Cast stone base

Description: *Historic masonry including brick, terra cotta and stone should be cleaned with the gentlest means effective. Types of masonry cleaning include water cleaning, chemical cleaning, poulticing, and abrasive cleaning. Sand blasting or soda blasting, types of abrasive cleaning, are not appropriate for historic buildings.*

Deterioration: *Reasons to clean masonry include the need to remove retardant deterioration (soiling materials that are potentially harmful to the masonry), to provide a clean surface for repairs, for masonry inspection, or to improve appearance. Masonry should be cleaned when there are harmful stains, heavy dirt encrustation, dark streaks, and sooty grime or paint buildup. Although improving the appearance of the building may be important, inappropriate cleaning can be harmful to the masonry. Therefore aesthetic cleaning may not be valuable.*

Quality Control: *Select materials, products and methods based on*

04900 – MASONRY CLEANING

- Before cleaning masonry, the types of soiling as well as the type(s) of masonry must be identified. The goal is to select a cleaning method that is effective in removing the specific soil deposits identified and is also appropriate to the substrate. Some buildings have more than one type of soiling or one type of masonry and will require more than one cleaning solution.

Types of Cleaning

- Masonry should be cleaned with the gentlest means possible.
- When selecting an appropriate cleaner, use test panels to clean in discreet locations on the building. Test different cleaning agents until a suitable cleanser is chosen. Allow test patches to weather before cleaning proceeds.
- Water cleaning methods are usually the *gentlest means possible* to safely remove dirt from all types of historic masonry. Warm water, neutral detergents, and the use of natural or nylon bristle brushes are recommended. Never use metal brushes. After cleaning with water all loose particles must be rinsed from the masonry. Water cleaning, particularly water soak cleaning, is most effective on limestone and marble. Soiling on other masonry materials may require other methods.
- Chemically cleaning can remove stains, graffiti, and coatings including paint. Special care should be taken with chemicals; incompatible or inappropriately used chemicals adversely react with the masonry and mortar and can cause health and environmental problems. Never use vinegar, lemon juice or other cleaners containing acids on marble, limestone, or travertine surfaces. Acidic cleaners will chemically interact and dissolve limestone and marble. A specialist may recommend cleaning these types of stone with an alkaline chemical product if water soak is not sufficient.

Painted terra cotta


Stained limestone

successful testing on the material to be cleaned. Use experienced workers trained in cleaning historic masonry and proceed only after mock-up panels (in addition to test areas) have been approved.

Further Information: *For an in depth discussion of masonry cleaning see Preservation Brief No. 1 "Assessing Cleaning and Water Repellant Treatments for Historic Masonry Buildings," Preservation Brief No. 2 "Dangers of Abrasive Cleaning to Historic Buildings" and Conserving Buildings: A Guide to Techniques and Materials by Martin E. Weaver.*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

- Cast stone with marble or limestone aggregates may be cleaned with the same alkaline pre-wash/acid afterwash chemical cleaning systems used to clean calcareous natural stones. Where no marble or limestone aggregates are present, acidic cleaners may be used. Cast stone should never be sandblasted or wet grit blasted. Never use metal brushes for cleaning cast stone.

- Cleaning to remove biological growth from cast stone should be done every two years. Cleaning to remove stains should be undertaken every ten years.

- Deeply penetrated stains, salt, or graffiti can be removed by using a poultice. A poultice is an absorbent material that adheres to the surface of the masonry and absorbs the stained material. Poulticing may be performed many times on the same area.

- Abrasive or mechanical cleaning is never appropriate for historic masonry. Abrasive cleaning methods include: grit blasting (most common form is sandblasting), and soda blasting. One abrasive method, façade gomage, uses very fine abrasives under careful control and may be used, although it is expensive.

Environmental Concerns

- Consult and follow requirements of the state Environmental Protection Agency.

When Cleaning with Water or Other Liquid Agents

- When cleaning light colored masonry with water, test the water supply to ensure iron, copper, and other contaminants are not too high in content. If these contaminants are too high, add a complexing agent to the water to help prevent staining.

- When cleaning historic masonry, water pressure should be low: 200-300 pounds per square inch.

Limestone stained by canopy brackets

- When cleaning with water or other liquid cleaning agents, all openings must be tightly covered and all joints and cracks must be well pointed or filled. If water does penetrate the masonry wall serious moisture related problems such as effloresence and subflorescence can occur.

- When cleaning with water or other liquid cleaning agents, schedule cleaning so that the wall has time to dry out before freezing conditions occur.

Painted Masonry

- A large quantity of painted masonry is often best evaluated to determine the underlying conditions. It may be concealing years of dirt and/or a sandblasted surface. Previously sandblasted masonry or masonry in poor condition may be painted with a vapor permeable coating to provide a protective coat.

Description: *Copper and copper alloys found at Columbia College include copper, brass, and bronze. These elements are found in hardware, ornamentation, roof flashing, elevator operating equipment, and elevator casing.*

Deterioration: *Signs of deterioration include corrosion and surface abrasion. Causes of deterioration include oxidation from acidic weathering, oxidation from a mixture of sulfur compounds and moisture, damage from de-icing salts, physical abrasion, and corrosiong resulting from contact with dissimilar metals.*

Quality Control: *Copper, bronze, and brass should be assessed by a qualified metal conservator and the cleaning and repair should be performed by experienced individuals.*

Further Information: *For an in depth discussion of copper and copper alloy deterioration see Metals in America's Historic Buildings by Gayle, Look, and Waite. Also see U.S. GSA: search*

05064 – COPPER AND COPPER ALLOYS (BRONZES)

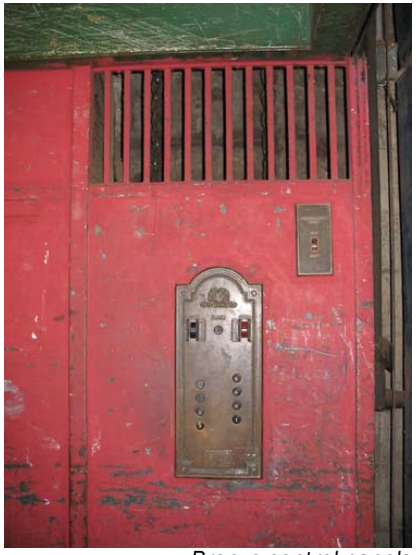
Preservation/Maintenance

- Copper and copper alloys historic to the building should be preserved and maintained.
- Copper and copper alloys corrode cast iron and steel and should be kept from direct contact.
- Copper and copper alloys should only be cleaned when necessary. Patinas protect copper and copper alloys from corroding and should not be removed (excessive cleaning can remove patinas). Some interior brass or bronze elements may have had a polished finish.
- Clean with the gentlest means possible. Washing with deinonized water, a non-ionic detergent, and a natural bristle brush is the gentlest form of cleaning copper, bronze and brass. Chemical stripping can be a very effective method for cleaning if the water wash is not effective. Abrasive cleaning using blasting media such as soft walnut shells or corn cobs can also be used. Sandblasting and glass bead peening are not acceptable cleaning methods. Do not use ammonia cleaning products on copper-bearing metals.
- Once the surface of bronze and brass has been cleaned, a protective coating should be applied.

Repair/Restoration

- When bronze or brass has been dented, it may be hammered back into its original configuration.
- Bronze or brass brazed joints as well as scratched bronze or brass can be buffed to match the texture and finish of the original material.

Bronze plate and ornamentation


Bronze control panels

for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

- If bronze or brass sections are severely damaged they can be cut out, recast, and reattached by riveting or brazing with a bronze or brass filler metal. Surfaces must be cleaned before they are brazed.

Replacement/Reconstruction

- If historic metal must be replaced, it should be carefully removed and saved as a historic object.

Ornamental bronze grillework

Painted bronze/brass hardware

Description: *Nickel silver is a class of nickel alloys composed of copper, nickel and zinc and may also contain small amounts of lead, tin, and manganese. Nickel silver is characterized by its silver-white color and its ability to take a high polish. Nickel silver is used for stair railings at Columbia College.*

Deterioration: *Signs of nickel silver deterioration include corrosion, stress cracking, and wear. Causes of deterioration include pollution, exposure to chromic or nitric acids, vandalism, human-induced problems and mechanical deterioration. Testing on nickel silver elements should be performed by an experienced individual.*

Quality Control: *Repairs should be made by an experienced metal conservator.*

Further Information: *For an in depth discussion of nickel silver see Metals in America's Historic Buildings, by Gayle, Look, and Waite. Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.*

05720 – NICKEL SILVER

Preservation/Maintenance

- Historic nickel silver should be preserved and maintained.
- Clean nickel silver with the gentlest means possible. Nickel silver can be cleaned with a mild (non-ionic) detergent and a wetting agent. Protect all adjacent materials from cleaning agents.

