

# Case Study: Fairlington Villages

## How Do You Solve the Problem of Aging Decks?

Faced with 972 degrading 35 year old steel and concrete balconies and decks, the Fairlington Villages Condominium Association Board of Directors was looking for a logical solution. The board was keenly aware of the daunting task at hand with apparent structural issues and escalating needs for maintenance; constant rust remediation, painting and concrete repair.

As one of the nation's largest condominium associations they have experience with large scale repair projects but this was a huge undertaking - due to the age of the buildings, the tight confines, types of materials used and number of people affected. In 2007 they brought in restorative engineers Tadjer, Cohen, Edelson & Associates (TCE) to assess the scope of the problem. What TCE found were significant and ongoing issues with structural integrity. The steel was failing in areas due to years of water infiltration and expansion, rust-through on some deck pans, issues with deteriorating concrete and the railings were no longer compliant with current building code. The potential for further failure in the steel posts and the concrete work convinced the board that it was time to find a solution. The options were to repair and replace, continue to maintain, or replace the decks and railings entirely. With the code issues, failing supports and escalating future maintenance costs considered, the decision was made to replace all of the decks.

The cost of replacing ALL 972 decks, as originally built, with painted steel frames, supports, railings and waffle pans filled with concrete, was estimated and determined to be prohibitive at more than \$20 million. While researching alternatives, restorative engineers from TCE discovered the Endurable Building Products (Endurable) structural aluminum deck system at a contractor's trade show in Washington, D.C. This unique product features Endurable's alumiLAST® 2" x 6" hollow-core aluminum frames, with matching aluminum railings and posts. The materials are custom

**972 Decks**  
**\$12.4 Million**  
**5 Years**  
**50 Yr. Warranty**  
**No Rust**  
**Easy Installation**  
**Color Matching**

powder coated to color match and have several decking material options. The Endurable decks met all of the specifications for the Fairlington Villages project: structural integrity to code, color matching to existing style, low maintenance and ease of installation, plus they provide an exceptional 50 Year Structural Warranty.

TCE presented the Endurable option to the Fairlington Villages Association and it was decided to investigate the product further. TCE contacted David Battel, president of Endurable and provided plans to begin the bidding process. The design engineers at Endurable prepared a comprehensive plan to meet the variables of this extensive project. Mr. Battel and his team then came to several board and community meetings at Fairlington Villages and presented their structural aluminum decks, explained the long-lasting durability, ease of installation and even prepared a small mock-up so homeowners could get a feel for the materials. The approval process took over six months with extensive talks on design issues, cost and procedures before the association board decided to move forward with Endurable. With the Endurable system the Board estimated the overall construction costs could be reduced by nearly 40%.

The next step was that TCE had to prepare a Balcony Repair Project manual for the Association Board to secure contractor bids for the project. Ten contractors bid on the project with five submitting formal proposals.



Real Problems: Rusting, High Maintenance



Real Solutions: Solid for Years to Come

In 2010 Colin Horner, of Legum & Norman Property Management, became General Manager of the Fairlington Villages homeowner's association. Moving forward with this project became one of his first priorities. With over 35 years experience in property management and having handled multi-million dollar rehabilitation projects in the past, Mr. Horner was uniquely qualified to get the ball rolling. He understood the process for working with a multi-year phased project. After selecting a contractor, Mr. Horner performed a financial analysis to ensure sufficient funding for this project in accordance with the cost estimates. The analysis concluded that the project should begin in FY11 and end in FY17. The next step, after board approval and the initial phase construction contract was signed, was to get several pilot decks installed.

Working with TCE as project manager, Endurable and the construction team installed five pilot decks, two on townhomes and one 3-level stacked deck



**Fairlington Villages** is a rolling 93 acre community with over 1,700 homes, in townhome and apartment configurations designed by renowned architects Kenneth Franzheim and Alan B. Mills in the early 1940's. It sits across the two counties of Fairfax and Arlington, VA which when combined, created their name "Fairlington." These homes were built in the brick Colonial style with slate roofs and narrow tree-lined streets by the Defense Homes Corporation at the behest of president Franklin D. Roosevelt. The homes were built for military families and government workers. In the early 1970's these rental homes were converted to condominiums. During that process it was decided to add decks and balconies to provide personal outdoor space.

structure on multi-level building, in June of 2011. "This worked really well for us," said Mr. Horner "We were able to see the decks in all applications and we also replaced our highest priority decks at the same time." As part of the test, Endurable showed two decking options - an interlocking aluminum plank and a full-size panel aluminum panel, featuring an internal honeycomb structure, with a polyurea coating.

The response to the decks was overwhelmingly positive. The clean look, smooth threshold transitions and quality construction were all noted. Interestingly, the homeowners approved the new full-size panel decking, developed specifically for this project, although it added nearly \$1000 more per deck.

