Structural Assessment Report

August 2023

SITE LOCATION
3313 Bay Avenue,
Ocean City, NJ 08226
TADCO ID: J-021171
Block: 3306, Lot: 1

Prepared for
Seaspray Condo Association
3313 Bay Avenue
Ocean City, NJ 08226
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Prepared by
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Description and Background:

TADCO Engineering and Environmental Services, LLC (TADCO) was retained by SCA and its representative to assess the structural condition of the structure(s) and provide a repair plan leading to preparation of bid documents to enable the repair and restoration process.

The property consists of 2 story segmented buildings aligned to make a C shape facing the Bay Avenue with a pool in front of the property. A single-story structure at the rear of the residential buildings used as the laundry facility. Along the southwest of the building, there is a single-story framed building with timber floor framing. Refer to the site map in the Figure 4 for more details.

TADCO visited the property on three (3) different events to collect data, take measurements and observe areas of concern. During the ongoing study and analysis, several documents and reports as well as figures and drawings were provided by SCA authored by various consultants and agencies.

To facilitate a knowledge-based approach, TADCO recommended obtaining an updated survey (the original one if more than 40 years old), and obtain a Geotechnical study to address concerns with the subsurface condition, building elevation as it relates to FIRM flood zone, as well as elevations of the walkways and headroom clearance. The latter would assist in assessing surface drainage conditions at critical corners.

We recommended to SCA retaining a surveying firm to obtain an updated survey including spot elevations at critical locations. The figures included herein (1 through 6) are based on the survey of the property that was conducted by Gibson Associates, PA, dated 7/19/2023.

In an effort to assess the subsurface conditions, which was thought of as a high cause for alarm, we recommended obtaining a Geotechnical Study. Our evaluation of the grade beam did not raise concern with the subgrade being a factor. In addition to the Geotechnical study, a document was presented indicating that some repair-maintenance was conducted to cap piers. This firm, TADCO, was not able to verify the presence, location or condition of such piers. Moreover, none of the prior consultants appeared to have witnessed the piers, just presumed they were a factor for the cracks observed without having actually inspecting them.

In addition, and to conduct targeted onsite inspections, TADCO deployed a video crawler/rover to access the tight crawlspaces, and document current conditions (photographs are provided herein). In some locations, even the crawler could not advance due to obstructions created by debris, piping and disposed items.

The foundation system is constructed of reinforced concrete grade beams (GB) supported by what is believed to be timber friction piles (refer to Figure 1). Some of the girder beams support the floor supports above, while some are running along the same direction of the floor supports therefore, they support the self-weight of exterior walls.

There are concrete masonry units (CMU) walls constructed above the grade beams to support the precast reinforced concrete channels (Inverted U-shape Beams) above which are considered the floor support/floor of the first floor. The grout-filled CMU piers are either sitting on top of the Inverted U-shaped beams and CMU walls, or directly on top of the grade beam, to provide a support for the precast concrete lintels above.

The upper structural components, including the roof, are constructed of pre-cast reinforced concrete circular hollow core planks. For more details See Figure 1. The planks extend beyond the lintel supports, creating a cantilevered structure on the second floor that serves as a walkway for the second-floor units towards the courtyard (pool) area. The terrace(s) facing 34th Street are supported by concrete lintels resting on CMU on one side and round shaft steel columns. The lintels are pitched to the south and north to allow for roof drainage. The hollow core planks are resting on the lintels and show no signs of distress.

The distribution directions of both the precast reinforced concrete channels and planks for the first and the second floors are shown in the Figure 2 and Figure 3.

The main concern was initially thought of by others as failure of timber piles, grade beams, CMU's and hollow core planks. Our observations, as well as a few prior consultants, <u>do not agree with the alarming assessment.</u> It is observed that there are localized, random cracks, spalling or corrosion that are caused by long term weathering, insufficient ventilation, abundance of trapped moisture and, in some cases, local settlement. The abovementioned conditions are sporadic and intermittent, thus do not constitute high concern of failure of affect safety of the public.

The following assessment will show that the building requires general maintenance, local repairs to keep the building in good structural standing. It will also call for repairs due to active leaks, installation of vents to the crawlspaces, sealing of cracks, support of cracked grade beams, repairing of spalling concrete channels and cracked hollow core planks. While none of the observed condition rise to the need of immediate repairs, we will recommend initiating an action plan to the repairs made based on sound engineering practices and fundamentals without the hype and alarm.

