PERILOUS NEGLECTION

By Robert N. Roop, PE, Lockatong Engineering, Inc.

According to Merriam-Webster
in fra struc ture | | 'in-fra-, strak-char
noun

the system of public works of a country, state, or region also : the resources (such as personnel, buildings, or equipment) required for an activity

Infra- means "below;" so the infrastructure is the "underlying structure" of a country and its economy, the fixed installations that it needs in order to function.

hat in the world does that have to do with condominiums? Easy, all condominiums have infrastructure.

It is industry standard for multi-family residential community associations to obtain engineering reserve studies on the basis of capital improvement replacements having a 30-year horizon. If the useful life of a component is projected to be greater than 30 years, it is often not included in the study of financial projections. Certainly, those components qualify as "underlying structure" "required for an activity."

A widely recognized and often consulted guide to the estimated useful life of building systems and components is published by Fannie Mae. In the category of multi-family/co-op, many common building components and systems are listed. As one would expect, building foundations, wood frame structures, brick, stone, stucco and mechanical penthouses are listed at 50 years plus. Major mechanical equipment like fire suppression, electrical switchgear, chilled water, and gas distribution systems are also expected to last longer than 50 years. But then, we get into the little bit shorter life components in the 30- to 50- year range like windows, chimneys,

CONTINUES ON PAGE 30



PERILOUS...

from page 36.

exterior stairs, fire escapes, hot and cold-water distribution, heating supply and return, electrical distribution centers, transformers, elevator machinery, large boilers, electrical or hydronic fan coils. Concrete site improvements like sidewalk and pavement are listed with useful lives greater than 30 years. Fencing and retaining walls are in that category too.

Let's examine the components that could outlive the 30-year horizon in different types of condominium buildings. For low-rise and suburban development, windows, doors, roofs and siding may be common elements (depending on your association documents) with long useful lives. Almost certainly, underground water and sewer distribution, dedicated roads, in-ground pools, fences and retaining walls are typically long-lived infrastructure.

In high-rises, the extensive mechanical, electrical, plumbing and fire protection systems make for a longer list of infrastructure. Piping systems are particularly important and vulnerable to long-term corrosion. Not just potable water, hidden pipes carry sewage, heating and cooling water, sprinkler water and air conditioning condensate. While Fannie Mae projects the useful life of these types of pipes to be in the 50-year range, we have seen failures in the 30- to 40-year span in those important systems. Then, there are the central utility plants with boilers, chillers, cooling towers, emergency generators, fire pumps, hot water generators, domestic water booster pumps and ductwork systems for HVAC that have varying

useful life ranges that might not be included in reserve studies.

Early in the life of an association, those long-estimated useful life components are probably not included in a reserve study. Certainly, a project developer has little interest in includ-

ing them in the original reserve study that becomes part of the offering statement. After all, the developer's objective is to make the sale of each unit as attractive as possible. Once the transition to an owner-dominated condominium board takes place, it

HIGHTE LEVERAGING TECHNOLOGY TO STREAMLINE COMMUNICATION, OPERATIONS AND REPORTING. **CULTIVATING RELATIONSHIPS TO ENSURE HIGHLY SATISFIED ASSOCIATION** RESIDENTS AND STAKEHOLDERS. PRESERVING AND ENHANCING VALUE THROUGH BEST-IN-CLASS SERVICES. Community **Association** James Mitter Frittenst **Management** Financial services services NAGEMENT CORP. services & maintenance To learn more, visit IntegraMgtCorp.com or call Edward San George, MPA, PCAM at 973.770.1500. services Corporate Office: South Jersey Office: **Emergency** 200 Valley Road, Suite 203 364 North Main Street (Route 9), Suite 5 Manahawkin, NJ 08050 management Mt. Arlington, NJ 07856 T (973) 770-1500 T (609) 660-0208 Consulting



ENVIRONMENTAL LANDSCAPE DESIGN, LLC.

