

# Engineering Matters

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## Playground Safety— Not Just for Kids: Protect Your Children and Your Association

By Lyle Hoffman, CPSI



Playgrounds and outdoor play equipment provide children with necessary fresh air, exercise and recreation, but without adequate care and maintenance, they can also pose legitimate safety hazards. Faulty equipment and/or improper surfaces are often causes of playground injuries. According to the U.S. Consumer Product Safety Commission (CPSC):

- In the United States, a child is injured on a playground every 2½ minutes
- More than 200,000 children annually receive medical treatment for playground-related injuries
- More than 75% of playground injuries occur on a public or community playground
- Most playground injuries involve falls, and over half of the time the injury involves the child's head/face.

Most of these injuries are preventable by using a combination of proper supervision and correctly designed, installed, and maintained playground equipment/play area surfaces. However for any of a variety of reasons, playground safety is an issue that occasionally receives inadequate attention in association budgets. This can be a serious—and potentially costly—mistake. Notwithstanding the tragedy of an injured child, the potential financial liability from playground safety violations can be immense.

However, potential liability does not have to deter a community

from providing a fun, safe playground. The responsible approach is to be diligent about **all** facets of playground safety. The remainder of this article addresses issues of playground safety by reviewing:

- New/Replacement Facility Considerations
- Playground Safety Audits (New and Existing Facilities)
- Systematic Playground Maintenance
- Proper Rules for Supervision/Play.

### New/Replacement Facility Considerations

If an association is in the early stages of replacing its current playground, or is installing an entirely new facility, we recommend that a Certified Playground Safety Inspector (CPSI) or other playground safety professional review the various bidders' proposals or plans for the playground replacement contract. The association should also seek a CPSI who is completely independent of the installing contractor, to perform an initial safety audit for the new facility.

The CPSI should inspect the existing or proposed playground site to consider pre-existing conditions, as well as,

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## Playground Safety continued...

other factors impacting the installation/performance of new equipment and facility usability, including:

- Play area surfacing, size, and shape
- Required facility/equipment maintenance
- Ability to adequately supervise play
- Adequacy of budget for installation/maintenance
- Appropriateness of equipment/facility for the age of the intended users.

The CPSI will then compare the contractors'/ bidders' proposals to the observed site conditions to determine if any of the proposals violate New Jersey standards (N.J.A.C. 5:23-11 – essentially CPSC Publication No. 325), as well as, which, if any proposals satisfactorily address potential issues observed during the site review.

Based on this analysis, the CPSI may recommend rejection of, or resubmission with clarifications/ additions to, one or more proposals. Additionally, the CPSI should recommend which, if any, proposals should be considered by the association's board and management.

### Playground Safety Audits (New and Existing Facilities)

Upon completion of the installation of the new playground facility, prior to use, an initial safety audit should be conducted. (We also recommend that existing facilities be audited on a periodic—generally annual—basis.) The safety audit should compare the installation to the manufacturer's installation specifications, Uniform Construction Code requirements (CPSC Publication 325) and the *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use* (ASTM Publication F1487). The auditor's findings should be summarized in a report, which should be submitted to, and retained by, the association's management. The performance of a safety audit also presents an ideal opportunity to develop and review the association's playground maintenance program.

**Every safety audit should include a detailed inspection of the equipment and play surfaces. Regular inspections of the existing equipment are the only way to verify that the equipment still adheres to the standards set by the Uniform Construction Code.** These standards currently relate primarily to:

- Sharp edge/entrapment/tripping hazards
- "Safe fall" distances
- Play area surface materials/installation depths.

To perform an effective safety audit, the CPSI must inventory the installed playground equipment, sketch a plan of the facility and diagram any/all composite play structures, as well as, indicate access to the facilities. Additionally, the CPSI should be provided with copies of all warranty and final inspection documentation, if available. The association should retain a com-

prehensive file of this information and ensure that it is both readily accessible, as well as, kept up to date.

**Initial compliance with these standards is not a guarantee of continued compliance.** The community must understand that the installation of a playground implies the acceptance of a continued responsibility for monitoring, maintaining, and possibly supervising the facility to ensure the playground's ongoing compliance with safety standards. Recurring safety audits, as part of a comprehensive playground maintenance program, are by far the easiest way to ensure compliance with these standards.