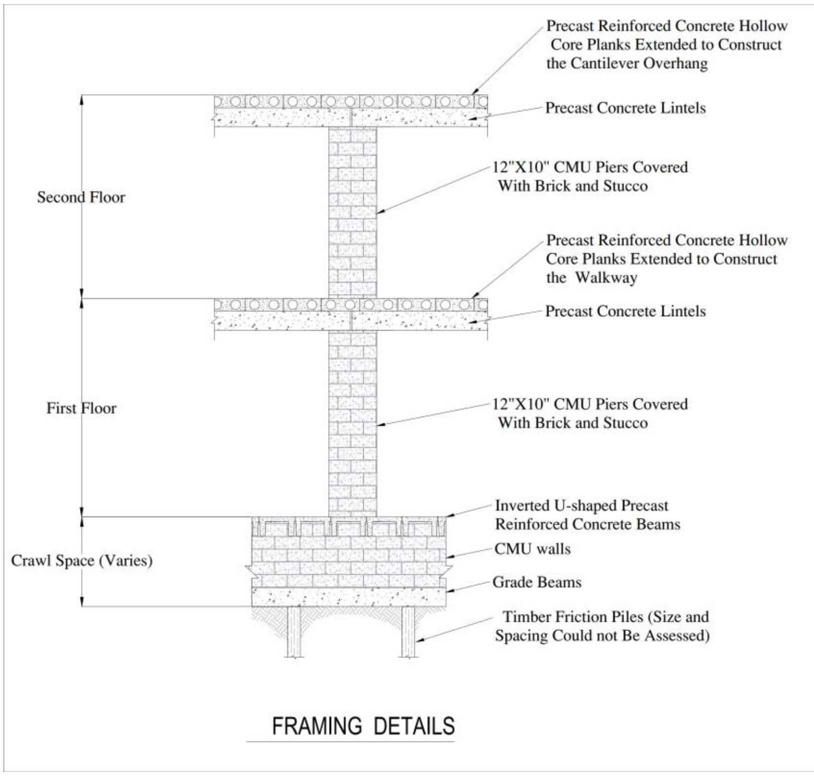


Figure 1 Framing Details

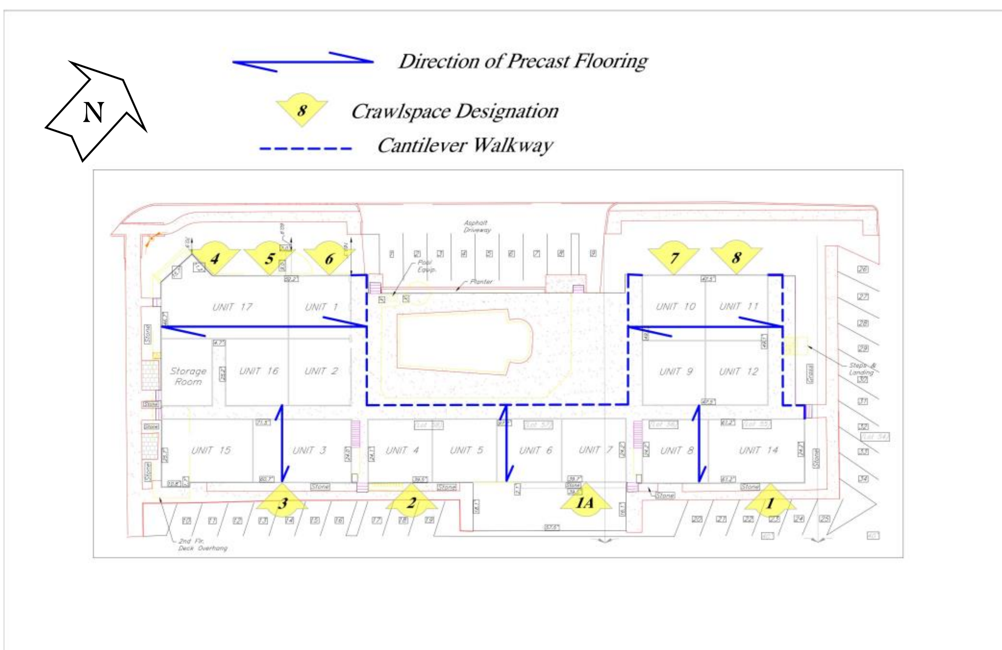


Figure 2 Directions of Precast Flooring for First Floor

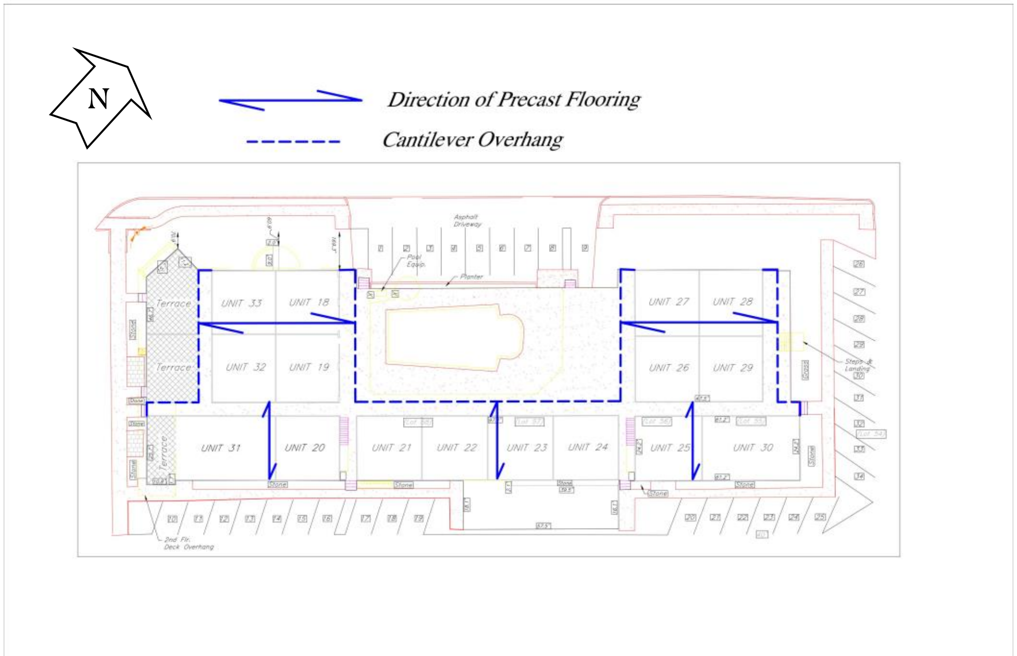


Figure 3 Directions of Precast Flooring for second Floor

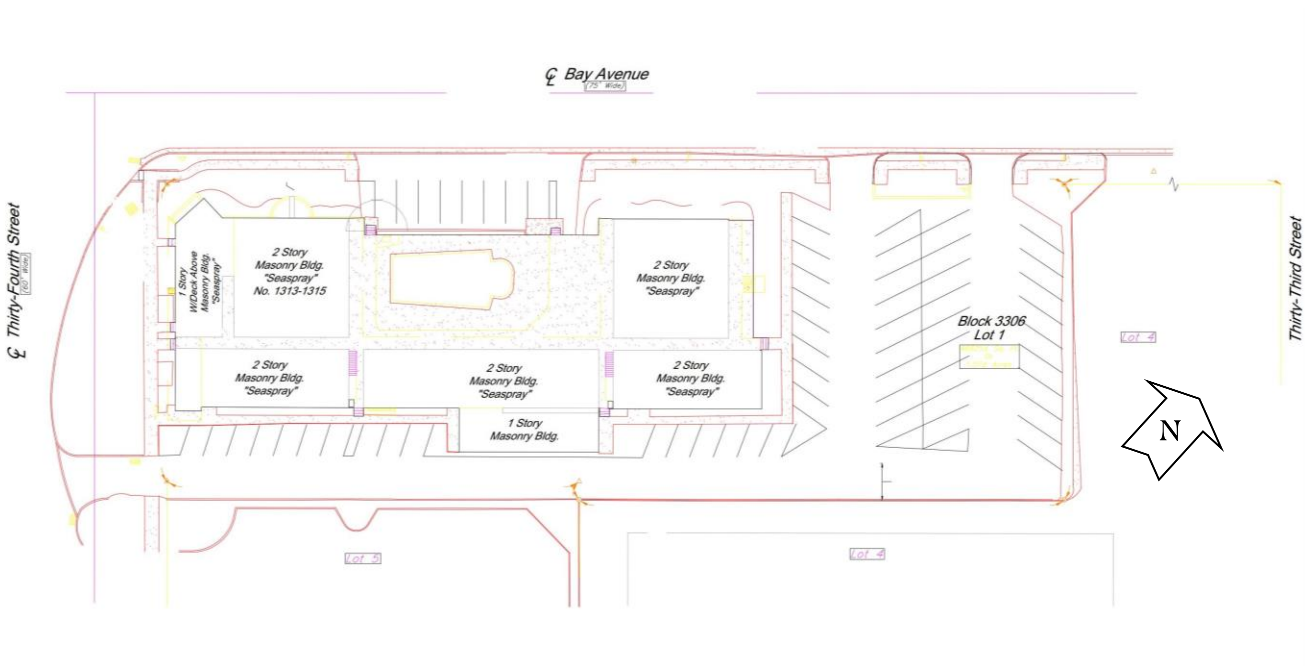


Figure 4 Site map.

Figure 5 shows the locations of access ports (hatches) into the crawl spaces as well as the locations and directions of the GBs. Based on the precast flooring directions, the GBs and the CMU walls that align along with sections A and B (crawlspace 4, 5, 6, 7, and 8) are considered as nonbearing walls (only carrying the self-weight of the walls above). However, the GBs and CMU walls in between sections A and B are considered as bearing walls.

