

The Care of Architecture

People generally think of architecture in terms of buildings such as houses, churches, and old shops that are a familiar part of most landscapes. Conservators, however, use the term “architecture” to encompass a much broader range of structures including not only buildings but railway stations, large public monuments, and bridges. This article addresses concerns and questions you might have about a structure for which you are responsible. The range of materials found in the built environment is vast and changes constantly as new materials and technologies are developed. Wood, stone, metal, glass, plaster, ceramic, brick, terra cotta, concrete, paint, plastic, asphalt, and rubber are just a few of the materials you might have in your building. One material might be used several different ways in the same building. For example, ceramic tiles could be found as both bathroom flooring and in the exterior facade, or glass may be used as both windows and flooring. Architectural conservators are familiar with both historic and modern building materials because both may be incorporated into a structure and require conservation.

Environment

Any material will react in some way to its environment. Because structures are built to stay in one place, you have little control over their exterior environment. Exposure to water, sunlight, heat, and cold weather deteriorates building materials. Water is particularly damaging to building materials. Your building envelope needs inspection regularly for signs of water

infiltration. Damaged or missing roof tiles or slates are one common location for water infiltration. Sometimes a water infiltration problem is related to the design of the building. If poor design is the culprit, skillful retrofitting of existing details can eliminate the water infiltration problem and preserve the historic appearance. Buildings are generally designed to exclude the exterior environment from interior spaces, so the environment at the interior of a structure is usually more controllable and therefore less severe. Unfortunately, temperatures and humidity levels that are comfortable for people may not be best for building materials. An architectural conservator knows how to maintain a balance between comfort for people and safety for building materials. Sometimes even simple steps—like providing ventilation in areas where moisture accumulates or installing vapor barriers to prevent moisture migration—can make a big difference. First, however you must identify the problem.

Inspection and Maintenance

A regular program of inspection and maintenance is the most critical step in preserving a structure. Tools to have on hand for conducting an inspection might include a ladder, binoculars, and powerful flashlights.

What needs inspection:

- Places where water could infiltrate: Roofs, gutters, downspouts, subsurface drainage systems
- Function of building elements: Doors, windows, fireplace chimneys
- Exterior materials: Bricks, stone (and mortars), wood cladding
- Interior materials: Wood framing, flooring, wood trim,

plaster

- Plumbing, heating, and cooling systems:

- Have a systems engineer inspect these

What to look for:

- Water damage: Stains, soft wood (rot), peeling paint, salt crystals

- Signs of infestation: Droppings, dead insects, holes in wood (place glue traps to check for insects)

- Anything unusual or different from your last inspection

You may find it cost effective to hire a conservator to conduct the inspection. Because of their specialized training, conservators are skilled at catching problems early and can help prepare a prioritised preservation plan. Certainly they are the best-qualified people to carry out the inspection of large, complex, abandoned, or neglected structures.

A long-term maintenance strategy should include planning and budgeting for regular maintenance work (like exterior painting or roof replacement) and for capital improvements. The cost of maintenance will always be less than that of a major preservation effort after a period of long neglect.

Housekeeping

Careful housekeeping can greatly extend the life of building materials. Removing dirt from floors and other contact surfaces limits deterioration by abrasion. Keeping the building free of food waste reduces the likelihood of pest infestation. When cleaning, use gentle materials like plain water and soaps that don't leave residues. Use housekeeping and maintenance tools and equipment carefully to protect building materials. Avoid operations that

might cause incidental damage. For example, a sharp metal tool used to remove chewing gum can leave gouges in a stone step; metal parts on mops can easily scrape finishes.

Record Keeping

Written and photographic records provide valuable information for scheduling maintenance and improvements and for long-range planning. Keep accurate, complete written records of inspections, maintenance work, and repairs on site; photographs are always desirable. Include in the site records the name and manufacturer of any cleaning or maintenance products used. This information may provide clues for unraveling future material deterioration problems.

Alterations and Improvements

When preserving your building is the main goal, every proposed alteration or improvement must be considered carefully. Consult with an architectural conservator when planning alterations or improvements, especially if the changes are being considered to solve specific problems, like a damp basement. The potential effect of a change on other elements and systems of the building must be fully understood. For example, installing central air conditioning will not only change the environment of different spaces within a building but may have a significant impact on the building materials. Any change should be readily reversible to return the building to its original condition.

Disasters

Disasters can have a devastating impact on a structure, sometimes even necessitating its demolition. Fire, flooding (from natural causes or plumbing failures), cyclones, earth-quakes, volcanic eruptions, and other disasters can all cause significant damage. Planning for a disaster can help lessen its impact. At the very least, develop a plan to respond to fire. Early detection is critical. Heat and smoke detectors are available at hardware stores; more sophisticated systems can be purchased from specialized suppliers. These systems must be tested regularly to be sure they work. Place appropriate fire extinguishers throughout the building, and inspect them regularly. More expensive suppression systems like sprinklers are also available. A more comprehensive disaster preparedness plan can minimise the extent of damage. Start by identifying potential disasters for the geographic area in which the building is located. Write the plan in great detail. Describe any procedures to be implemented when disasters threaten, such as boarding up or taping windows when high winds are forecast. If there are no drawings or photographs of the building, consider photographing it with a still camera or a video camera.

Photographic documentation will provide a record to aid in disaster recovery. Copies of available documentation should be stored away from the building, preferably under archival conditions.

Vandalism

Vandalism can be an ongoing problem. Use constant bright lighting in areas prone to vandalism. If constant lighting is problematic, use motion sensor lights instead. Planting prickly or

thorny plants like roses, or evergreens beneath windows and along vulnerable walls can reduce the chance of vandalism or burglary. Remove graffiti speedily, as quick removal has proven a good deterrent to future graffiti. A conservator can help develop a plan to deal with different types of graffiti so that maintenance staff will know how to remove it quickly and safely. The wrong treatment can damage building materials irreparably.

When to consult a conservator

Buildings and the materials they are made of are subject to a wide variety of problems and require constant attention. You can prevent many of these problems with careful planning, regular inspection, continuous maintenance, and good housekeeping. An architectural conservator can not only work with you to resolve existing problems, but can also help with planning to prevent future problems. The AICCM website can provide the names of suitably qualified conservators in your area, or contact us and we will assist