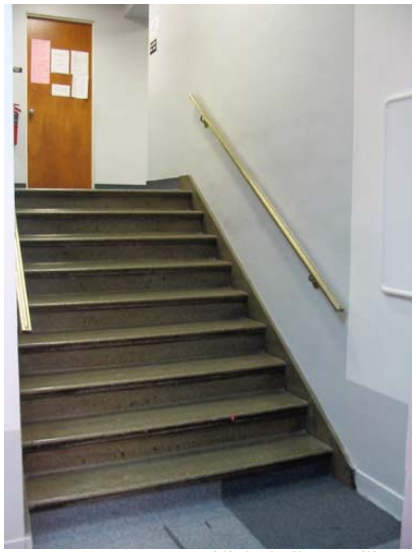
Repair/Restoration

- Before repairs are made to nickel silver, the source of deterioration must be identified and corrected.
- Nickel silver repairs can be soldered with an acid flux solder.
- Nickel silver plating that has been worn or physically damaged must be repaired and replated with a new coating of nickel silver. Replating takes place at a metal shop.

Replacement/Reconstruction

- Replace nickel silver in kind if the element is missing.
- If alterations cause the removal of nickel silver, salvage and appropriately store the element.

Nickel silver top rail



Nickel silver railings

Description: *Aluminum is a lightweight, non-magnetic, and highly corrosion resistant metal. Aluminum can have a variety of surface treatments and textures including a "nonfinished" surface that is smooth, highly polished, or brushed. Historic aluminum is used on the interior and exterior of Columbia College's 600 South Michigan Avenue building for railings, trim, doors, and door surrounds.*

Deterioration: *Signs of aluminum deterioration include corrosion or erosion. Causes of deterioration include the use of incompatible elements, contact with incompatible metals, extended contact with water, or the inherent softness of aluminum.*

Quality Control: *Repairs should be made by an experienced metal conservator.*

Further Information: *For an in depth discussion of aluminum deterioration see Metals in America's Historic Buildings, by Gayle, Look, and Waite.*
Also see U.S. GSA: search

05725 – ALUMINUM

Preservation/Maintenance

- Historic aluminum should be preserved and maintained.
- Aluminum easily corrodes when exposed to alkalis, hydrochloric acid, lead-based paints, certain wood preservatives, and chlorides.
- Galvanic corrosion occurs when aluminum is exposed to dissimilar metals in a common electrolyte, particularly copper. Galvanic action does not occur in the presence of zinc. Dissimilar metals should be kept from direct contact.
- Use the gentlest means possible when cleaning aluminum. Always test cleaners in an inconspicuous area before application. Thoroughly rinse all cleaning solutions and dry.
- Mild soaps, detergents and non-etching cleaners are the gentlest method for cleaning aluminum. Use care with stronger detergents because they can discolor non-finished aluminum.
- Solvent and emulsion cleaners can be used on bare aluminum to remove stains and dirt when milder solutions do not work.
- Abrasive cleaners including polishes, cleaners, wax-cleaners, scouring powders, etc. can be used with vigorous rubbing and a chemical reaction to remove most dirt, stains, corrosion, and will restore a weathered surface. Do not use abrasive cleaners on anodized conversion coatings
- Avoid etching cleaners.
- Do not use household cleaners or steel wool on aluminum.
- Protect bare finishes with a coat of varnish or wax.

Aluminum elevator door surround

Aluminum overhead trim

for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

Repair/Restoration

- Before repairs or replacements are made to aluminum, the source of the deterioration must be identified and corrected.

Replacement/Reconstruction

- Severely damaged aluminum can be replaced in-kind. If aluminum has been extensively damaged by erosion or abrasion, it may be replaced with aluminum of a heavier gauge.

Aluminum handrails

Description: *Ferrous metals include cast and wrought iron, and steel structural shapes as well as formed sheets. Cast iron is an alloy of iron and can be easily reproduced by creating molds to pour repetitive and uniform elements. Wrought iron is almost pure iron and contains slag fibers. Wrought iron is relatively malleable and often rolled or worked by hand creating less uniform elements. Steel is an alloy of iron that is similar to wrought iron but differs in composition and of processing. Steel is stronger, harder, more ductile, and abrasive resistant than wrought iron and therefore has become the more dominant material. Ferrous metals are used at Columbia College for railings, stairs, hardware, spandrel panels, sheet metal cornices, ornamentation, wall surface, bars, grilles, and radiators.*

Deterioration: *Signs of deterioration include corrosion, surface abrasion, deformation, fracturing, and connection failure. Causes of deterioration include water related deterioration, oxidation, galvanic action (destructive corrosion*

05750 – FERROUS METALS

Preservation/Maintenance

- Historic ferrous metals should be preserved and maintained.
- Ferrous metals easily corrode when exposed to moisture and air, water, acids, soils, gypsum plasters, magnesium oxychloride cements, and some sulfur compounds. Ferrous metal elements at Columbia College have painted finishes that should be maintained. Refer to Painting Preservation Guideline.
- Galvanic corrosion occurs when ferrous metals are exposed to cupro-nickel, aluminum, bronze, gun metal, copper, brasse, lead, soft solder, stainless steel, and chromium. Dissimilar metals should be kept from direct contact.
- Built-up paint that compromises the crispness of features and corrosion shall be removed from ferrous metals. Paint and corrosion can be removed most effectively by low-pressure grit blasting, which includes sandblasting. Other methods include hand scraping, chipping, brushing, wet sandblasting, flame cleaning, chemical rust removal, and chemical paint removal. Paint can be removed from steel windows with a chemical paint remover or with a pneumatic needle scaler or gun. Paint and corrosion removal from ferrous metals should be done by a professional. Refer to corrosion cleaning below.
- When cleaning each material, ensure that adjacent materials are not compromised by the cleaning process (i.e. grit blasting cast iron will compromise adjacent masonry, wood, and other metals if they are not properly covered).
- After corrosion has been cleaned, the metal should be repainted.

Repair/Restoration

- Before repairs or replacements are made to ferrous metals, the

Cast iron stair risers

Cast iron radiator cover

between dissimilar metals), overloading, and weathering.

Quality Control: *Preservation and restoration work on ferrous metal elements should be performed by an experienced professional.*

Further Information: *For an in depth discussion of cast iron deterioration see Metals in America's Historic Buildings, by Gayle, Look, and Waite and in Preservation Brief No. 27 "The Maintenance and Repair of Architectural Cast Iron."*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

source of the deterioration must be identified and corrected.

- Non-structural cracks may be filled with compounds containing iron particles in an epoxy resin binder.
- Non-structural ferrous metals that have failed due to corrosion or physical breakdown can sometimes be repaired by welding, splicing (replacement of the element with new), or reinforcing the metal.
- Internal voids of cast iron including balusters, newels and other elements should not be filled with concrete. If already filled, the element should be taken apart so the rust and concrete can be eliminated.
- Cast iron is a brittle material, especially in cold weather. Care must be taken to avoid fracture.
- Corrosion Cleaning
  - Light to medium corrosion for steel: Before rust removal, shield adjacent finishes including sills and adjacent masonry, and shield or remove adjacent glazing. For light rust removal, a manual or mechanical abrasion can be used and may include using a wire brush, aluminum oxide sandpaper, or power tools adapted for abrasive cleaning. For light to medium rust removal, a commercially prepared anti-corrosive acid compound can be used and may include phosphoric acid, ammonium citrate or oxalic acid.
  - Medium to heavy corrosion for steel: Before rust removal, shield adjacent finishes including sills and adjacent masonry, and shield or remove adjacent glazing. For metal with medium to heavy corrosion that has not been structurally damaged, use a low sandblasting (80-100 psi) with grit size between #10-#45, use glass peening beads, or use a chemical cleaning process described above. Check codes to determine dry blasting restrictions. Sandblasting equipment should have pencil point blasters. Take precautions against toxic dust and silica particles when sandblasting.


Wrought iron spandrels


Cast iron spandrel panel


Wrought iron balustrade

- Never use running water when removing rust with chemicals. Never use hydrochloric acid on metal because it can leave chloride deposits which cause corrosion. Never use oxyacetylene or propane torch or an inert gas welding gun to remove rust.

Replacement/Reconstruction

- When an element is missing, severely corroded or otherwise beyond repair, it should be replaced in kind in composition, size and configuration of details.

- In some non-structural situations, substitutes such as cast aluminum, epoxies, reinforced polyester, or glass fiber-reinforced concrete may be considered.

- If historic cast or wrought iron must be removed, the elements should be saved as historic objects.

Description: *Architectural woodwork includes cabinetry, paneling, mouldings chair rails, and casings. Architectural woodwork is used at interior rooms at Columbia College. Wood flooring is also used at several locations at Columbia College. Many of these are the original historic floors.*

Deterioration: *Signs of wood deterioration include moisture, staining/discoloration of wood, fungi, deterioration of finishes etc. Causes of deterioration include physical abrasion, photodegradation, thermal degradation, hydration/dehydration, chemical degradation, structural damage, or original wood defects. The species of wood must be determinedp prior to all work.*

Quality Control: *Repairs should be made by an experienced wood conservator.*

Further Information: *For an in depth discussion of wood deterioration see Conserving*

06400 – WOOD

Preservation/Maintenance

- Historic architectural woodwork should be preserved and maintained.
- Historic woodwork should be regularly inspected
- Never use abrasive cleaning techniques on woodwork. Dust with clean, lint-free rags. For the removal of grime, a very mild solution of Simple Green soap and distilled water may be appropriate. Use only a damp, not wet, cloth and wipe gently. Test on an obscure area of wood first to be sure that the solution does not blanch, or whiten, the original finish.
- Aerosol polishes will damage the finish and should not be used.
- To restore the sheen and protect the wood, it should be waxed once a year. Wax should be used sparingly.