On the other hand, the GBs and the CMU walls aligning with sections C and D are considered as bearing walls, while the other in between GBs and CMU walls are considered nonbearing walls. The nonbearing walls are holding the self-weight only of the walls and any cracks on nonbearing walls are not considered as high risk and would require minimal repairs. The space under the storage space has a slab-on-grade (No Crawlspace).

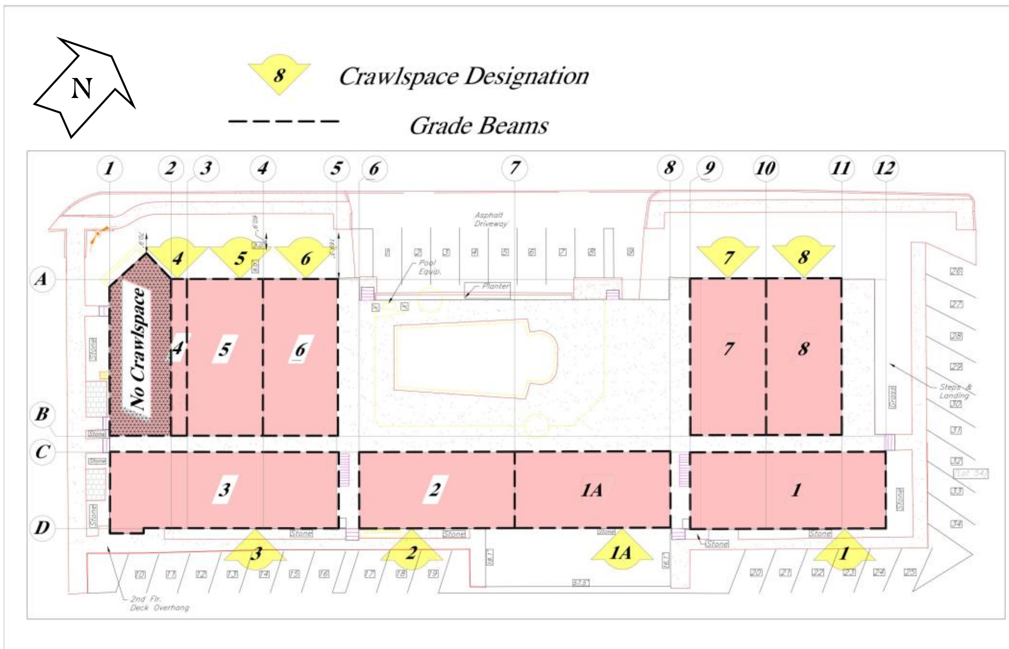


Figure 5 The locations of crawlspace hatches, crawlspaces, and grade beams

Inspection and Observations:

1. The grade beams, CMU walls, and pre-cast concrete planks were, when visually accessible, inspected via crawlspace hatches located around the structures as shown and designated in Figure 5. Advanced robotic crawling with HD video camera was used to inspect the areas that have not accessed in the first inspection. However, some places were not accessible due to the obstructions of utility pipes disposed articles, and plumbing debris, which hindered adequate visual access or crawler routes. The detailed conditions and observations for all the crawlspaces were listed in Table 1. See Photographs section below for more details.

2. It was observed that some of the concrete channels (Inverted U-shaped beams) exhibited spalling and corrosion of reinforcement in sporadic locations under the first-floor, especially at crawlspaces (1, 1A, 2, and 3). However, at the remaining crawlspace (4, 5, 6, 7, and 8) concrete spalling and reinforcement corrosion were observed to be limited to a much lesser extent; thus, the condition of the concrete channels is deemed acceptable with local repairs needed. The locations and estimated percentage by size, of the areas to be repaired are shown in Figure 6. The recommended repairs for the concrete spalling and the corroded reinforcements were listed in Table 1.

3. In crawlspaces 5 & 6, locally damaged and cracked grade beams and CMU walls were observed mostly at crawlspace 6. CMU damage was observed in crawlspace 5, some appearing to be due to intrusive forces applied during plumbing and electric pipe installation between crawlspaces 5 & 6. None appeared to be due to widespread failure of the timber piles. One small crack at crawlspace 7 and another at crawlspace 8 have been observed. Prior reports prepared by engineering consultants, also focused on the damage to the grade beams **only** within crawlspaces 5 and 6. On the other hand, no significant cracks were detected by this firm on CMU walls or grade beams in crawlspace (1, 2, 3, and 4). Crawlspace 1A was inaccessible due to the installed utility pipes. Refer to the Photographs section below. The observed concrete grade beams appear to have been subjected to compounded blunt horizontal forces as well as loss of under support due to decay of exposed top of timber friction pile(s). The latter is estimated, not confirmed.

4. Two areas of concrete spalling of nonbearing CMU walls were observed as shown in Figure 6. It is worth repeating that these nonbearing walls are holding the self-weight only and the failure in these areas are not considered a structural risk. Fixing and repairing of these areas are recommended.

5. The timber friction piles specific condition, spacing or size could not be evaluated. There is no indication of widespread failure to the existing piling system. Therefore, total loss of support can be excluded.

6. Unit 17 was accessed for inspection. It is above crawlspaces 4 & 5. While the ceiling did not exhibit signs of destress, the walls and columns appeared to have minor to moderate cracking associated with uneven settlement. Other observed cracks are not associated with overloading, but rather due to alterations and displacement of point loads. None of the cracks are considered detrimental or can cause sudden catastrophic failure. Unit 1 was not accessible, but the exterior exhibited local cracking without shifting across the face of the cracks. Unit 11 and Unit 12 which are above the crawlspaces 7 & 8 were inaccessible. However, no cracks have been observed at the exterior walls of these units.

7. The interior of residential units (7, 17, 18, 19+32, 22, 26, and 33) were accessible for inspection. Sporadic cracks were observed on the walls of Unit 17 (exterior and interior), and on Units 14 and 30 (exterior only). No cracks or stress were observed on the walls of Units (7, 18, 19+32, 22, 26, or 33). It should be noted that none of the observed cracks appear to be associated with horizontal displacement nor they were severe in size, length or direction. The cracks are rather associated with thermal and moisture fluctuations. More importantly, the lack of horizontal movement across the face of a crack is a strong indication of continuity of support on both sides of the crack. Most of exterior cracks would be with the stucco and former brick fascia beneath.

8. For the second-floor walkways cantilevered hollow core concrete slabs, previously rebounding hammer compressive strength tests were conducted on various spots on the underside face of the slabs. Readings of averaged compressive capacity of approximately 9300 pounds per square inch (psi) were recorded for the intact planks (between units 2 and 3). That was within the intact planks. When the test was conducted on the partially cracked planks (west of unit 7), an averaged compressive strength of approximately 4800 psi was recorded. Such readings are still considered higher than acceptable for concrete structural members. That means that the compressive capacity of concrete slabs (U-shaped beams) to be twice the acceptable strength for the intact slab sections and higher or at the acceptable strength for partially damaged slabs/beams. In one or two severely damaged slabs (between units 12 and 14), the strength was recorded to be approximately 2900 psi. The 2900 psi reading is still within acceptable limits, although our recommendation is to consider repair of these sections as previously conducted for similar areas. No immediate hazard is noted. The suggested repair plan for the walkway can be seen in Figure 7. These repairs were designed by a licensed engineer, permitted, constructed and approved with evidence of high efficacy. This repair would be recommended for all hollow core planks with visible cracking at the cantilevered section. As to the concern of the concrete being carbonated, while this might cause and accelerate steel corrosion, it may also increase the compressive strength of concrete. Our observation indicates that the steel corrosion is minimal and the exposed concrete within stem walls and hollow core planks is in average condition. The condition will improve upon implementing the proposed repairs.

