

Preventive Maintenance/Proper Reconstruction Protecting Assets, Ensuring Community Stability

By Andrew Amorosi, PE, RS

Every year, thousands of multi-family homes or buildings are constructed throughout the state. Primarily driven by greater density and housing economics, Co-ops, townhouses and condominiums have become a common housing choice. Many of these multiple unit dwelling complexes have a physical infrastructure that's 10-30—or more—years old. Countless numbers of these associations have undergone large construction projects of one type or

another, some earlier than anticipated or tremendously more expensive because preventive maintenance was not performed over the years, or the original construction was deficient and were not corrected during transition. This article highlights the importance of the Association's need to be diligent and persistent with its Preventive Maintenance Program, (PMP) and provides some specific examples of conditions which can lead to premature common element deterioration as a result of neglect or ineffective maintenance programs. The remainder of this article addresses this issue by dividing the topic into 3 sections:

- Background
- Benefits of Preventive Maintenance
- Examples of Common Element Deterioration.

Background

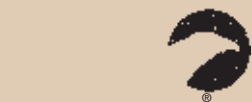
Many of today's buildings were (are) advertised as "Maintenance Free." Some building components may be intended to be maintenance free, however, original construction problems, manufacturing defects, interaction at adjacent components, or even inferior materials account for the inaccuracy of the "Maintenance Free" building advertising claim.

While periodic capital reserve funding analyses typically recommend the anticipated replacement dates (useful lives) of many of the larger common elements, continued proper maintenance is **critical** to achieve their expected useful lives. Too often, the maintenance effort is only the result of a reaction to an emergent problem, rather than a regularly scheduled component of a preventive maintenance program. When a replacement project comes due in a community, proper reconstruction methods and materials are essential to prevent premature replacements, and continued maintenance is needed to ensure that the replacement performs for the expected useful life. Why? Proper and regular preventive maintenance preserves the initial investment of a community's common elements and is significantly less costly and disruptive than replacing or repairing major components that have failed prematurely.

Benefits of Preventive Maintenance

Everyone involved in the Community Association benefits from a proper maintenance program. Homeowners

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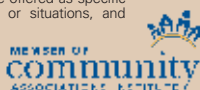
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The information presented here is for general knowledge purposes. It is not intended to be offered as specific advice for engineering projects or situations, and should not be treated as such. For specific advice or for more detailed information, please contact The Falcon Group.



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have the peace of mind that their home is being constantly maintained. Aside from the improved quality of life from avoiding disruptive major projects, owners can be confident that they can avoid a dreaded special assessment of hundreds or even thousands of dollars for the replacement or repair of some component of the property as a result of ineffective or improper maintenance.

The diligence of preventive maintenance also makes life easier for the property manager because it minimizes the likelihood that the management will have to deal with the economic, engineering and construction nightmares of potential future catastrophic weather events or other causes of common element deterioration/failure. By avoiding these problems, property managers will alleviate at least one source of anger and frustration for homeowners and board members.

An ongoing preventative maintenance program and properly scheduled and implemented reconstruction projects can help to assure the physical and financial stability of a community.

Examples of Common Element Deterioration

Although each community has unique requirements, there are typically several key facets of a comprehensive PMP. They are effectively a series of discrete, coordinated programs for each of the major items, combined with a checklist of conditional inspections of all items on a property. Some of these potential issues are listed below:

- **Roof: Flat, steep, or combined** – often the most crucial, or most prevalent problem, because roof problems typically immediately impact the occupant. An important approach in the roof aspect, includes random, but comprehensive, interior attic, as well as, roof top, inspections. This includes decorative or functional elements such as chimneys, which must be included in the maintenance

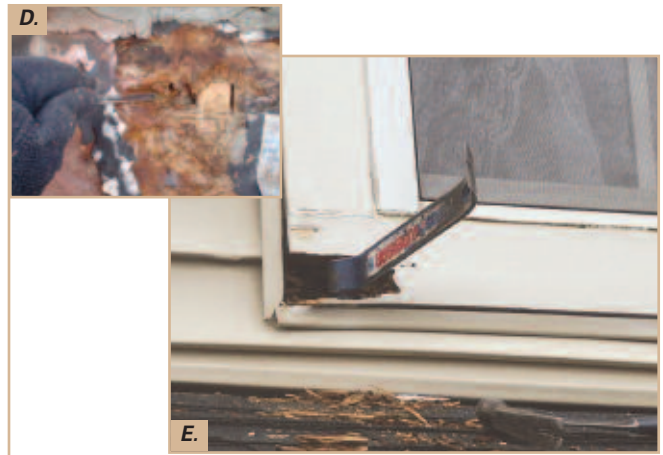


Figure D. Deteriorated building sheathing caused by water infiltration resulting from improper original veneer installation – this unit is only 3 years old.

Figure E. Deteriorated building trim can lead to structural damage and water infiltration. Improper original installation (priming or detailing), lack of caulk joint maintenance or lack of timely painting may cause this condition. Trim replacement can become an enormous expense if the community has significant amounts of building trim.

and inspection schedule. **Figures A, B, and C,** illustrate some of the visible indicators of roof deterioration.

- **Siding and Trim** – Similar to the roof, these items make up a particularly common and important component of the PMP because of their aesthetics and function as a weather barrier. Depending on the type of siding, a program of painting, replacement and/or caulking may be necessary. **Figures D and E** illustrate the potential damage that can result from siding and trim problems.
- **Site drainage** – should begin at the building itself, with clean gutters and positive grades away from the buildings. The main drainage swales, culverts, basins and pipes should be periodically checked, and repaired as needed. **Figure F** illustrates the results of a problem caused by ineffective drainage.