Repair/Restoration

- Use non-destructive methods when removing paint from wood elements. Some paint strippers are appropriate for wood while others will harm and/or darken the material.
- Before repairs or replacements are made to damaged woodwork, the source of the deterioration must be identified and corrected.
- Where appropriate, small voids can be filled with a wood filler.

Replacement/Reconstruction

- Replacement may be considered only when repair is not feasible.

Wood wall surfaces and trim

Wood moulding

Woodwork around fireplace

Buildings: A Guide to Techniques and Materials by Martin E. Weaver.
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

- When replacement is necessary, wood should be replaced in kind. Replacement wood must be identical to the historic in species, quality, cut, color, grain direction and figure or pattern, tool marks, and finish.

- When new wood is to be used for repair or restoration work, ensure that its moisture content is the same or similar to the existing woodwork. Before installing, store the wood in a dry, ventilated space with equivalent humidity as the installation room to allow it to adjust to installed conditions. This will lessen the chances of shrinkage or buckling.

WOOD FLOORING

Caring for Wood Flooring

- Clean wood flooring with the gentlest means possible. Add ½ cup distilled white vinegar to one gallon of water and wash the floor with a damp cloth. Dry all excess water. Do not use a wet mop on floors; standing water can cause damage to the wood and dull or discolor the finish.

- Never use abrasive cleaning techniques on wood flooring. Do not use sheet vinyl or tile floor products.

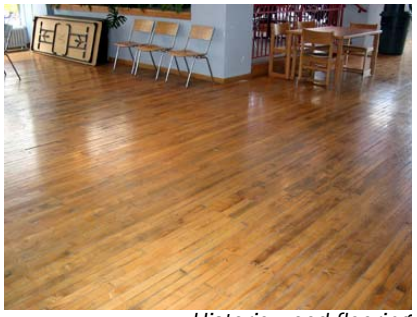
- Polished floors should be dry polished from time to time.

- Stain only where chips or scratches have occurred with an appropriate stain.

- Use walk-off mats at doorways to eliminate the migration of dirt and debris.

- Lift furniture and other objects when moving them. Do not drag on wood flooring.


Wood paneling


Historic wood flooring

Description: *Slate is a metamorphic rock that comes in a variety of strengths, porosity and colors. Slate roofing is used at Columbia College on the mansard roof at 1014 South Michigan Avenue.*

Deterioration: *Signs of slate roof deterioration include a dull thud when tapped, slate breakage or cracking, slate displacement, or interior moisture. Causes of deterioration include weathering, physical impact, poor original stone, deterioration of flashing or nails, or delamination of slate.*

Quality Control: *All repair and replacement of slate roofs shall be performed by an experienced slater. Replacement slates should be reviewed on site to assure a satisfactory match.*

Further Information: *For an in depth discussion of slate roofs see Preservation Brief No. 29, "The Repair, Replacement, and Maintenance of Historic Slate Roofs" , Slate Roofs by the Vermont Structural Slate Co., Inc., and National Slate*

07310 – SLATE ROOFING

Preservation/Maintenance

- A historic slate roof should be preserved and maintained.
- Slate roofs shall be inspected annually or after several rain storms. All deterioration of slate, flashing, and structure should be well documented. Every five to seven years the condition of the roof shall be inspected by a professional. Maintenance personnel can inspect the roof from the ground with binoculars or from an adjacent building.
- Gutters must be periodically inspected for debris and to ensure they are functioning properly.

Repair/Restoration

- All slate roofing work should comply with specified provisions and recommendations of the National Slate Association.
- Snow guards shall be sound and placed to prevent snow and ice from falling on pedestrians. Use a non-ferrous metal snow guard where replacement is necessary.
- Avoid walking on slate roofs. Take precautions if there is no alternative.
- Roofing mastic or sealant is not an acceptable method for repairing slate.

Replacement/Reconstruction

- When determining whether to repair or replace the roof, consider the age, condition, and percentage of broken or missing slate pieces. It is best to replace individual slates or portions of the roof regularly so the entire roof will not need to be replaced

Slate on a mansard roof

Association publications. Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

(typically full roof replacement is advised when 20% or more of the slate is damaged or missing).

- Broken, damaged, or missing slate should be replaced promptly by an experienced slate roofer. New slate pieces should match the original in size, shape, thickness, texture and weathered color.

- If replacing the entire roof, the overall configuration, massing, style and original details of the roof must be retained. Document slate features before undertaking larger slate replacement projects.

- When replacing individual slates, the broken or deteriorated pieces are removed by cutting the nails with a ripper. New slate is nailed at the vertical joint of the course above and flashed with a small copper sheet.

- When attaching replacement slate, a minimum of two non-ferrous slater's nails, such as solid copper or stainless steel, are used per slate, and are sized according to the size of the slate. To avoid breaking slate, the nails are not driven "home."

- When replacing a portion of slate, check the roof sheathing for deterioration and repair. Always ensure the sheathing has a level, smooth and solid construction and that slate is properly secured.

- Copper flashing shall be used at all intersections of vertical or projecting surfaces throughout the roof or against the surface where the roof abuts.

- Elastic cement should only be used to bed slate and cover exposed nail heads that are located within one foot of the peak of roof hips and ridges. Elastic cement shall be waterproof with a high melting point and low freezing point.

- Do not use artificial, mineral fiber slate as an alternative to slate.

Description: *Doors provide access to a building and within the building as well as display the style and character of the building through their size, placement and detail. Historic doors may be paneled and may contain glazing. Types of historic doors at Columbia College are wood, steel, aluminum, and bronze.*

Deterioration: *Signs of door deterioration include paint or varnish failure, wear, and misalignment. Causes of deterioration include water related damage, vandalism and deferred maintenance.*

Quality Control: *All repair work should be undertaken by skilled craftsmen.*

Compliance: *Some historic doors may require modifications or replacement to comply with current codes.*

Further Information: *For more information, see the Historic Building Restoration Guidelines for each material type.*
Also see U.S. GSA: search

08100 – DOORS AND DOOR HARDWARE

Preservation/Maintenance

- Historic doors, door surrounds, sidelights, transoms, and hardware should be preserved and maintained.
- Clean historic entrance doors and glass daily. See appropriate Preservation Guidelines including Aluminum, Wood, and Copper and Copper Alloys for each door material.

Repair/Restoration

- Check doors for operability. Look for signs of sagging or unusual wear of door or threshold.
- Inspect for sound weatherstripping, caulking and glazing.
- Check doors for alignment within the frame. Material should not be removed from the door for adjustment. If adjustments are necessary the door can be moved in relation to one hinge. Remove the hinge leaf from the door, plug the screw holes, and adjust hardware as needed.
- Wood doors: Wood door frames that are loose can be reinforced with careful nailing that matches the historic nailing pattern. Do not use nails for general door maintenance.
- Painted Steel Doors: Where paint is peeling, blistered, chipped or badly deteriorated, use a paint remover. Refer to Painting Preservation Guideline for paint removal and reapplication.

Replacement/Alteration

- If a historic door must be replaced due to severe deterioration or if it is missing, it may be replaced with a new door of matching style, construction (panel or flush), materials, and glazing

Wood paneled door with obscured glass

Historic bronze doors

for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

(including glass configuration).

- Avoid adding or altering doors on primary facades unless required to meet safety codes or to enhance property use.

Door Hardware

- Preserve historic hardware. Avoid replacing exposed parts.
- Replace missing, severely deteriorated, or incompatible hardware with a replacement compatible to the historic hardware in terms of material, profile, and size.
- Recondition hardware that is difficult to operate by disassembling it, removing dirt and oil, waxing metal surfaces, reassembling, and oiling friction points. Dirt can be removed with a neutral detergent in warm water; oils and greases can be removed with solvents. Never use hydrochloric acid on metal hardware. See appropriate metal Preservation Guideline for maintenance procedures for each material.
- Tighten loose knobs to prevent further deterioration.
- Periodically lubricate hinges with a non-greasy lubricant that has an anticorrosive agent specially formulated for metals.
- Strike plates can be removed and realigned. All unused screw holes must be filled in.
- Check locks for faulty spring, dirt or rust and completely clean or replace.

Historic bronze door hardware

Description: *Storefronts are typically located on the first level of a building. They have large display windows with transoms, recessed entryways, and bulkheads. Historic storefronts are often comprised of glass, cast iron, wood and masonry. Most historic storefronts at Columbia College have been replaced. Cast iron storefronts remain at 1014 S. Michigan Avenue and of the building entrances, only 624 S. Michigan Avenue retains most of its historic material.*

Deterioration: *For repairs to the existing storefronts, refer to the Preservation Guideline for each material.*

Further Information: *For an in depth discussion of historic storefronts refer to Preservation Brief No. 11 "Rehabilitating Historic Storefronts"; "Design Guidelines for the Historic Michigan Boulevard District" for the City of Chicago; and "Design Guidelines" for the City of Chicago Façade Rebate Program for Commercial and Industrial Buildings.*

08400 – HISTORIC STOREFRONTS

Preservation/Maintenance:

- Historic storefronts and entrances should be preserved and maintained.