9. The terrace areas located at the southwest of the property facing 34th Street as shown in Figure 3 were inspected through the storage room. The underside of the hollow core planks is intact. The planks were designed and constructed on a pitch to allow for the roof drainage. Visible cracks on the drywall board are due to improper installation and finishing of the drywall boards. As to the walls under the concrete lintels or those that run parallel to the direction of the planks are not for structural purposes as can be clearly identified by the composition and discontinuity. As to the loads imposed on the concrete planks including the roofing membrane, the composite wood patio, patio furniture, etc. it can be clearly understood that the load-bearing capacity of concrete planks is far more

superior to timber framing. Additionally, same planks are carrying the loads of the residential units, including dead load, live load (furniture, occupants, appliances, etc. therefore, there is no argument that the loads of the patio are worse than the loads of the interior of units.

10. In certain sections of crawlspace 6, as shown in Figure 6, signs of active plumbing leakage were noted.

11. Due to the combining of approximately six (6) building into one complex, some transitioning took place. The transitions are most observed, as expected at the walkways. The walkways, being constructed of hollow core planks were covered at the end with timber fascia boards and coil-type capping. In some areas, the capping and fascia boards dislodged, causing exposure of the hollow core and reinforcement, thus promoting oxidation. In those areas observed where cracking and spalling is evident on the underside or sections, repairs would be recommended. See Figure 7 below.

12. Cracks observed through the stucco veneer, covering the former brick veneer are observed to be only through the veneer layers. Although not of a structural concern, they should be repaired.

13. The severe corrosion reported under the middle landing of the northeasterly most steps leading to the parking area would require removal and would be substituted with horizontal steel plates. Corroded fasteners should be further examined and surface rust be removed. After removal of all rust, proper rust inhibiting primer and paint would be applied accordingly. The steel frame and concrete appear serviceable and are not in risk of collapse and would require the maintenance recommended.

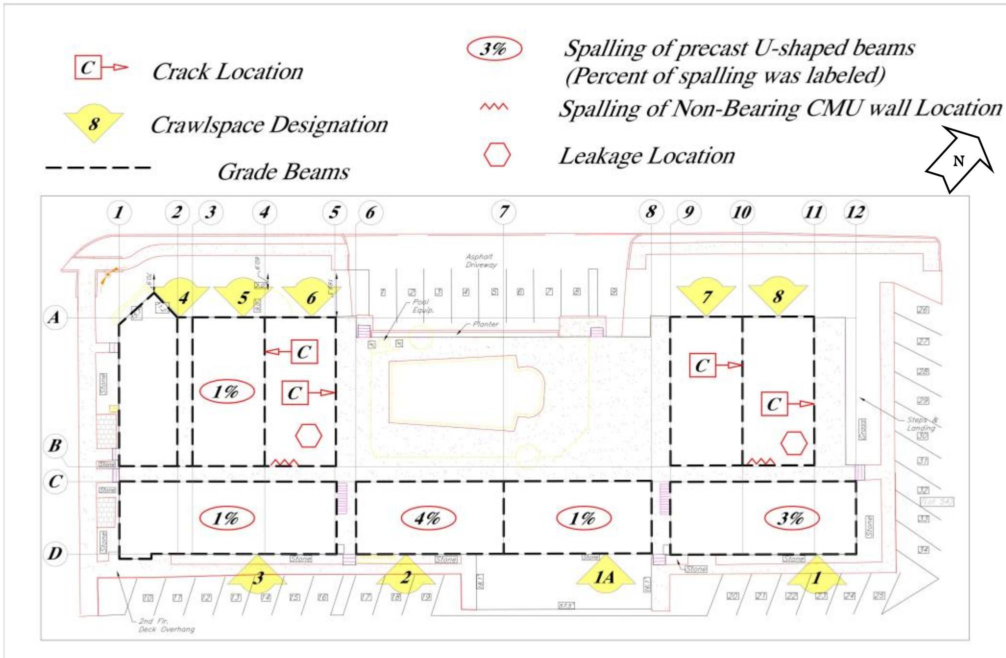


Figure 6 Locations of places need to be repaired (various degrees and urgencies).

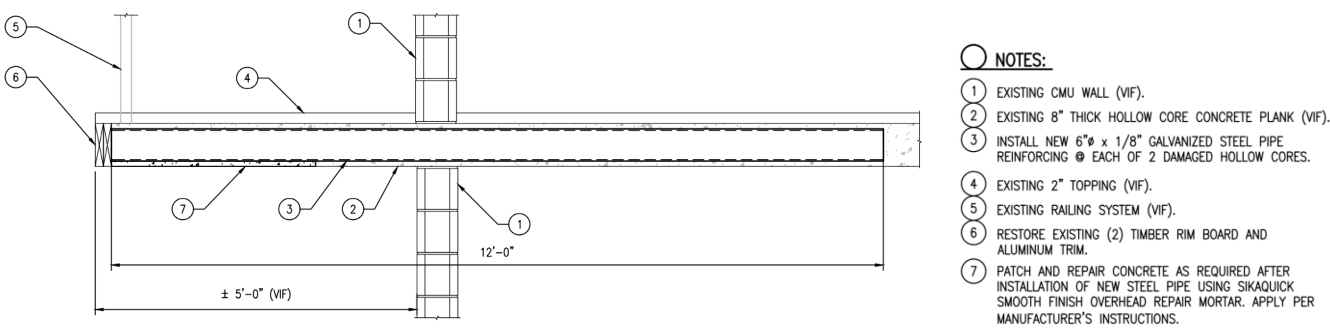


Figure 7 Walkway Repair Plan (Exhibit Per Bechet Building Technology)

