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August 4, 2022

Louis Casolo City of Stamford Engineering Bureau 888 Washington Boulevard Stamford, CT 06901

NV @ Harbor Point, 100 Commons Park North, Stamford, CT: Visual Survey

WJE No. 2022.0759

Dear Mr. Casolo:

Pursuant with our proposal dated April 6, 2022, and at the request of the Mayor of Stamford, Connecticut's Office, Wiss, Janney, Elstner Associates, Inc. (WJE) has completed our limited assessment of the above referenced property. The following is our report on the matter.

BACKGROUND

Following the partial collapse of the 5th floor plaza slab at the Allure, the mayor of Stamford, Ms. Caroline Simmons, asked WJE to perform limited assessments of additional properties that have been developed by Building and Land Technology (BLT) in Stamford utilizing similar construction, similar designs and/or similar construction teams to the Allure. The scope of these assessments was outlined in a March 25, 2022 letter issued to BLT by Mayor Simmons.

DESCRIPTION OF STRUCTURE

NV @ Harbor Points, located at 100 Common Park North is a 16-Story residential structure with a single basement level. It was built ca. 2017. Levels Basement through Level 3 primarily consists of parking with some apartments and amenity spaces along the perimeter of all four elevations. Level 4 primarily consists of an exterior and interior amenities spaces including terraces with a pool and planters on the east and west sides. Apartments are provided along the north and south elevations. The overall dimensions of Levels B-4 are approximately 420 ft. north/south by 217 ft. east/west. Floor to floor heights are between 9.5 ft. and 12 ft. Above Level 4, two residential towers referred to as the north and south tower, continue up to Level 16. The towers each have overall plan dimensions of approximately 141 ft. north/south by 114 ft. east/west. Typical floor-to-floor heights of both towers are between 9.5 and 10 feet. At levels 5-7, a corridor with apartments connects the two towers. The corridor has overall dimensions of approximately 159 ft. north/south by 64 ft. east/west.

The building structure is founded on a conventionally reinforced 3 ft. thick mat foundation. Floor one consists of a 10 in. conventionally reinforced concrete flat plate¹ with areas thickened to 12 in. Top and

¹ A "flat plate" is a reinforced concrete slab of without beams or drop panels.





bottom mat reinforcing steel is provided in both directions. The columns consist of cast-in-place concrete and are conventionally reinforced. Column spacings vary from approximately 12 ft. to 28 ft. in the north/south direction and approximately 14.75 ft. to 28 ft. in the east/west direction. The second and third floor slabs consist of either 6.5 in. or 8 in. thick post-tensioned, cast-in-place, concrete flat plates. The flat plates have uniformly spaced draped² post tensioning monostrand tendons that typically span in the north/south direction at 3.5 ft. on center. Banded, draped monostrand tendons span in the east/west direction at the column lines. Conventional reinforcing is also provided with a continuous bottom mat in both directions and top bars in both directions at the columns. Additionally, stud rails³ are provided at some, but not all, columns. A 3 in. wide expansion joint separates the north side of the structure from the south side of the structure.

At the western end of the 4th floor level near the pool, the slab thickness increases to 12 in. where the pool and outdoor amenities terrace are located. At the remainder of the floor, where the residential apartments are located, the slab is generally 8 in. thick with isolated thicker areas. The flat plates at the 4th level have uniformly spaced, draped, monostrand tendons that typically span in the north/south direction at 3 ft. on center. Banded, draped, monostrand tendons span in the east/west direction at the column lines. Conventional reinforcing is also provided with a continuous bottom mat in both directions and top bars in both directions at the columns. Additionally, stud rails are provided at select columns. In order to allow for transitions between the occupied interior space and occupied amenities space, a step in the slab top surface is provided to allow for the installation of waterproofing and a pedestal paver system.

The remainder of the building (levels 5 to 16) have the same structural system with a slab thickness of 8 in. The flat plates have uniformly spaced draped tendons that typically span in the north/south direction at 3.5 ft. on center. The live end anchors are provided on both elevations based on the tendon layout. Draped banded tendons span in the east/west direction at the column lines. Conventional reinforcing is also provided with a continuous bottom mat in both directions and top bars in both directions at the columns. Additionally, stud rails are provided at select columns. Post-tensioned cantilever balconies are provided on the east and west elevations.