Replacement/Reconstruction:

- The design of replacement storefronts should be based on that of the historic storefronts, including their features and materials. In addition to physical evidence, historic photographs and original drawings can be used to provide information on the design of the original storefronts.
- Non-historic materials should be removed and replaced with materials appropriate to the style and period of the building.
- Windows, transoms, and recessed entries should not be reduced in size or filled in. If openings have been altered, they should be restored to their original configuration and size.
- Replacement doors should be sized to fit within the historic opening. However, entrances may need to be reconfigured to meet current code requirements and to accommodate current use. These modifications to the original design should be sensitively introduced.
- Historically, storefront glazing and frames were typically recessed from the façade.
- Interior suspended ceilings should be set back from the storefront and transom. If needed, and interior soffit that is recessed 2 feet from the glass can be used.
- Avoid installation of security grilles on the storefront unless they are concealed or unobtrusive.

Historic cast iron storefront

Historic storefront with new, incompatible materials

Description: *Windows are functional and aesthetic components of a building. They provide the connection between the exterior and interior environments as well as display the outward appearance of the building through their size, orientation, placement and detail. Types of historic metal windows at Columbia College include double-hung, fixed, casements, and hoppers and are made of steel and bronze.*

Deterioration: *Window deterioration includes corroded metal, paint failure, misaligned or bowed metal, and interior damage. Causes of deterioration include water, structural settling, vandalism, deferred maintenance and maintenance practices, such as overpainting that results in paint build-up.*

Quality Control: *Window repair, restoration and replacement should be performed by skilled craftsmen. Proceed only after mock-up units have been approved.*

08500 – METAL WINDOWS

Preservation/Maintenance

- Historic metal windows, window surrounds, window hardware and glazing should be preserved and maintained.
- Remove surface dirt on windows with a natural fiber brush and vacuum. Follow by wiping the windows with a cloth and denatured alcohol.
- Routine maintenance for a generally sound windows should include: removal of rust, removal of flaking and excessive paint, replacement of cracked or broken glass and glazing compound, replacement of missing fasteners and screws, cleaning and lubrication of hinges, repainting of all steel sections, and caulking of masonry surrounds.
- For painted windows, refer to the Painting Preservation Guideline. Do not paint bronze windows.
- Refer to Copper and Copper, Alloys Preservation Guideline for preservation and maintenance of bronze and Ferrous Metals Preservation Guideline for steel.

Repair/Restoration

- Structural problems affecting windows should be corrected before window work.
- Before repairs are made to damaged windows, the windows should be surveyed to identify conditions and develop an appropriate repair or replacement approach. Causes of deterioration should be identified and mitigated before windows are repaired.
- Inspect and document window locations, conditions of paint, frame, sill, sash, glazing and glazing compound, weatherstripping,

Steel fixed, casement, and hopper windows from the 1930's Art Moderne renovation at 600 S. Michigan Avenue


Historic steel windows on the fifth floor of 33 East Congress Parkway.

Further Information: *For an in depth discussion of windows see Repairing Old and Historic Windows by the New York Landmarks Conservancy and Preservation Brief No. 13 "The Repair and Thermal Upgrading of Historic Steel Windows."*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

operating mechanisms and hardware for each historic window.

- For the repair of bronze windows, refer to the Copper and Copper Alloys Preservation Guideline.
- Well bonded paint protects steel from corrosion. Remove paint if the metal or paint is failing or if too many coats of paint prohibit the window from properly operating. Refer to Painting Preservation Guidelines for paint removal.
- Depending on the degree of misalignment of steel windows, bowed or bent steel sections can be bent back into place with pressure. Remove all glazing first. Bending steel is done over a period of days, generally with a protective 2x4 wood brace with wire cable and a winch. For severely bowed steel, the section is cut to relieve pressure, bent back into shape, and then welded.
- For removal of corrosion at steel windows, refer to Ferrous Metals Preservation Guideline. After corrosion has been eliminated from steel and members properly aligned, holes and uneven areas of steel must be filled with a patching material such as a steel-based epoxy. Sand smooth.
- Clean all bare metal and immediately prime steel with two coats of an anticorrosive primer.
- Metal windows that have been severely damaged can be repaired in a shop by skilled workmen. Windows should be numbered before removal. Workmen can remove severely deteriorated metal. Bent or bowed sections can be reformed in the workshop with heat and applied pressure. Sections that are structurally weak can be cut out, replaced with new sections by welding them into place.
- When restoring windows, salvage original glass when possible.
- Weatherization: Apply a flexible exterior elastomeric joint sealant where the window meets the masonry. Other methods for weatherization include the addition of weatherstripping, applying

Bronze casement windows at 624 S. Michigan Avenue

Steel, double-hung window at 1306 S. Michigan Avenue

fixed layers of glazing over historic windows, adding operable storm windows, or installing thermal glass in place of existing glass. A professional can determine which method(s) of weatherization is best for each historic window or building.

Replacement/Reconstruction

- Windows should be repaired rather than replaced. However when replacement is necessary, new windows should match the historic in material, configuration, color, operability, number and size of panes, profile and proportion of metal sections, and reflective quality of the original glass.

- Neither wood nor vinyl windows can replace historic metal windows. Aluminum may be an acceptable substitute for steel windows where allowed by code.

- If in the future, non-original windows are to be replaced, the new units should match the building's historic window design. New windows should be the same size, and have the same sight lines, sash configuration and profiles as the historic windows.

- Avoid making new window openings on primary facades. If new window openings are required on secondary facades, they should be compatible to the historic design.

- If there is an interior dropped ceiling at a window, it should be set back a minimum of 2 feet from the window so that the appearance from the exterior is not affected.

Window Hardware

- If hardware is difficult to operate it should be disassembled, cleaned of dirt and oil, lubricated, reassembled and refinished.

- Replace missing hardware or hardware that no longer functions with a replacement compatible to the historic hardware.

Description: *Windows are functional and aesthetic components of a building. They provide the connection between the exterior and interior environments as well as display the outward appearance of the building through their size, orientation, placement and detail. Types of historic wood windows at Columbia College include double-hung, fixed, and hopper.*

Deterioration: *Signs of window deterioration include paint failure, rough surfaces, UV damage, rot, and separation of sash and frame joints. Causes of deterioration may include structural settling, water, vandalism, deferred maintenance, or improper maintenance practices including paint build-up.*

Quality Control: *Window repair, restoration and replacement should be performed by skilled craftsmen. Proceed only after mock-up units have been approved.*

Further Information: *For an in depth discussion of windows see Repairing Old*

08500 – WOOD WINDOWS

Preservation/Maintenance

- Historic wood windows, window surrounds, window hardware and glazing should be preserved and maintained.
- Clean wood window, frames and stops with a dry natural fiber brush and vacuum. Clean dirt, oil, grease or other foreign substance on windows with a solvent and denatured alcohol.
- Routine maintenance for a wood window includes: a level of interior and exterior paint removal, removing the sash and glazing where needed, repairing the frame, weatherstripping, reinstalling the sash, and repainting.
- Removing paint from wood windows: Paint failure occurs first at the horizontal exterior surfaces and surfaces subject to abundant direct sunlight, including the window sill and the lower third of the window unit. Paint can be removed from wood windows with chemicals. Proper care must be taken. Paint may contain lead and appropriate precautions must be followed. Refer to Painting Preservation Guideline for types of paint failures and ways to mitigate each.

Repair/Restoration

- Structural problems affecting windows should be corrected before window work.
- Before repairs are made to damaged windows, the windows should be surveyed to identify conditions and develop an appropriate repair or replacement approach. Causes of deterioration should be identified and mitigated before windows are repaired.
- Inspect and document window locations, conditions of paint, frame, sill, sash, glazing and glazing compound or stops,

Pair of original wood, double-hung windows

Detail of wood sill and casing elements

Band of original wood windows

and Historic Windows by the New York Landmarks Conservancy and Preservation Brief No. 9 "The Repair of Historic Wooden Windows."
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

weatherstripping, operating mechanisms and hardware for each historic window.

- Check windows for operability: Difficult operation may be caused by paint build-up, deformed weatherseals, intentional caulking, deflection in the frame, or racking. (Frame racking may indicate structural settlement. Racking of the sash may indicate a failure in the joints).

- Interior water damage may be caused by exterior water penetration or interior condensation. Inspect and document the connection between the wall opening and window frame and water damage on interior walls adjacent to the window. Apply joint sealant where needed.

- Ensure that the sill drains properly. If water puddles, the sill may be flat and a corrected slope should be considered. The sill can be built up with epoxies, sanded, primed and painted.

- Porous and decayed wood can be consolidated by using epoxies. The surface can be filled with an epoxy patching compound, sanded and painted. Consolidants can be used for flat surfaces, missing sections of wood, decayed ends and for profiles.

- If wood is beyond repair or missing, components should be replaced.

- Sash cords or chains may be replaced.

- When restoring windows, salvage original glass when possible.

- Weatherization: Apply a flexible exterior elastomeric joint sealant where the window meets the masonry. Other methods for weatherization include the addition of weatherstripping, applying fixed layers of glazing over historic windows, adding operable storm windows, or installing thermal glass in place of existing glass. A professional can determine which method(s) of weatherization is best for each historic window or building.