Summary

Table 1 Summary of the observations and recommended repairs

Inspected Components	Observations			Notes	Recommended Repairs
	Grade Beams	CMU Walls	Precast Inverted U-shaped Beam		
Crawlspace 1	No Visible Cracks Observed	No Visible Cracks Observed	Local and sporadic concrete Spalling and surface reinforcement corrosion (lower part of the web)	Moisture intrusion have been noticed on the GB and CMU walls.	1- Remove corroded layer and cracked portions of concrete then inject the epoxy materials to restore cover to the reinforcement. Follow by applying carbon fiber reinforced polymer fabric (CFRP) to increase the tensile capacity of the beams. 2- Improving ventilation in crawlspaces is required to reduce humidity levels and prevent issues like corrosion.
Crawlspace 1A	No Visible Cracks Observed In accessible areas	Inaccessible	Local and sporadic concrete Spalling and surface reinforcement corrosion (lower part of the web)	---	
Crawlspace 2	No Visible Cracks Observed In accessible areas	No Visible Cracks Observed In accessible areas	Local and sporadic concrete Spalling and surface reinforcement corrosion (lower part of the web)	---	
Crawlspace 3	No Visible Cracks Observed	No Visible Cracks Observed	Local and sporadic concrete Spalling and surface reinforcement corrosion (lower part of the web)	---	
Crawlspace 4	No Visible Cracks Observed	No Visible Cracks Observed	Looks in good conditions	---	Improving ventilation in crawlspaces is required to reduce humidity levels and prevent issues like corrosion.
Crawlspace 5	No Visible Cracks Observed	No Visible Cracks Observed	Limited concrete spalling and reinforcement corrosion (lower part of the web)	---	
Crawlspace 6	Cracks observed in some locations	Cracks observed in some locations	Limited concrete spalling and reinforcement corrosion (lower part of the web)	Water leakage and water intrusion have been noticed on the GB and CMU walls. Spalling areas in nonbearing CMU walls	1- Remove corroded layer and cracked portions of concrete then inject the epoxy materials to restore cover to the reinforcement. Follow by applying carbon fiber reinforced polymer fabric (CFRP) to increase the tensile capacity of the beams. 2- Attach two steel plates with epoxy adhesion materials to the sides of the GB to restore the bearing capacity of the GB. 3- Improving ventilation in crawlspaces is required to reduce humidity levels and prevent issues like corrosion.
Crawlspace 7	Cracks observed in One location	Cracks observed in One location	Limited concrete spalling and reinforcement corrosion (lower part of the web)	The floor supports above damaged GB or CMU walls do not exhibit any sign of distress	
Crawlspace 8	Cracks observed in One location	Cracks observed in One location	Limited concrete spalling and reinforcement corrosion (lower part of the web)	The floor supports above damaged GB or CMU walls do not exhibit any sign of distress. Spalling observed in nonbearing CMU walls	

Inspected Components	Observations			Notes	Recommended Repairs
	Grade Beams	CMU Walls	Precast Inverted U-shaped Beam		
2nd Floor Walkways	---	---	---	cracks are observed on several areas of cantilevered walkways especially between units 12 and 14.	Repair the damaged beams by installing a steel pipe inside the hollow core and fill the gaps with epoxy materials to restore and repair the damaged parts.
Unit 7	---	---	---	No cracks were observed on the walls or ceiling.	---
Unit 14	---	---	---	Cracks have been observed on exterior walls.	widen crack and utilize approved crack fillers
Unit 17	---	---	---	Cracks were observed on exterior walls.	widen crack and utilize approved crack fillers
Unit 18	---	---	---	No cracks were observed on the walls or ceiling.	---
Unit 22	---	---	---	No cracks were observed on the walls or ceiling.	---
Unit 26	---	---	---	No cracks were observed on the walls or ceiling.	---
Unit 30	---	---	---	Cracks were observed on exterior walls.	Widen crack and utilize approved crack fillers
Unit 19+32	---	---	---	No cracks were observed on the walls or ceiling.	---
Unit 33	---	---	---	No cracks were observed on the walls or ceiling.	---

Conclusion and Recommendations:

1. Given the local damage and cracks on the observed grade beams, CMU walls, and walkways in one or more crawlspaces, repair and restoration process is needed for these areas. Engineering plans and selection of qualified contractors in the respective trades would be sought during the next phase of preparing bid documents. However, even at observed conditions, these areas are localized and are not in immediate risk of collapse or harm to human life. Grade beam in crawlspace 6, failed in one location. The concrete slabs above do not exhibit signs of abnormal stress. As such, the failure of this grade beam has a local effect on the structure above, but currently does not warrant fear of collapse. Absence of new cracks or expansion of cracks on the same beam from prior studies several years ago, indicate no observable incremental movement of the grade beam or structure. It would be repaired by flanking the lower sides (tension failure) by steel plates, then applying structural grout to fill the gaps.