Figure A. Rusting or improper attachment of chimney caps can result in water infiltration into the building. **Figure B.** Ponding water on a flat roof will likely lead to leaks and structural damage. **Figure C.** Damaged or missing shingles can lead to water infiltration.



Figure F. Ponding water can deteriorate pavement, resulting in un-maintainable lawn areas while creating an insect breeding environment.

- **Pavement** – should be inspected for cracks, settlement, and surfacing defects. Pavement will begin to deteriorate at an accelerated rate if there is no adherence to a proper preventive maintenance program. Water ponding, or entering, cracks, creates a serious problem. **Figure G** illustrates some visible signs of pavement deterioration.



Figure G. Freeze/thaw cycles can cause severe pavement failures especially if cracks are not sealed prior to winter

- **Concrete** – deficiencies which cause structural problems or tripping hazards should be replaced for safety, as well as liability prevention and aesthetic reasons. **Figures H** and **I** illustrate the visible signs of lack or proper concrete maintenance.
- **Recreational Areas/Clubhouses** – although perhaps not the most prominent component of the PMP, they may be the most important in terms of safety and liability. (See our related article in *Engineering Matters*, **Playground Safety**-



Figure H. Advanced deterioration of a parking structure, areas below and above the structural deterioration are not safe.



Figure I. Tripping hazards need to be alleviated with concrete replacement.

Not Just for Kids. Protect Your Children and Your Association, Volume 2, Issue 2). **Figure J** illustrates the deteriorated condition of a tennis court, making it less attractive to use, while introducing tripping and other safety hazards.



Figure J. Safety concerns for all recreation facilities and tot lots requires focus, attention and timely maintenance.

Summary

The preceding illustrations are only a representative sampling of the many real, and potential, structural or performance deficiencies a community's common elements. Regardless of their cause, these problems nonetheless need to be addressed in a timely and effective manner. A detailed and diligent Preventive Maintenance Program involving proper regular inspections should be an integral part of any effort to maintain the value of community property. Proper specifications, methods and materials for all replacement projects are needed to avoid future premature common element deterioration, and the associated negative financial and quality of life impacts on the community. So, although the term "maintenance free" can create an unrealistic expectation for common element performance, the concept of "problem free" common element is a realistic and achievable community goal.

Building Finishing Systems: Time for a Check up?

By Andrew Amorosi, PE, RS

Building finishing systems, or siding, whether EIFS (synthetic stucco), stucco, wood, vinyl or even aluminum are in reality, merely surface veneers that are not waterproof. Therefore, repeated exposure to weather and moisture has the potential to compromise the system.

The key to ensuring the building system's performance is to allow for the water that enters the system to exit, as well. In many communities, these common elements have not been thoroughly inspected; additionally, these systems have been eliminated, or never were included in the communities' capital reserve funding plans. Improper materials or detailing may result in continued water infiltration, which becomes trapped.

While these situations can be rectified through proper inspection and maintenance, there are communities that rely on any of a number of faulty assumptions in not paying proper attention to the condition of their building finishing system. The rationale? "The siding should last for 40 or 50 years," or "it should last as long as the building," or even, "it looks good-how could there be a problem?" Unfortunately, many communities with aging infrastructure are now being confronted with the hardship of replacing siding due to excessive leaking from degraded framing members, but the community lacks the funds for the replacement. While premature replacement is more common with EIFS, stucco surfaces or wood-style siding, associations with vinyl



Unfortunately, siding may appear in good condition from the surface, however significant damage may exist behind the product.

or aluminum siding can also be affected. Therefore, I believe it is prudent for Associations to rely on more information than solely the siding's apparent visual appearance, while ensuring that the necessary inspection and maintenance processes, as well as, financial strategy, are in place to help the community effectively address any siding-related issues.

As always, please feel free to contact your Falcon representative for advice and assistance regarding exterior cladding and moisture control.

We're moving!

As the demand for the Falcon Group's services continues to grow—so does our need for a larger facility to accommodate our growing staff. We'll be issuing more formal communications shortly regarding our move to our new location at 682 Highway 202/206 North, Bridgewater, NJ. (We will be keeping our current phone/fax numbers). In anticipation of the move, we just wanted to take this opportunity to share this exciting news, as well as, an artist's rendering of our new location. We'd like to express our gratitude to our clients for their confidence in us, and we look forward to continuing our tradition of serving them from our



new facility with what they have come to expect from the Falcon Group-Higher Standards.

What's New?

WELCOME TO:

Juliana Lucia Amorosi, born Tuesday, January 17, 2006
Naomi Bella Chesky born Wednesday, February 8, 2006
Pyznar twin boys – **William John II and Alexander La Tourette**, born Friday, June 9th, 2006

We are thrilled to have them join our "Falcon family!"

Stewart Willis, HHS, ICS, RCS, RS, Licensed Building Inspector, Licensed Construction Official, Licensed Subcode Official, Licensed Mechanical Inspector, brings 15 years of experience in all aspects of community association services to the firm, including capital reserve and transition analysis.

Jim Breen joins the firm with over 20 years of project management, construction inspection, troubleshooting and design skills.

James Green has joined Falcon's Construction Inspection team, and brings with him 10 years of residential construction experience.

Janet Piatkowski has joined the firm's highly-skilled administrative team.

Harold Evegán, RA, is a licensed Architect; he brings over 10 years of residential design experience to Falcon Architecture.

Joseph Ehrhardt, HHS, Licensed Construction Official, Licensed Building Subcode Official, brings 20 years of construction inspection and code review experience to the firm.