Interior wood window elements

Wood double-hung window

Replacement/Reconstruction

- Windows should be repaired rather than replaced. However when replacement is necessary, new windows should match the historic in material, configuration, color, operability, number and size of panes, site lines, profile and proportion of wood sections, and reflective quality of the original glass.

- If in the future, non-original windows are to be replaced, the new units should match the building's historic window design. New windows should be the same size, and have the same sight lines, sash configuration and profiles as the historic windows.

- Avoid making new window openings on primary facades. If new window openings are required on secondary facades, they should be compatible with the historic design.

- If there is an Interior dropped ceiling at a window, it should be set back a minimum of 2 feet from the window so that the appearance from the exterior is not affected.

Interior wood casement windows

Window Hardware

- If hardware is difficult to operate it should be disassembled, cleaned of dirt and oil, lubricated, reassembled and finished.

- Replace missing hardware or hardware that no longer functions with a replacement compatible to the historic hardware.

Description: *Skylights are located within the roof structure to provide light to interior spaces. A skylight is located in the fourth floor lobby of the 1014 South Michigan Avenue building at Columbia College.*

Deterioration: *Signs of deterioration may include rust, cracked glass, or water damage. Causes of deterioration may include physical impact, improper or worn flashing, water related damage, or deferred maintenance.*

08620 – SKYLIGHTS

Preservation/Maintenance

- Historic skylights should be preserved and maintained.
- For cleaning and maintenance of skylight metal components, refer to Metal Window Preservation Guidelines.

Repair/Restoration

- Ensure that the skylight has adequate flashing securely fastened and that no water is penetrating to the interior. Routinely check conditions of all joint sealants and glazing compounds.
- Repair metal that has deteriorated. Refer to Metal Window Preservation Guidelines for metal repair.
- Broken glass should be replaced in-kind.

Replacement/Reconstruction

- If a skylight is beyond repair it should be replaced with a new skylight matching shape, materials, and size. The profiles of the skylight components should also match the original.

Exterior view of skylight

Interior view of skylight

Description: *Composition ornament is a less-laborious substitute to ornamental plaster and is typically made from chalk, resins, glue, and linseed oil. Composite ornament is used for cornice moulding and trim at the Columbia College building 72 E. 11th Street.*

Deterioration: *Signs of composition ornament deterioration include cracking or displacement. Causes of deterioration include too high of linseed oil content, a drastic change in temperature, or poor maintenance practices including the use of inappropriate finishes such as paint.*

Quality Control: *A reputable conservator with demonstrable experience in the repair of damaged composition ornament should perform all work.*

Further Information: *For in–depth discussion of composition ornament deterioration see Preservation Brief 34, "Applied Decoration for Historic Interiors, Preserving Composition Ornament."*

09000 – COMPOSITION ORNAMENT

Preservation/Maintenance

- Composition ornament historic to the building should be preserved and maintained.
- Inspect composition ornament for damage, especially where the material has been painted. If cracks are found, a conservator can choose to fill them using a suitable fill material.

Repair/Restoration

- Removing paint from composition ornament: The original paint or finish should be determined so that it is never removed. Prior to the removal of inappropriate paints, an area should be tested to ensure the removal method is not destructive. A conservator can remove paint from composition ornament with an organic solvent, and a dental tool or toothbrush. Refer to Painting Preservation Guidelines.
- Do not use caustic strippers, water-based strippers, or mechanical sanding on composition ornament.
- Before repairs or replacements are made to damaged composition ornament, the source of the deterioration should be identified and corrected.
- If the composition ornament is sound but has delaminated from the wall a conservator can glue the material to the wall with an emulsion type adhesive or a solvent released adhesive.

Composition ornament with its historic finish is used here as cornice moulding and trim.

Description: *Plaster is made of lime or gypsum and water and applied onto wood or metal lath. After the turn of the 20th century, gypsum plaster became common. Types of plaster at Columbia College buildings include flat plaster and ornamental plaster. Flat plaster is used for walls and ceilings while ornamental plaster is used for grilles, mouldings, medallions etc.*

Deterioration: *Signs of plaster deterioration include detached plaster, wet or soft plaster, cracked or missing plaster, discolored surfaces and efflorescence. Causes of deterioration include structural problems, water, poor original mixture or application, improper curing, poorly sized or spaced lath, rotting lath or furring, corroded fixing nails, failure in the bond between layers, or inappropriate modern installations such as suspended ceilings or partitions walls. Cracks that reform may indicate a structural problem. Consult a structural engineer.*

Quality Control:
Contact a reputable plaster conservator with

09206 – PLASTER

Preservation/Maintenance

- Historic plaster shall be preserved and maintained.
- Regularly inspect for and document plaster material losses and plaster cracks.
- Before cleaning plaster, remove all items and provide drop cloths.
- Dust plaster walls and ceilings with a vacuum cleaner. Spot clean soot and settled dust at radiator or grilles with water and a small amount of ammonia. Wash plaster with a detergent and water combination. Rinse and dry plaster.

Repair/Restoration

- Before replacement or repair to damaged plaster, the source of the deterioration should be identified and corrected and tested for hazardous materials.
- Test plaster surfaces for detached areas by knocking with knuckles and test for plaster that gives way by gently pressing the surface.
- Plasterers generally use ready-mix base coat plaster for large holes and high gauge lime putty for patching small holes and cracks. Other acceptable products include all-purpose drywall joint compound for hairline cracks, a fiber glass tape with a quick setting joint compound for larger cracks, and a ready-mix perlited base coat for small repairs including scratch & brown coat repair.
- Plaster wall and ceiling repair: Hairline cracks can be filled with new plaster. If a crack reopens with seasonal humidity change, open the crack with sharply pointed tool and refill the crack. Plaster that surrounds larger cracks should be removed down to the lath and removed 3 inches on either side of the crack. The

Low relief plaster ceiling

Plaster ceiling (run plaster), wall, and ornamentation

Plaster wall decoration

demonstrable experience in plaster repair. Before beginning plaster repair work, the material should be tested for hazardous materials.

Further Information: *For an in depth discussion of plaster deterioration see Preservation Brief No.21 "Repairing Historic Flat Plaster, Walls and Ceilings" and Preservation Brief No. 23 "Preserving Historic Ornamental Plaster" and Conserving Buildings; A Guide to Techniques and Materials by Martin E. Weaver.*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

exposed lath should be cleaned out and new metal lath attached to the existing wood lath. Replaster with three layers including base and finish coats.

- For holes in walls and ceilings: Apply plaster to the surface of the wall in layers. using a minimum of a base coat and finish coat. If the hole extends to the lath use three layers of plaster. Spray the wood lath with water. If wood lath is not adequate for supporting new plaster, attach metal lath.

- For loose plaster on wood lath ceilings, check surrounding areas for soundness. If surrounding plaster and lath is secure, reattach loose plaster using flat wood screws and plaster washers.

Replacement/Reconstruction

- When damaged plaster cannot be repaired, complete or partial removal may be necessary. Proper masks, clothing, and eye gear should be worn when removing plaster.

- Flat plaster can be replaced in-kind or with a compatible substitute such as a veneer plaster as long as the new material adjoins wood trim or other architectural elements with the same depth as the historic plaster. Deciding whether to replace in-kind or with a substitute material will depend on the condition of the lath and the thickness of the historic plaster.

- Deteriorated ornamental plaster should be replaced in-kind by a specialist. Only the damaged portions of plaster ornamentation should be replaced. A plaster conservator can make a mold of existing ornamental plaster and can cast new.

- Ornamental plaster that is run should be replaced in-kind by a specialist. Only damaged portions should be replaced by making a jig cut to the profile of the existing run work.

- New plaster should dry for 2-3 weeks before painting. When dry, prime with an alkali-resistant primer and paint.

Plaster grille

Plaster wall and surface under stair

Description: *Terrazzo is a decorative form of concrete composed of marble chips interspersed with a binder that is troweled, ground, polished, and sealed. Types of terrazzo vary depending on their binding agent. Terrazzo is used in buildings at Columbia College for floors, stair surfaces, and wall bases.*

Deterioration: *Signs of terrazzo deterioration include discoloration, chipping, cracking, scratching and staining. Causes of deterioration include the loss of sealant, exposure to abrasive elements including dirt, rock salt etc, sensitivity to harsh and water soluble all-purpose cleaners and soaps, and sensitivity to sweeping compounds containing oil, sand or abrasives.*

Quality Control:
Contact a reputable terrazzo conservator for repair and reconstruction of damaged terrazzo areas. Conservator should demonstrate previous experience.

