

Historic Building Management Cyclical Maintenance Plans: Past and Future Potential

THANKS MAINLY TO rising energy costs, substandard insulation, and underperforming and outdated heating and ventilation systems, operational cost analysis is increasingly being merged with maintenance issues in managing older and historic commercial buildings and private residences.

Cyclical Maintenance Plans (CMPs) are a fundamental building maintenance tool that enable professional managers and property owners to link three principal concerns: (1) design and conditions, (2) time (durability/rate of decay), and (3) money (maintenance budgets). The CMP concept applied to historic buildings was formally introduced by National Park Service architect J. Henry Chambers in 1976 in his seminal work, *Cyclical Maintenance for Historic Buildings*. The idea is to examine the building systematically on a regular basis, and to develop a long-term schedule for needed upgrades, repairs, and replacements.

Today, the same principles can be presented in computer tables or spreadsheets. In the past decade, energy efficiency has emerged as a vital new concern because fossil fuels no longer offer consistent price predictability. For that reason, energy efficiency – and particularly weatherization – is a necessary addition to the traditional elements of a CMP.

CMPs will differ for all properties, depending on building size, use, and systems complexity. Homeowners may create their own CMP with Word or Excel software by creating a table or spreadsheet to guide annual inspections, while reasonably projecting future maintenance costs. This can also be a valuable budget tool for non-profit institutions managing historic buildings.

Most CMPs are organized by “building system,” but can also be organized by “building materials.” Traditional real estate management for long-term maintenance of historic properties is rapidly being enhanced with sophisticated computer modeling. While it is particularly applicable for high-value commercial properties, scaled-down versions can be used by homeowners as well. An excellent resource for homeowners looking to improve energy performance in existing buildings is *The Energy Efficient*



Cyclical Maintenance Plans are a powerful tool in managing overall building operational costs.

with a consistent and comprehensive approach to building management. Advanced software can reveal enhanced opportunities for energy efficiency while decreasing the risk of significant, unwelcome or unpredicted, deferred maintenance cost surprises – lowering overall operating costs.

Whether for a commercial property, cultural institution, or private residence, Cyclical Maintenance Plans, with routine inspections, can help avert the death-spiral consequences of deferred maintenance. Once a building reaches this tipping point (often manifested in hidden structural hidden structural damage), an event that can happen sud-

denly or catastrophically, the costs of correction and restoration increase exponentially. That can force sale, abandonment or even demolition of your property. For institutions or commercial managers seeking contemporary, in-depth guidance for historic property management, *Operations and Maintenance for Historic Structures* (www.wbdg.org/resources/omhs.php) by Barry Loveland (Pennsylvania Historical and Museum Commission, 2012) is an excellent reference. ■

Old House: A Workbook for Homeowners (2011) published by and available from Greater Portland Landmarks.

The basic systems that should be included for routine inspection can be grouped into four categories: (1) Site, (2) Exterior Building Envelope, (3) Interiors, and (4) Heating, Ventilation and Air Conditioning & Mechanical and Electrical Systems. Energy efficiency considerations could also be added, if sufficient data are available through an energy audit.

To assess the cumulative energy performance of building systems at variable levels of demand and to reveal all possible cost reductions, large institutional users are increasingly using computer modeling software generically called Building Performance Evaluations (BPE). At least one commercial real estate management firm in the Greater Portland Region (see www.strategic-energy-group.com), has identified this approach as having upward market potential, particularly for Investment Grade, or Level III Audits. Greater Portland Landmarks suggests that the BPE, when coupled with a carefully tailored Cyclical Maintenance Plan, could be a powerful diagnostic combination that can provide owners

If you would like to receive a sample Cyclical Maintenance Plan template for residential property applications, contact Christopher Closs at Greater Portland Landmarks (ccloss@portlandlandmarks.org) or (207) 774-5561 ext 102



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