### Systematic Playground Maintenance

The association should develop, and document its adherence to its maintenance program. This will help demonstrate its compliance with, and commitment to, ongoing playground(s) safety. This documentation should include:

- *A Complete Playground Inventory*, including an equipment list, manufacturer information, and current manufacturers' representative/contact information
- *Inspection/Maintenance Activity Forms* for scheduled inspections and maintenance. These forms should be specifically developed for the equipment and facilities installed, to add efficiency, consistency/ simplicity to safety inspections and associated administration
- *A Routine Inspection/Maintenance Schedule* based on industry averages and norms. That is, high-frequency inspections can range from 2-3 times per week to monthly intervals, depending on factors including usage, materials, equipment age, environment, climate, season/weather, etc. (other specific factors include soil/rain pH, coastal/sun exposure, drainage, etc.). These schedules can be modified by site-specific conditions (i.e. historical records of required maintenance) and manufacturer recommendations. Individual communities may, based on financial, legal, insurance requirements or other factors, specify increased or decreased inspection frequency. Over time, routine maintenance activities can change for a variety of reasons, and the community should review its schedule regularly for appropriateness to its specific needs and circumstances (generally concurrently with regularly scheduled safety audits).

At a minimum, the association should document its adherence to its inspection and maintenance schedule. Carefully maintained, clear records of inspection and maintenance performance are often among the most effective methods of demonstrating due diligence (and minimizing potential liability.)

### Proper Rules for Supervision/Play

Parents can play a vital role in preventing playground accidents by providing adult supervision and verifying the age-appropriateness of the playground equipment their children use. A community may wish

to post signage as a “safety enhancement,” as well as, to help minimize potential liability. Signage can be used to indicate the playground’s:

- Hours of operation
- Rules for the play area
- Supervision expectations from parents/adults/attendants
- Age requirements for equipment use.

### Playing it Safe

The use of any playground equipment involves trading some level of “risk for recreation.” However, by combining:

- Correct design and installation
- Professional safety audits
- Proper maintenance
- Proper supervision and communication.

Associations can dramatically reduce the number and severity of injuries. This integrated, comprehensive approach to playground safety can eliminate most, if not all, hazards, while simultaneously reducing the community’s exposure to potential liability. Associations using this approach can make playground facilities safer for children to learn, grow and have fun.

## Our Side of the Great Debate: Should Associations Reserve for Siding?

By Andrew Amorosi, PE, RS

The primary purpose of a Capital Reserve Funding Analysis is to recommend the amount of monies an Association should fund on a yearly basis for the future replacement of common elements. The analysis and recommendations are important in providing financial guidance to association boards and management to help them minimize the possibility of burdensome future special assessments.

Building finishing systems or siding, whether EIFS (synthetic stucco), stucco, wood, vinyl or even aluminum, have often been unwisely eliminated or worse, overlooked or excluded from the capital reserve funding plans of many communities. Prevailing “wisdom” is that “siding should last for 40 or 50 years,” or “it should last as long as the building.” Unfortunately, many communities with aging building structures are now being faced with the hardship of insufficient funds for necessary siding replacements. In some cases, this has resulted in significant special assessments. While premature replacement is more common with EIFS, stucco surfaces or wood-style siding, associations with vinyl or aluminum siding are also being affected.

Siding manufacturers have significantly improved their product quality and added superior materials warranties, affording some added assurance of protection. However, many factors affect the performance and useful life of a siding material or building finishing system. All building finishing systems have advantages and disadvantages, and different systems are appropriate for specific communities based on a variety of factors. This article discusses some common exterior/building finishing systems, as well some of the key issues for community associations to consider in determining the appropriateness for the inclusion of siding/building finishing elements in a reserve study.



### EIFS/Stucco

(For a more detailed discussion on EIFS, please see *Engineering Matters* Volume 1, Issue 1). EIFS and stucco systems rely heavily on the adequacy of their initial installation. An improperly installed system can cause moisture to become trapped **behind** the weather barrier, thereby producing leaks, mold and structural damage. Improper detailing can also cause surface cracking.

An untrained or careless applicator can make any of a number of mistakes that result in deficient installation. These mistakes include improper or incorrect:

- Flashing building fenestration and interfaces with adjoining building materials
- Fastening of the insulation board or lath to the building structure
- Installation of the reinforcement mesh
- Thickness of insulation material.