Further Information: *For an in depth discussion of*

09400 – TERRAZZO

Preservation/Maintenance

- Historic terrazzo should be preserved and maintained.
- All terrazzo work should comply with specified provisions and recommendations of the National Terrazzo and Mosaic Association, Inc.
- Preventative and routine maintenance is necessary to keep terrazzo in good condition. Treatments including cleaning procedures, restoration methods, and chemical uses vary depending on the binder used in the terrazzo. Verify binder in each type of terrazzo before commencing maintenance or restoration work.
- Surfaces should be routinely cleaned of dirt and dust. For general cleaning use a neutral cleaning compound with a pH factor between 7 and 10. Always test cleaner on terrazzo in an inconspicuous area prior to use. Buff terrazzo with a powered machine after each cleaning. Note that scrubbing machines with a neutral solution compound should be used periodically to loosen dirt.
- Do not use sweeping compounds. They contain oil which can permanently discolor the floor.
- Terrazzo should be sealed with an acrylic water based sealer to prevent dirt and stains from absorbing and to provide a slip resistant surface. Do not use a solvent-based sealer. Sealer shall be stripped from terrazzo twice a year or when terrazzo floors are discolored or have a damaged surface. Strip to the original surface, clean, and re-seal.
- Stains and scuffmarks should be cleaned immediately. Use a neutral diluted cleaner with warm water.
- Do not use solutions with alkali, acid, carbonates, trisodium

Terrazzo stairs

Terrazzo flooring

terrazzo see U.S. General Services Administration: see Preservation Note 43 at: www.gsa.gov; also see National Terrazzo and Mosaic Association (NTMA) at: www.ntma.com
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

phosphate, or other strong ingredients. Do not use all–purpose cleaners or soaps and scrubbing powders containing water-soluble, inorganic salts or crystallizing salts.

- Provide floor mats inside entrances to prevent abrasive materials from damaging the terrazzo floor.

- Avoid contact with metal objects, including wire brushes. Metal can rust or stain the terrazzo as water is introduced.


Terrazzo flooring and baseboard

Repair/Restoration

- If the build-up of coatings, dirt, or scratches is severe such that stripping and cleaning are not effective, the surface can be stripped using fine grit stones and resurfacing screens. This should only be performed by an experienced professional.

- Because some historic terrazzo materials contain asbestos, the material should be tested before any work to the material is performed.

- Minor cracks and chips in terrazzo can be patched with a cement grout or epoxy resin by an experienced terrazzo conservator. The type of patch required depends on the make-up of the terrazzo. A terrazzo aggregate can be used for larger patches.

Replacement/Reconstruction

- Only when repair is not feasible should replacement be considered.

- When portions of terrazzo are missing or severely damaged, they can be replaced with a new bonded terrazzo floor. Replacements should be done by a professional, experienced technician. New terrazzo should match historic terrazzo; marble chips and matrix should be matched by size, mineral content, and color.

Description: *Marble is a metamorphic rock that is characterized by its ability to take a high polish and its variety of colors & patterns. Travertine is a distinct type of marble recognized by its cavity structure. Travertine can be filled or unfilled and can be honed or polished. Marble applications for the buildings at Columbia College include floor surfaces, wall surfaces, wainscoting, railings, and exterior door surrounds.*

Deterioration: *Signs of marble deterioration may include wear, cracking, chipping, staining, loss of polish, sub-florescence and efflorescence. Causes of deterioration may include physical abrasion, weathering, pollution, structural damage, water, deicing salts, and inherent flaws in the marble. Signs of travertine deterioration include the removal of cavity fillings, staining, etching, oxidation, spalling, and deterioration of dry veins. Causes of deterioration include the use of acids, continual wear, and excessive water exposure.*

09630 – MARBLE AND TRAVERTINE

Repair/Restoration

- Historic marble and travertine should be preserved and maintained.
- All marble work should comply with specified provisions and recommendations of the Marble Institute of America.
- Marble and travertine floors should be dust mopped frequently. Spills should be blotted immediately.
- Before cleaning marble or travertine, determine why it is dirty or stained. Always clean by the gentlest means possible. Never use acidic cleaners including vinegar or cleaners with lemon or lime. A specialist may recommend cleaning with an alkaline chemical product if water washing is not sufficient. Never use abrasive cleaners. Refer to Masonry Cleaning Preservation Guideline, for more information on acceptable cleaning methods for stone.
- Provide floor mats inside entrances to prevent abrasive materials including dirt from damaging the floor.
- Polished marble should be regularly re-polished as part of the maintenance program. The gloss or polish can be maintained or restored by using marble polishing powder and soft buffing pads.
- Before replacement or repair of damaged marble or travertine, the source of the deterioration should be identified and corrected.
- Repairs may include patching, Dutchman repair, or crack repairs. The type of repair depends on the type and severity of deterioration. All patches should match the original stone in color, texture and shape. Deteriorated portions of stone should be removed to sound material before installation of repair material.

Damaged marble flooring

Marble steps, wainscoting, and railings

Travertine flooring

Quality Control:
Contact a reputable marble conservator for repair and reconstruction of damaged marble areas. Conservator should demonstrate this experience from previous projects.

Further Information: *For an in depth discussion of stone deterioration see Conserving Buildings: A Guide to Techniques and Materials by Martin E. Weaver.*
Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.

- Exterior repairs should be performed under optimum weather conditions and work shall not be undertaken in temperatures below 40 degrees Fahrenheit.

Replacement/Reconstruction

- Replacement may be considered only when repair is not feasible. Always replace marble or travertine in kind. Replacement stone should match the historic in strength, color, texture, and chemical composition.

- If alterations to a room result in the removal of marble or travertine, salvage and appropriately store the material.


Marble window stool


Marble door surround

Description: *Historic decorative paint is used on the ceiling of the lobby at 624 South Michigan Avenue at Columbia College. Historic faux paint is used on wood walls and trim at the entrance of 1014 South Michigan. Faux paint is the application of paint on wood, stone or plaster to emulate finer woods or marble.*

Deterioration: *Signs of paint deterioration include chipping, holes, and dirt and oil accumulation. Causes of deterioration include physical abrasion, the use of incompatible products on the surface including the use of tape, and drilling of holes.*

Further Information: *For in depth discussion of paint deterioration see Conserving Buildings; A Guide to Techniques and Materials by Martin E. Weaver, Preservation Brief 10 "Exterior Paint Problems on Historic Buildings," and Preservation Brief 28 "Painting Historic Interiors." Also see U.S. GSA: search for Historic Preservation Technical Procedures at: http://w3.gsa.gov/web/p/hptp.nsf?OpenDatabase.*

09900 –PAINTING

Preservation/Maintenance

- Historic paint and faux paint should be preserved and maintained. The removal of paint from historic buildings should be avoided unless it is deteriorated and removal is essential.
- Where historic paint cannot be preserved or is no longer present, use a paint that matches the historic paint color.
- Paint is used as a protective coating on elements including exterior wood and ferrous elements. Regularly maintain painted coatings that protect historic features, particularly on the exterior, from moisture.
- Where paint is used as a protective coating, plan on a paint reapplication every 5 to 8 years.

Painting Preparation

- If paint has chalked (powdering of the paint surface), it can be cleaned with a mild detergent solvent, watered down, and dried before repainting.
- Paint that has crazed (the top layer of paint is cracked due to age and hardening) should be sanded before repainting.
- If paint has peeled or blistered between coats, the source of failure should be identified. If salts caused the problem, the upper layer(s) should be removed and the lower layer should be wiped clean before the reapplication of paint. If paint failure was caused by incompatible paints or from improperly applied paint, the upper layer should be scraped off and the lower surface should be sanded before reapplying paint.
- If paint has peeled, cracked or alligatored to bare wood, the paint must be completely removed, the wood must be dried out, and

Paint on ceiling of 624 S. Michigan.

Detail of faux painted surface

the surface must be sanded before new paint is applied. Do not sandblast wood.

- Paint stripers can be carefully used to remove paint. Select and test for compatibility with the paint and the wood.

- Painted steel: Where rust or scale is present on painted steel, the surface shall be sandblasted, wire brushed, scraped, chipped and sanded. A rust remover can be used to remove rust.

- Plaster: New plaster should dry for 2-3 weeks before painting. When dry, prime with an alkali-resistant primer and paint.

- Avoid the use heat as a method of paint removal.

Repainting

- Paint on a dry day with a finish paint compatible to and by the same manufacturer as the primer.

- The paint coating on ferrous metals including steel should be maintained to inhibit corrosion. All corrosion should be removed prior to repainting, primed, and repainted with 2 coats.

- Windows: When painting windows, slightly overlap the glass for weather tightness.

Safety

- Use safety goggles, a toxic dust respirator, and protective clothing when using acids or when removing lead paint.

- The handling and disposal of lead based paints, including paint removed in preparation for repainting and residual chemicals must follow Federal, State, and Local ordinances.

Description: *Awnings provide pedestrian shelter, reduce interior glare, and conserve energy by controlling the amount of sunlight into storefront windows. The use of awnings at Columbia College is encouraged. Signage identifies the occupants of the building. Lighting contributes to each building's identity as well as to the Michigan Avenue streetwall identity. Awnings, signage and lighting must comply with the applicable zoning codes and Landmark district requirements.*

Columbia College is encouraged to work with the Commission on Chicago Landmarks to develop an appropriate awning, sign and lighting program for the historic buildings.

Further Information: *For more information on awnings, signage and lighting see the City of Chicago's "Design Guidelines for the Historic Michigan Boulevard District and the "Chicago Downtown Lighting Master Plan" and Preservation Brief No. 44 "The Use of Awnings on Historic Buildings."*

10426 – AWNINGS, SIGNAGE & LIGHTING

Awnings

- Storefront awnings are encouraged within the Historic Michigan Boulevard District as well as on buildings that historically had awnings.
- Awnings are not appropriate at 72 E. 11th Street or at 1306 S. Michigan Avenue where windows, not storefronts, are at the first floor.
- New awning placement, material, color and style should respect the historic building.
- Fixed or retractable awnings should be set into storefront openings or set at the division between the storefront and the transom and should be recessed within each bay. Awnings without side panels are encouraged.
- Awnings should be of woven cloth material. Plastic, backlit and other illuminated awnings are not appropriate.
- Awnings should not be attached directly to wall surfaces; they should be attached directly to door or window framing.
- Awnings should not project more than 5 feet beyond the property line and should have a minimum clearance of 7 feet 6 inches between the awning and sidewalk.