An expansion joint that spans in the east/west direction is provided at levels 1-8 separating the north and south towers.

The building is clad with an exterior insulation and finishing system (EIFS) and has a flat roof (Figures 1-4). The building was designed by EDI International (EDI), and the structural engineer of record is Weidlinger Associates, Inc. (WA).

² Draped tendons refers to the elevation profile of the strands which are typically located high in the slab at column lines and low in the slab at midspans.

³ Stud rails are welded assemblies of steel strips and headed studs that are positioned around columns to enhance the punching shear strength of the slabs



DOCUMENTS REVIEWED

The following documents were reviewed by WJE to gather a basic understanding of the building design and construction:

- Architectural As-Built Drawings issued by EDI dated April 25, 2018.
- Structural Drawings issued by WA for construction including revision number 1 dated September 28, 2016
- Post Tensioning Shop Drawings issued by CCL dated December 15, 2016
- Rebar Shop Drawings issued by Gerdau dated September 6, 2016.

WJE reviewed a report issued by Desimone Consulting Engineers entitled: NV @ Harbor Point Garage-On-Site Structural Assessment" dated May 9, 2022. The following is described in the report:

- Desimone conducted a visual assessment.
- The exposed garage structure was found to generally be in good condition.
- Shrinkage cracks were observed but are not of structural concern.
- Based on the on-site visual observations, Desimone did not observe any items of structural concern.
- In general, the existing garage structure in its current condition appears structurally sound.
- Typical shrinkage cracks on the garage level slabs and foundation walls should be sealed as a general maintenance item and should be monitored on a regular basis to prevent future structural deterioration.
- Desimone apparently performed no calculations in support of their opinions.

OBSERVATIONS

On May 31, 2022, John Cocca, P.E., Hannah Rakowski, P.E., David Fagan and Tom Fayomi all from WJE, performed a limited visual review of the building. Prior to our site visit, we reviewed the drawings to look for areas of structural anomalies such as steps in the slabs, large openings or other features that could create design or construction issues. During our visit, WJE visually reviewed the exposed structure within the parking garage, the 4th floor terrace and amenity spaces and 12 apartments spread between the two towers which were all that were made available to WJE by the owner. Additionally, WJE reviewed various halls and stairwells in both towers. Field sheets indicating the areas surveyed are provided in Appendix A. The following conditions were noted:

Garage

- The lower level of the parking garage was observed to be in good condition at isolated locations, shrinkage cracks were noted in the slab-on-grade as well as at the underside of the 1st floor slab level. In some instances, efflorescence was observed emanating from the shrinkage cracks (Figures 5-7).
- Levels 1 through 3 of garage appear in good condition a few shrinkage cracks noted at isolated locations (Figures 8-11).
- WJE noted corrosion staining emanating from the expansion joints at multiple levels (Figure 12).



Terrace

■ WJE visually reviewed the amenity terrace at the 5th Floor. WJE did not observe any cracking in finishes or excessive deflections that could be an indication of an underlying structural issue (Figures 13-14).

Tower/Interior Spaces

- At the time of our visit, WJE was provided access to 12 units within the two towers. WJE visually reviewed the 12 apartments and all accessible public and amenities spaces. As part of our review, WJE looked for cracks in the drywall finishes especially at doorways and floor to ceiling transitions that may be an indication of differential movement. Additionally, WJE also looked for separations in the trim or gaps in the trim that may indicate the presence of slab deflections. No distressed conditions were noted at the reviewed areas (Figures 15-18).
- Elevator lobbies and corridors at various levels were visually inspected for similar cracks and separations. No distressed conditions were noted at the reviewed areas (Figures 19).
- The north and south stair towers in each building were also partially examined. At these locations, painted concrete shear walls are exposed. No cracking or other signs of distress or significant deformation conditions were noted at the reviewed areas (Figure 20).

Exterior

■ WJE visually reviewed the exterior elevations of the building from grade, select terraces of accessible apartments and from the 4th floor terrace. In general, Minor cracking in the EIFS was noted, however, its location and crack pattern is not indicative of an underlying structural issue.

CONCLUSIONS

Based on our limited review of the provided documents and our visual assessment of the building, WJE did not identify any additional conditions at the NV at Harbor Point that would be indicative of an underlying structural issue at the time of our inspections.

RECOMMENDATIONS

Based on our review, WJE would offer the following recommendations to the owner to prolong the life of the structure and help to limit future maintenance.