2. As shown in the enclosed photos, it is observed that there are no signs of recent cracking or expansion thereof, or abnormal structural stress inside the residential units accessed. Absence of cracking indicates absence of movement.

3. Cracks observed on the exterior are either patched and painted over or are dusty and dark. This is an indication of lack of movement and that the cracks are historic. Any observed crack will be filled accordingly, but can be deferred as being not critical.

4. The preliminary compressive strength assessment of the hollow core planks was recorded as double as the acceptable compressive strength for intact sections and meet or exceed the acceptable strength for partially cracked slabs/beams. Cracked hollow core slabs may be repaired in similar methods to successfully repaired slabs.

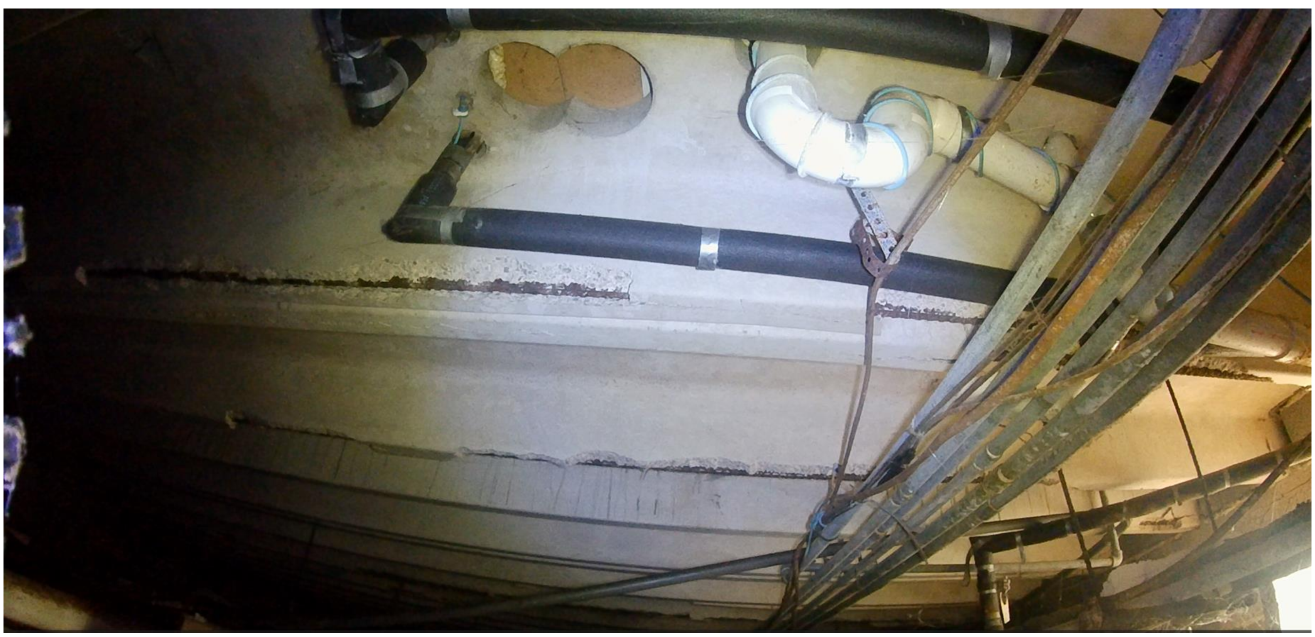
Therefore, based on the above, with a reasonable degree of civil and structural engineering certainty and based on my education, training, licensing, and experience with similar structures with deep foundations, that the structural elements have been partially and locally impacted and that none of the observed conditions constitute a high risk of structural collapse. It is also my opinion that the affected grade beam and the concrete beams have sufficient load-bearing capacity to carry and support the superstructure and common areas for a period not less than three (3) years and can extended based on follow up inspections and assessments. That being the case, repair plans are being prepared to address the need for repair as well as timeline for completion.

The recommendations for repairs entail installing steel plates on the lower sides of the grade beam and injecting grout into the cracks. Restoration of the spalling beams can be conducted upon the restoration of the grade beam. Restoration of the hollow core slabs can be conducted in a manner similar to what was successfully completed.

Photographs

Corrosion of reinforcement and concrete spalling in some of first floor beams (crawlspace 1)

(Crawlspace 1A) Inaccessible Due to Utilities Pipes.
Note that concrete and reinforcement corrosion are in not in advanced stage



Corrosion of reinforcement and concrete spalling in a few of first floor beams. Most are likely caused by chipping activities (crawlspace 2)

(Crawlspace 3)
Approximate 1% of Corrosion of reinforcement and concrete spalling in one or more first floor beams

(Crawlspace 4)
Note No observed reinforcement corrosion or concrete spalling

Crawlspace 5
Approximate 1% of Corrosion of reinforcement and concrete spalling in first floor beam

Crawlspace 6
Note that there are cracks in the grade beam and the CMU wall. Also note that the condition of the U-Shaped beams is acceptable with no evidence of deterioration (minor sporadic spalling)

Crawlspace 6
Note that there is water leakage (top) and spalling at the non-bearing CMU wall (bottom). CMU appears to be due to hammering and chipping

Crawlspace 7
Note that there is a small crack in the grade beam near intrusive plumbing activities. This is local and is not due to subgrade failure.