Signage

- New signage should be integrated into the historic design of the building. Avoid cluttered and unnecessary signage.
- When the historic location for signage is known, that location should be used to display the signage. A historic sign may be

recreated and letters modified to reflect the current occupant.

- If the historic location of the sign is unknown, signage should be integrated with the historic design of the building and can be centered within the glazed area of the storefront window, within a bay or over an entrance or storefront opening. Signage should never extend beyond the wall area above the storefront window or beyond storefront openings.

- Signage should be consistent within each building.

- Do not obscure architectural elements with signage.

- Signage should be of durable materials and should be well maintained.

- Signs painted on the windows in gold leaf are encouraged. Individual letters should not exceed 36 inches in height for large storefront windows. Size letters in proportion to the size of the storefront. Signs with individual letters mounted to the façade are also encouraged. Do not use opaque sign panels behind individual letters.

- Signs on awnings should be only on the awning valance and should only display the name and/or address of the establishment. Awning signage should be fixed flat to the surface and should not extend vertically or horizontally beyond the awning. Awning signage should not be illuminated.

- Signage in the Historic Michigan Boulevard Districts should not be displayed on billboards, flashing signs, outdated signs, temporary paper or vinyl signs that are fixed to the street façade or within four feet inside glass openings on the street façade, animated or moving signs, rooftop signs, blade or rigid signs, or cloth banner signs.

- All electrical transformer boxes, conduit, and electrical raceways for signs should be concealed.

Lighting

- Any historic exterior façade lighting should be preserved and maintained.
- For facades that were not historically illuminated, period appropriate lighting schemes are encouraged.
- Accent lighting is appropriate. Fixtures and wiring should be located as inconspicuously as possible and should avoid glare and light pollution.
- Lighting should be compatible with the architectural design of the building.
- The accentuation of selected building features is appropriate.
- Lighting contributes to the identity of the Michigan Avenue streetwall and is encouraged by the City's guidelines for that district.

A

A Lamp The familiar, standard, incandescent "light bulb" shaped lamp, with glass ranging from clear to heavily frosted.

Adaptive Use Rehabilitation of a historic structure for use other than its original use such as a residence converted into offices. Changing an existing building to accommodate a new function. See also Re-use.

Addition New construction added to an existing building or structure.

Air –lock An intermediate chamber with two airtight doors or openings to permit passage between two dissimilar spaces.

Alteration Any act or process that changes one or more of the exterior architectural features of a structure, including, but not limited to, the erection, construction, reconstruction, addition, sand blasting, water blasting, chemical cleaning, chemical stripping, or removal of any structure, but not including changes to the color of exterior paint.

American (Common) Bond A brick bonding pattern with a course of headers to every five or six courses of stretchers.

Appropriate Especially suitable or compatible.

Arch Curved construction which spans an opening and supports the weight above it. See flat arch, segmental arch and semi-circular arch.

Art Deco See Architectural Styles

Art Marble A term used for a decorative finish in imitation of marble. Examples include scagliola, a pigmented plaster**;** and marezzo, a less refined type of pigmented plaster with dyed, colored silk used to imitate the marble veins. Marbleized slate and even terrazzo was sometimes referred to as art marble.

Art Moderne See Architectural Styles

Attic An upper level of a building, not of full ceiling height, directly beneath the roof.

Awning A roof- like cover, temporary in nature, which projects from the wall of a building.

B

Baluster One of a series of small, vertical members used to support the upper rail of a railing.

Balustrade A railing held up by balusters.

Base The lowest of three principal parts of a column; the lowest part of a wall or pier.

Bay The portion of a facade between columns or piers providing regular divisions.

Bay window A projecting window that forms an extension to the floor space of the internal rooms. See also Oriel window.

Beaux Arts See Architectural Styles

Belt course A horizontal band of stone or brick on the exterior wall of a building, usually marks the floor levels.

Bond Anything that holds two or more objects together, including the pattern of interlocking units and joints in a masonry structure; the connection between masonry units or the unit and the mortar bed.

Bracket A projecting segment, often decorative, usually of masonry or wood.

Brazed Soldered with an alloy (as brass) that melts at a lower temperature than the metals being joined.

Brownstone Terra Cotta A dark red or brown terra cotta glazed with a slip glaze or left unglazed and generally used in conjunction with other masonry in imitation of sandstone, brick or real brownstone.

Bulkhead The vertical panels below display windows on storefronts. Bulkheads can be both supportive and decorative in design.

C

Capital The top part of a column or pilaster.

Casement window A window with one or two sashes that opens with hinges at the side(s).

Casing Trim around a door or window frame.

Cast iron An iron alloy with a high carbon content that is cast to form architectural elements.

Cast stone A mixture of water, aggregate and cementing agents that are molded to emulate natural stone. This mixture is often supplemented with decorative aggregates and pigments.

Chandelier a branched lighting fixture suspended from a ceiling.

Character Distinctive traits or qualities and attributes in any structure, site, street or district.

Chicago Commercial See Architectural Styles.

Classical order The combination of column and entablature components used in a classical style; each has a column with base, shaft, and capital. The most common orders are: Doric, Tuscan, Ionic, Corinthian, or Composite, each order has its own rules of proportion for the various elements.

Classical Revival See Architectural Styles.

Clay Tile A form of terra cotta used primarily for structural and fireproofing applications.

Column A circular or square free standing vertical structural member.

Commission The Commission on Chicago Landmarks.

Common Brick An inexpensive brick used where appearance or strength are not critical.

Compatible In harmony with location and surroundings.

Composite order A classical order with a capital combining scroll-like ionic order, and the decorative leaves of the Corinthian order.

Configuration The arrangement of elements and details on a building or structure which help to define its character.

Context The setting in which a historic element, site, structure, street, or district exists.

Coping Top course of a masonry wall or parapet installed to cap the wall and protect it from rainwater.

Corbeling Courses of masonry set with each course stepped forward and often supporting an element.

Corinthian order The most ornate of the classical orders characterized by a column decorated with acanthus leaves.

Cornice The uppermost, projecting part of an entablature, or feature resembling it. Any crowning projecting horizontal molding along the top of a wall, portion of a wall or building, or at a porch.

Corrosion Rusting of ferrous materials. Corrosion of embedded anchors or reinforcing bars often results in cracking and spalling of masonry material.

Cresting An ornamental ridge along the top of a wall or roof, often made of metal.

D

Deflection Bending or sagging of horizontal elements including beams, joists or slabs. Deflection is sometimes caused by overloading, corrosion or inadequate construction techniques.

Dentils A row of small decorative blocks alternating with blank spaces in a classical cornice.

Diffuser A material, usually glass or acrylic, used to shield the direct view of a lamp and to soften its light output. Diffusers range from lightly frosted glass to opal acrylic, depending on the amount of diffusion, or softening, desired.

Doric order The simplest of the classical orders with simple, unadorned capitals fluted (with vertical grooves) columns and no base.

Dormer window A window set upright in a sloping roof.

Double-hung window A window with two sashes, one sliding vertically over the other.

Downlight A light fixture designed to direct its light downward.

E

Efflorescence A white powdery substance found on masonry surfaces caused by moisture vapor migrating through the masonry bringing soluble salts to the surface.

EFIS Exterior Finish Insulating System.

Element A material part or detail of a site, structure, street, or district.

Elevation Any one of the external faces or facades of a building.

Engaged column A round column attached to a wall.

Entablature In classical architecture, the full band of horizontal elements above the column capitals.

Erosion Weathering of surface by wind, rain, snow, or salts.

F

Fabric The physical material of a building, structure, or community, connoting an interweaving of component parts.

Facade Any one of the external faces or elevations of a building. See also primary façade and secondary façade.

Face Brick Superior, hard-fired brick selected to be seen on the exposed face of a wall.

Fanlight A semi-circular or fan shaped window set over a door with radiating muntins.

Fascia A projecting flat horizontal band; forms the trim of a flat roof or a pitched roof.

Fenestration The arrangement of windows on a building facade.

Finial A projecting decorative element, at the top of an object; such as a fence post, weathervane, roof turret or gable.

Fixed Light A window that does not open. Also called fixed sash.

Flashing Sheets, usually metal, used to weatherproof joints or edges especially on a roof.

Flat arch An arch whose wedge-shaped stones or bricks are set with a straight bottom edge; also called a jack arch.

Flemish Bond A brick bonding pattern of alternate headers and stretchers in each course.

Floodlight A light fixture designed to focus light in a particular direction which has a relatively wide beam.

Foundation The base of a building that rests directly on earth and carries the load of the structure above.

Frieze The middle portion of a classical cornice; also applied decorative elements on an entablature or parapet wall.

G

G Lamp A globe or spherical shaped light bulb, with a larger, more pronounced bulb shape than the A-lamp. G-lamps generally have clear glass, and are usually meant to be seen.

