

# AWARD OF EXCELLENCE

HIGH-RISE CATEGORY

## Signature Place Condominium

ST. PETERSBURG, FLORIDA

SUBMITTED BY R. L. JAMES, INC., GENERAL CONTRACTOR

### BUILDING DESCRIPTION AND HISTORY

Signature Place Condominium (Fig. 1) is in downtown St. Petersburg, Florida; it consists of a 36-story residential and two 5- and 7-story multi-use (retail and office) condominium buildings and a 5-story garage and recreational plaza deck and pool above the garage building. The property encompasses an entire city block. At the time of construction, it was the tallest building in St Petersburg. The high-rise structure tapers from west to east, forming a pointed knife edge with prominent sail-like roof overhangs overlooking the bay, Rowdies soccer stadium, with views of Albert Whitted airport.

Construction began in 2005 at the peak of the real estate boom and neared completion in 2008 just as the market collapsed. Units originally selling in the range of US \$400,000 - \$1.5 million plus were sold by the developer at auction as sales slowed. Soon after occupancy, unit owners began experiencing water intrusion issues on the concrete masonry unit (CMU) constructed walls on the south and west elevations of the high rise and at other CMU constructed locations on the east and west liner buildings. Cracks in the stucco began to develop in consistent locations at floor-to-wall transitions. These issues, along with many others, resulted in the condominium association filing a construction defect claim against the developer.

### INVESTIGATION AND DISCOVERY

An initial investigative effort was undertaken that was intended to repair stucco defects at two wall elevations—a shear wall and a broad wall. On the shear wall, horizontal cracking had developed at every floor line (Fig. 2) where the control joints were installed improperly. Stucco cracking was exhibited throughout the entire 6000 sf (560 m<sup>2</sup>) plus wall area (Fig. 3), facing westerly and constantly exposed to the Florida



Fig. 1: Signature Place Condominium

west coast is hot sunny conditions and frequent afternoon thunderstorms and high winds.

While removing the stucco from the walls at the joint locations, some of the CMU walls were broken and it was discovered that cells of the CMU were void of grout where they should have been reinforced (Fig. 4). Upon further investigation, it was discovered that the reinforcing was either missing or not properly connected to the structure. As the high-rise structure is a unique conventionally reinforced building with CMU shear walls connected at drop down beams which are adjacent to the balcony slabs, these repairs were deemed urgent and further investigations were performed (Fig. 5).

The results of the investigations were overwhelmingly conclusive that the structural

reinforcement was inadequately installed throughout the building and immediate repairs were required (Fig. 6 and 7). Noted defects included improper wall reinforcing and several additional issues.

## REPAIR PLAN

Due to the costly and challenging requirements of accessing a 36-story high-rise structure with many changes in direction in busy downtown St. Petersburg, the difficult but wise decision was made to take advantage of economy-of-scale discounts and address other issues as well. A project scope of work was developed to replace the thinly applied balcony waterproof membranes and paint the exterior envelope of all the buildings as well as address some roof coating issues.

Funding for the project was accomplished by a combination of unit owner assessments and bank financing. Unit owner assessments ranged from US \$9,900 for the smallest units to US \$132,000 for the three-story penthouse unit.

## Structural Reinforcement

Repairing the reinforced cells at their existing locations was problematic as removing the existing grout and reinforcing was very time consuming, costly, and risked penetrating the living units on the opposing side of the walls. Therefore, a plan was developed (where possible) to relocate the reinforcing at cells adjacent to the original locations by cutting open the faces of the cells top to bottom, properly installing the reinforcement, applying bar coatings to improve longevity, and forming and grouting the cells. Upon removal of the forms, if the grout was not filled to the bottom of the tie beam, the voids were hand packed.

## Exterior Stucco Cladding

For the stucco control joint and CMU repairs (Fig. 8), approximately 40% of the existing stucco required removal. Additionally, it was discovered that most of the CMU were misaligned with the floor slabs, resulting in noncompliant building code stucco applications in excess of 2 in (50 mm) and debonding in many locations. To avoid a patched appearance, it was determined that all the stucco cladding would be removed on the shear and broad wall elevations. Repairs included stripping all of the stucco from the walls, replacing missing/loose mortar, sealing the soft joints with sealant, installing control joints at proper locations, waterproofing the CMU, applying new stucco, and coating the walls with a waterproof coating. To resolve issues with the misaligned CMU, a vertical repair mortar was installed to build up the wall elevations prior to stucco application.

## CONCLUSIONS

In total, over 2000 cells were reinforced and 60,000 sf (5,575 m<sup>2</sup>) plus of stucco cladding was removed, walls were floated with repair mortar, and stucco was reinstalled during the course of the two-plus-year project. Balcony



Fig. 2: Cracks in stucco on every floor at bottom of turndown beam to top of wall



Fig. 3: Stucco marked up for removal after sounding



Fig. 4: CMU reinforced cells missing grout



Fig. 5: Graphics showing shear wall elevations planned for repair: (a) south elevation, and (b) north elevation

waterproof membranes were replaced, and the exterior walls were waterproofed. The water intrusion issues have been resolved and the building is structurally sound. The condominium association was successful in reaching a best-as-can-be-expected settlement due to the diligent investigation, documentation, and teamwork of all involved. With the repair work completed and mast climbers and swing stages removed from the property, owners took pride in the fresh appearance of their homes and the market regained confidence as downtown St. Petersburg thrived. Property values have steadily increased and unit sales have turned over quickly. Signature Place continues to be a thriving community drawing marked interest from passersby due to its unique appearance, water wall and prominent knife edge overlooking the bay.



Fig. 6: Shear wall under various phases of repair



Fig. 7: Parking garage shear wall/barrier wall being reinforced



Fig. 8: Stucco replacement, CMU grouting, guardrail protection, overhead protection, and mast climber/swing stage access

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