Full Property Maintenance
Snow Removal Services

(732) 974 – 7215 www.ELDLandscape.com

PERILOUS...

from page 39.

is the new board's fiduciary responsibility to protect the common assets of the community. Their motivation is different than that of the developer and the recognition of a longer time horizon becomes apparent.

The Foundation for Community Association Research conducted a study in 2020 that was published under the title "Breaking Point: Examining Aging Infrastructure in Community Associations." The Foundation found that "More than three quarters (81%) of survey respondents reported encountering unanticipated and un-planned for infrastructure issues over a recent three-year period." And "Too often, according to foundation



Isn't it about time you took a fresh look at your community's insurance program?

Are you looking for personal, professional service and attention?



Condominium Insurance

Let us work with your association to find the right coverage, at the right price.

Felsen Insurance Services, Inc. 3155 Route 10 Denville, NJ 07834

Phone: 973-361-1901 Fax: 973-361-2660 info@felsen.com



members — and despite occasional inspections and regularly scheduled reserve studies — associations failed to recognize serious structural and system failures."

Neglecting critical infrastructure can bring very undesirable outcomes. Pipes in walls can be a disaster in a highrise when they leak and the damage extends to many floors below. How about the loss of heat or cooling, or even hot water, for a minimum of several days? Conversion of a building from high-speed elevators to a 19th Century walk-up will not be welcomed by owners. Aside from inconvenience, some infrastructure failures can be life-threatening, such as loss of a fire pump, fire alarm system, or emergency generator. Most of these critical infrastructure components are not off-the-shelf items and will take some time for their delivery and installation.

Association boards and managers should also consider that the estimated useful lives of building components can be compromised by poor original construction. Improper selection of materials can often lead to a shorter than projected life of a particular system or component. It is true that many new building products have been developed with the

best material science and can be expected to have useful life longer than their predecessors. However, poor installation can shorten the useful life of even the best made systems.

One example of how improper installation can drastically reduce the

be compromised by poor original construction."

"...boards and managers

should also consider that

the estimated useful lives of

expected useful life of the building is in the building's "envelope Take the example of brick veneer where Fannie Mae projects that brick veneer cladding should have a useful life in excess of 50 years. However, without installation of proper flashing, corrosion protection of metal components supporting the veneer and weep holes to allow moisture to drain out of the building, premature failure can be expected well before the anticipated useful life.

Fortunately, infrastructure life can be extended with careful maintenance and service. Provision for these matters

CONTINUES ON PAGE 42



PERILOUS...

from page 41.

in the operating fund can save premature draws on the reserve fund.

Another way to understand the implications of long useful life infrastructure is to identify what those components are early in the life of an association. It is recommended that associations obtain a transition study from an engineering firm, which could include identification of building components vulnerable to accelerated aging due to environmental exposure or other factors. The initial owner-controlled, board-authorized reserve study might identify components beyond the 30-year horizon that should be included in subsequent reserve studies.

Again, from the Breaking Point report: "More than three quarters (80%) of those surveyed felt it was critical that their association had adequate reserves in the event of a major infrastructure failure or construction need. Nearly half (40%) of those surveyed considered deteriorating infrastructure as a top ranked concern. More than two thirds (70%) of

survey respondents indicated that maintaining the property values was of primary importance."

Some boards are reticent to increase association fees and adequately prepare for long-term capital investments. However, repeated application of Band-Aids delays the inevitable and usually results in much higher costs of a restoration project. There have even been cases where residents were so concerned about their safety, they successfully petitioned the court for an emergency assessment.

To fulfill their fiduciary duty, boards are responsible for the long-term provision of a safe and functioning environment for their residents. Educating owners in the importance of maintaining infrastructure longevity becomes part of that fiduciary duty. On the upside, when replacement becomes necessary, it is often an opportunity to improve efficiency, reliability, and improve the quality of life of the community.

We all remember the devastation that Hurricane Sandy caused in New Jersey. While the loss of infrastructure from a natural disaster was unavoidable, the loss of infrastructure by neglect is not. ■