These conditions generally reduce the effective useful life of the system and often create the need for complete system replacement.

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## The Great Debate continued...

### Wood Siding

Typically, wood siding will show visible signs of age/wear in a variety of ways. Accordingly, it is important to replace deteriorated sections of the siding (generally funded by the Deferred Maintenance budget) prior to any staining and/or weatherproofing project. Some of the most common situations/symptoms include:

- **Improper Maintenance**—will leave aging siding in generally poor condition. Some commonly visible signs of wear include:
  - Multiple areas where existing siding is cupped and brittle
  - Many nails which may be rusted, ineffective or missing
  - Sections of siding may have voids (through knot-holes or splitting members).
- **Overexposure to the Elements/Minimal Siding Thickness**—eventually causes splitting and cupping of the siding, creating problems requiring replacements.

Wood siding requires ongoing systematic maintenance and replacement over time. The conditions discussed in this section will worsen through continued exposure to the elements and from lack of maintenance. Deteriorating siding can be a conduit for water penetration and possible additional damage to the existing wall sheathing or interior space. Accordingly, the maintenance and replacement requirements (and associated expenses) of wood siding should be expected to increase in direct, if not increasing, proportion to its age.

### Vinyl/Aluminum Siding

To assure a weather-tight installation, initial detailing of flashings and underlayments is **critical**. Periodic inspections of the materials' weathering abilities should be conducted and compared with the warranty's specifications. Deficient fastening practices used during installation may cause additional warping of siding sections. Existing vinyl or aluminum siding requires periodic minor maintenance to avoid water infiltration. Accordingly, maintenance plans should be continually updated to ensure that the siding is performing properly at all locations. Additionally, periodic cleaning (power washing) should be included in the Association's budget to maintain the siding's aesthetics, as well as, to keep accumulating dirt/debris or caustic substances from causing deterioration. Therefore, associations using vinyl/aluminum siding should be conservative in estimating likely increasing expenses for replacements and maintenance due to damage or deteriorating aesthetics.

### Is Time On our Side?

Unfortunately, it is rare that the above-discussed installation or material deficiencies are visually apparent to the new community, nor do conditions caused

by deteriorating siding "self-correct." Typically, as problems with building leaks become increasingly prevalent in a community, the need for significant siding replacement/repair becomes a grim reality. Too frequently, the following scenario emerges:

- Buildings start to look "weathered and old"
- Siding repairs and replacements consume an increasing share of the operating or maintenance budget
- Management experiences increased frequency of complaints about water infiltration and interior damage
- The interior damage to the framing members, sheathing or unit amenities becomes increasingly significant.

These circumstances are the "textbook" indicators of the need for siding replacement. By the time the need to take action is apparent, the cost to maintain existing siding may become significant, if not prohibitive, and outweigh the benefits of siding replacement. In such situations, phased replacement of the system is, in all likelihood, the only viable alternative.

Recognition of the need to properly fund siding replacement and/or inspections of installation and materials should start at the **transition phase** of a community association's operations. This proactive approach to siding maintenance and replacement will enable both the repair of deficient installation and the proper funding of this common element, while helping to minimize the need for future special assessments for siding replacement. Unfortunately older communities don't have such a luxury.

However, **initiating reserve funding for siding replacement at any time is paramount in maintaining the integrity of the building infrastructure of older communities.** When the time arrives for the siding replacement, having at least some funding in reserve is clearly preferable to having none at all.

Whether a community is new, or has aging structures, we would recommend:

- Inspecting the siding system to determine the material's existing condition and installation detailing
- Reviewing the leak history of the siding and windows
- Incorporating any recommended repairs into the association's transition agreement or preventative maintenance plan (as applicable)
- Developing and adhering to a schedule and budget which includes systematic, proper maintenance and repair to prolong the useful life of any siding/building finishing system.

**Based upon the reality that sooner or later, siding ages, deteriorates or becomes functionally compromised, we believe it is prudent for associations to consider including the eventual cost of replacement (phased or total) of all of the community's siding in the association's capital reserve funding plan.** Feel free to contact me, or your Falcon representative, with questions or for further information.