The real challenge for the Fairlington Villages Association was managing the overall cost of the project. Although they had a very healthy reserve this was the largest individual project expenditure they had faced. It was decided that 6 phases over 5 years made the most fiscal sense. "Creating a phased schedule, with approximately 200 decks per year worked for us financially keeping the annual expenditure in the \$2 million range," said Mr. Horner. "We have never had a special assessment in our 40+ year history and, with this plan, that record stayed intact."

The first year of construction was a learning curve for all parties. Installation was a five step process taking between three and six weeks: 1. Notify homeowners to clear their decks; 2. A pre-construction survey had to be done; 3. The old balcony was removed and debris cleared; 4. The new balcony was installed; 5. Final inspections. "Because we have a very active association, with quality communication as a key, everyone was well aware of their phase. After all, we had to manage the expectations of the 972 homeowners that would be waiting for their decks to be installed," said Horner.

The decks were manufactured in the Endurable factory in Minnesota and shipped to the site. The basic deck configuration featured the main aluminum deck frame (which is pre-built and welded as one unit, then powder-coated), it is lifted into place and bolted to the side of the building and secured to the concrete footings with 4" x 4" matching powder-coated aluminum posts. The decking panel is fastened from below and the railings are installed to complete the balcony.

During construction new issues had to be addressed; detailed plans from TCE and Endurable had to be prepared as each deck required its own permit. Concrete footings became a real issue with a greater number having to be replaced or repaired than originally estimated. On the 3-level decks homeowner's ground level patios, fences, and gardens had to be protected which was not included in the construction bid and became an Association responsibility.

Variations were also offered for owners that wanted to add stairs at their own expense. The Endurable Deck System is designed to accommodate several versions of stairs, both traditional and spiral, based on the height needed and cost considerations. In total 25 stair variations were applied for: 7 traditional stair designs of varying heights and 4 different spiral staircases were installed.

After the first phase of construction the contracting company advised that they wanted to renegotiate their contract higher based on

the scale of the work. The board decided that a rebid process was necessary and, after a 10 month delay, selected concrete and masonry rehabilitation company American Restoration LLC. American Restoration has a sterling reputation for quality and offered a mobile style of construction that required a smaller staging footprint on the site. The rebid process yielded a significant year-to-year savings as well. (The overall project was now estimated to be completed at \$12.4 Million)

Coming into the project Mike Nagle, president of American Restoration was excited to work with the Endurable decking product. Because of the reduced weight of the materials and ease of installation his crew was able to easily stage materials off-site at their facility. This was a real selling point as the association was forced to give up a lot of prime parking areas to the previous contractor's trailer and storage units. "The mobility and lighter weight of

the Endurable deck materials allowed us to easily access the work areas, especially those that did not have nearby parking," said Mike Nagle, president of American Restoration. "Fairlington Villages features rolling terrain and lots of mature trees which made the construction of these decks ideal for this site. An aluminum deck panel is a lot easier to install on the third floor than concrete" he said. His crews maintained controlled worksites, repairing and installing in a methodical manner. Trucking new materials in and debris out daily kept the area organized, presentable and safe.

After learning how to properly install the Endurable Deck System the experienced American Restoration team of union masons and installers quickly mastered the process. "They not only met and exceeded installation goals throughout the remainder of the project, they did it without inconveniencing the homeowners and truly became part of the Fairlington

Villages family." Said Horner, "They were so polite and professional, there was not a single registered homeowner complaint during their 5 years in our community."

"Working with American Restoration and Endurable was great" said Jason Nachman, PE of TCE, "Their responsive style and streamlined approach to the process made our job a lot easier" In fact the American Restoration team was so efficient that they were awarded all subsequent phases of the project.

Even with the delay of having to select a new contractor this entire project was finished ahead of schedule and \$600,000 under budget.

For Colin Horner, General Manager at Fairlington Villages this process was testament to a great team working together. He is the first to point to his staff; Facilities Manager Miquel Galvez and Operations Manager Mark Johnson for their dedication and hard work in the day-to-day process of this project. The responsiveness and commitment of the Association's Board of Directors was key in seeing this project to completion. Huge credit is also due to the professionals from Tadjer, Cohen, Edelson and Associates, Endurable Building Products and American Restoration, LLC. "There are always going to be challenges in construction projects," said Horner "it's how the contractors respond to those challenges that show their true colors. This team was golden."

Endurable Building Products (www.endurable.com) created their first aluminum deck system in 2003. These decks are designed for people who want the lowest maintenance deck system available, combined with a clean look and fast and simple installation. Their alumiLAST® decks and balconies are shipped to customers across the country and are used in both new construction and restoration projects.

## Easy to Install

## Completed Early

## \$600,000 Under Budget



Call for a FREE cost analysis!  
800.933.2060 • 763.585.0097 (in MN)

www.endurable.com