Glazed Brick Brick with a ceramic coating or finish applied then fixed in a second firing.

Gothic Revival See Architectural Styles.

Granite A hard igneous rock having crystals or grains of visible size, consisting mainly of quartz, feldspar, and mica.

H

Harmony Pleasing or agreeable; a congruent arrangement.

Header A brick laid with its short face exposed.

HID Fixture A light fixture utilizing a High Intensity Discharge source, such as metal halide or high-pressure sodium.

Hopper Window Inward-opening sash hinged at the bottom.

I

Incandescent Light which is emitted by an electrically heated filament.

Integrity A concept where certain elements are present in combination to convey the significance of a place. To have retained historic integrity the place will always posses several, and usually most, of the aspects. The National Park Service defines these aspects as: location, design, setting, materials, workmanship, feeling, and association.

Ionic order One of the classical orders, it has decorative capitals with volutes, scroll-like ornaments, which turn downward.

J

Jack arch See flat arch.

K

Keystone The central top most element of an arch.

L

Landmark A property, structure or natural object designated as a "landmark" by ordinance of the city council, pursuant to procedures prescribed in this title, that is worthy of rehabilitation, restoration and preservation because of its historic or architectural significance to the city.

Lensed Fixture A light fixture with a lens, usually glass or acrylic, shielding the lamp source. Lenses may be used to diffuse the light output or to protect the lamps from an accidental impact.

Limestone Rock that is formed by accumulation of organic material of sedimentary origin.

Lintel The horizontal structural member that spans the top of an opening such as a window, door, or other opening.

Luminaires A term meaning light fixture.

M

Maintain To keep in an existing state of preservation or repair.

Mansard roof A roof with two slopes on all four sides, with the lower slope steeper than the upper.

Marble A metamorphic rock composed of calcite or dolomite, often highly polished.

Marquis-style Sconce A wall-mounted light fixture with clear incandescent lamps, directly exposed or shielded by clear galss.

Masonry Construction of brick, stone or terra cotta laid up in units.

Massing The three-dimensional form of a building.

Material Change A change that will affect either the exterior architectural or environmental features of an historic property or any structure, site, or work of art within an historic district.

Modillion An ornamental bracket used in a series under a cornice and sometimes supporting the cornice.

Mortar A mixture of sand, lime, cement, and water used as a binding agent in masonry construction.

Mullion A vertical divider between individual windows or doors.

Multi-light A window sash or door light composed of more than one pane of glass.

Muntin A secondary framing member to divide and hold individual panes of glass.

N

Niche Shallow ornamental recess in a wall usually to contain some sort of ornament. Classical niches are usually arched.

Nickel Silver Also known as German silver, name for various alloys of copper, zinc, and nickel, sometimes also containing lead and tin.

O

Obscured Covered, concealed, or hidden from view.

Oriel window A bay window built out from the wall resting on a bracket or corbel.

P

Paneled door A door composed of solid panels (either raised or recessed) held within a framework of rails and stiles.

Parapet A low wall at the edge of a roof.

Pediment A triangular element formed by the gable of a roof; any similar triangular element used over windows, doors, etc.

Pendant A single light fixture suspended from a ceiling.

Pier A square or rectangular column.

Pilaster A square pillar attached to a wall.

Pitch The slope of a roof.

Portland cement A strong, inflexible cement used to bind mortar.

Preservation Generally, saving from destruction or deterioration old and historic buildings, sites, structures, and objects and providing for their continued use by means of restoration, rehabilitation, or adaptive use.

Primary façade The front facing façade; the façade that faces the street and has the primary entrance. For buildings with the entry on a side façade or buildings sited on a corner, both the side façade with entry

and the street facing façade are considered primary facades. See also Façade and Secondary façade.

Proportion Harmonious relation of parts to one another or to the whole.

Q

Quoins Units of stone or bricks used to accentuate the corners of a building.

R

R-lamp An incandescent light bulb with a reflective coating applied to the inside of the screw-base side to softly distribute light in one direction, instead of all around.

Rail A horizontal member of a railing or fence; may support vertical elements. Also, a main horizontal member of a door or window.

Recommended Suggested, but not mandatory actions summarized in the guidelines.

Reconstruction The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time.

Rehabilitation The process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural and cultural values.

Renaissance Revival See Architectural Styles.

Replication Creating an object that is an exact imitation of a historic architectural style or period.

Repointing See "Tuckpointing"

Restoration The act or process of accurately taking a building's appearance back to a specific period of time by removing later work and by replacing missing earlier features to match the original.

Rhythm Regular occurrence of elements or features such as spacing between buildings.

Ridge The top horizontal member of a roof where the sloping surfaces meet.

Ring Louvers Concentric circles of material, intended to block the direct view of a light source from side angles while allowing light to continue in the intended direction unimpeded.

RLM-style Pendants A particular style of light fixture, consisting of an exposed lamp with a round, white reflector above it to send a soft light down. The term "RLM" comes from the catalog number used by the first manufacturer of this type of fixture.

Romanesque Revival See Architectural Styles

Rustication Masonry cut in massive blocks separated by deep joints.

S

Sash The framework containing the glass in a window.

Scale Proportional elements that demonstrate the size, materials, and style of buildings.

Sconce An electric light fixture fastened to a wall.

Secondary façade A facade other than the primary façade. A facade that does not face a street or does not have the primary entrance. See also Façade and Primary façade.

Segmental arch An arch whose profile is less than a semicircle.

Semi-circular arch An arch whose profile is a half-circle.

Setting The attributes of a locality, neighborhood, or property that defines its character.

Shed roof A low-pitched roof with only one slope.

Shingles A thin piece of wood, slate, asphalt, etc. laid with others in a series of overlapping rows covering the roof or sides of a house.

Sidelight A vertical area of fixed glass on either side of a door or window.

Significant Having particularly important associations within the contexts of architecture, history, and culture. The importance of an element, building or a site , owing to its involvement with a significant event, person, or time period, or as an example of an architectural style. Also historically significant.

Sill The projecting horizontal base of a window or door, may be of any material, angled to repel water.

Soffit The horizontal underside of an eave or cornice.

Spalling The loss of surface material, sometimes caused by the corrosion of reinforcing bars and/or freezing of trapped moisture.

Spandrel The panel between the sill of a window and the top of the window below.

Stabilization The act or process of applying measures essential to the maintenance of a deteriorated building as it exists at present, establishing structural stability and a weather-resistant enclosure.

Steplight A low-level light fixture used to cast light on low surfaces, like steps and walkways, primarily for safety and orientation.

Spotlight A light fixture designed to focus light in a particular direction with a relatively narrow beam.

Stile One of the main vertical members of a millwork frame to which the others are attached; the vertical framing members at the edge of a door or window.

Streetscape The distinguishing character of a particular street as created by its width, degree of curvature, paving materials, design of the street furniture, and forms of surrounding buildings.

Stretcher A brick laid so that its longest face is exposed.

Striplight A linear light source, fluorescent or incandescent, often with exposed lamps.

Stucco An exterior finish, usually textured; composed of Portland cement, lime, and sand mixed with water.

Style A type of architecture distinguished by special characteristics of structure and ornament and often related in time; also a general quality of a distinctive character.

Subflorescence A process where as the evaporation of water occurs, salts crystallize inside the pores beneath the surface of masonry. This crystallization of salts creates pressure within the masonry, leading to microfissures that can eventually result in large cracks and loss of material.

Surround An encircling border or decorative frame, usually at windows or doors.

Swag Carved ornament in the form of a cloth draped over supports, or in the form of a garland of fruits and flowers.

T

Terra cotta A fine-grained, fired clay material used for decorative masonry, often used in imitation of stone.

Terrazzo A decorative form of concrete composed of marble chips interspersed in a binder with a ground and polished surface.

Tondo *plural* Tondi. Circular medallion or plaque

Transom A horizontal area of fixed, or sometimes operable glass above a door or window.

Travertine A type of marble characterized by its cavity structure.

Trim The decorative framing of openings and other features.

Troffer An inverted trough serving as a support and reflector usually for a fluorescent lighting unit.

Tuckpointing The process of removing deteriorated mortar from the joints between masonry units and filling with new mortar. Also commonly referred to as "Repointing."

Tuscan order The simplest order of the classical styles, having fewer and bolder moldings, unfluted columns, a plain frieze, and no triglyphs.

V

Vernacular A regional form or adaptation of a traditional architectural style; a building built without being designed by an architect or someone with similar formal training.

Vestibule Entrance lobby or hall between the entrance door and the interior of a building.

Vitrolite Pigmented structural glass used in the form of panels to clad exterior and interior walls.

Voussoir One of the wedge-shaped pieces forming an arch or vault.

W

Wainscot A decorative or protective facing, such as wood paneling or marble, on the lower part of an interior wall.

Wall dormer A dormer created by the upward extension of a wall and a breaking of the roofline.

Wall pack An exterior, utilitarian, surface-mounted fixture, designed to distribute light down and away from a building. Wall packs typically have a large, very bright lens.

Water table A projecting horizontal ledge, intended to prevent water from running down the face of a wall's lower section.

Wraparound A lensed, surface-mounted, linear fluorescent fixture where the lens wraps around the bottom and sides of the fixture to meet the ceiling.