- WJE would recommend routing and sealing the shrinkage cracks to prevent the ingress of air and water which could result in corrosion of the underlying steel and/or post tensioning.
- The owner should consider applying a penetrating sealer to the parking levels top surfaces or installing a traffic coating on the parking levels top surfaces to protect the mild reinforcement from chloride laden water that is tracked into the garage from vehicles in the winter.
- Please note that expansion joints and surface treatments in parking garages are high maintenance items, requiring repair of replacement typically every 5 years.



Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

John Cocca, P.E.

Associate Principal & Project Manager







Figure 1- South Elevation



Figure 2- West Elevation





Figure 3- North Elevation



Figure 4- East Elevation





Figure 5- Typical Lower Level of Garage

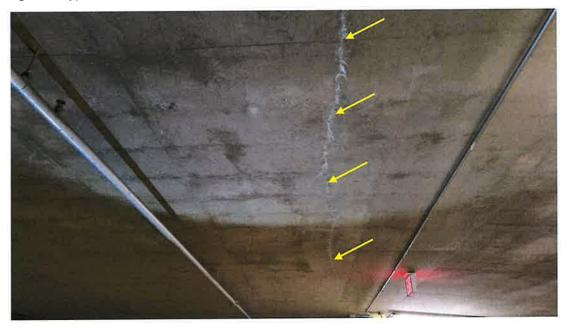


Figure 6- Typical Shrinkage Cracks at Underside of 1st Level. Note Efflorescence Emanating from Cracks



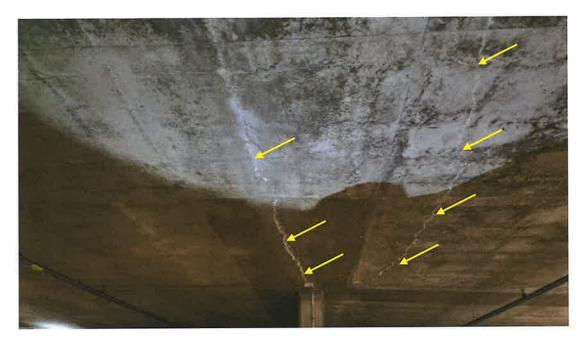


Figure 7- Typical Shrinkage Cracks at Underside of 1st Level. Note Efflorescence Emanating from Cracks

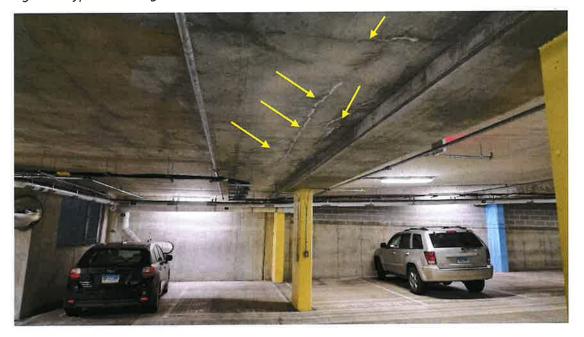


Figure 8- First Level of Garage. Note Shrinkage Cracks with Efflorescence at underside of 2nd Floor



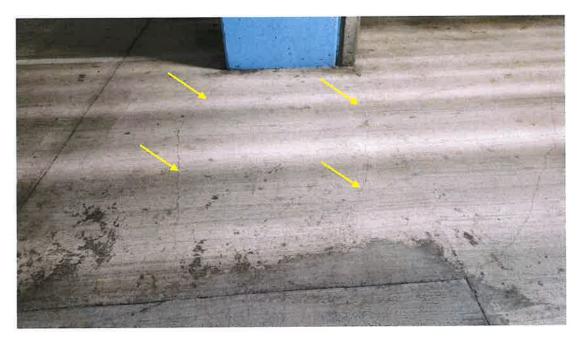


Figure 9 -Shrinkage Cracks at Floor of Second Floor Level



Figure 10- Third Floor Level





Figure 11- Third Floor Level



Figure 12- Corrosion at Expansion Joint





Figure 13- Terrace at West Elevation



Figure 14- Terrace at East Elevation





Figure 15- Typical Apartment



Figure 16- Typical Apartment





Figure 17- Typical Apartment



Figure 18- Typical Apartment





Figure 19- Typical Corridor



Figure 20- Typical Staircase