Crawlspace 7
Note that the CMU wall and the planks are in an acceptable condition

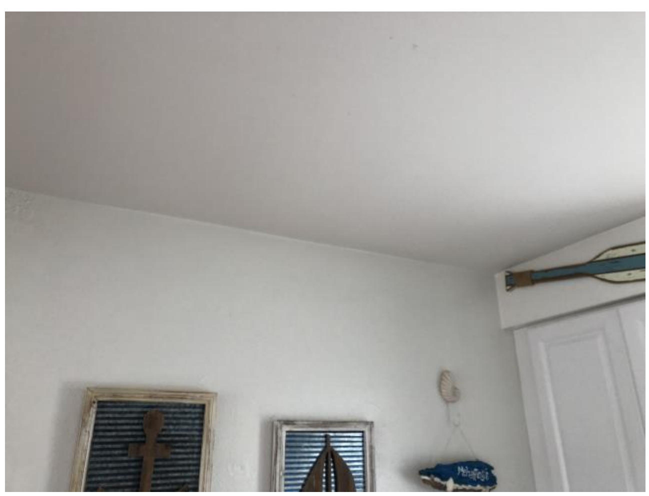
Crawlspace 8
Note that the planks and CMU are in an acceptable condition with localized spalling

Crawlspace 9
Note that there is a crack in the CMU wall need to be repaired.

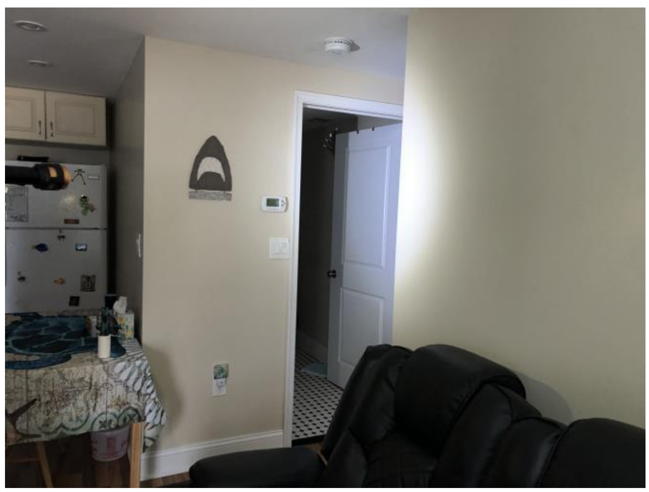
Northeastern side (Units 14 and 30)
Note limited wall cracks

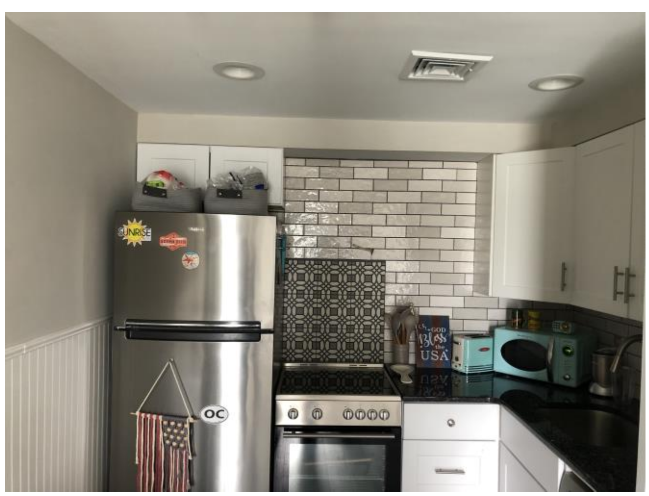
Southwestern side (Units 17 - exterior)
Note cracks through the walls

(Units 18 – interior)
Note moisture cracking of the surface cover on the ceiling



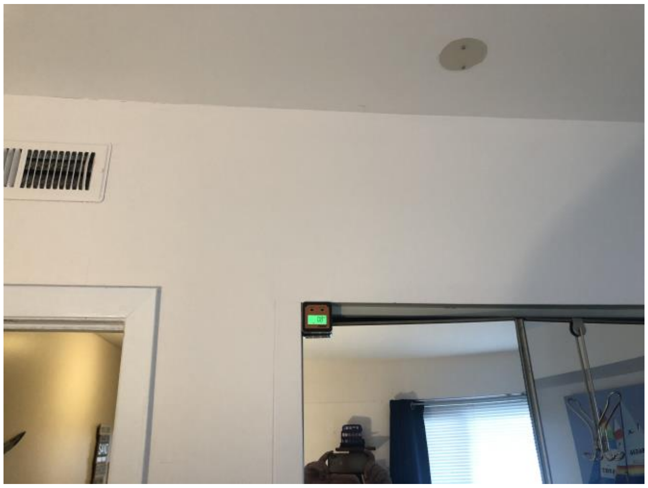
(Units 22 - interior)
No visible cracks





(Units 26 – interior)
No visible cracks

(Units 19+32 – interior)
No visible cracks



(Units 19+32 - interior)
No visible cracks

2nd Floor walkways
Note cracks with need of repairs or restoration

(Storage Room)
Note the lintels pitched (by design) to facilitate roof drainage

Safwat Tadrous, P.E. CV

Safwat Tadrous, P.E. – Principal Engineer of TADCO Engineering & Environmental Services, LLC obtained his Bachelor Degree in Civil Engineering and Environmental Science- New Jersey Institute of Technology, Newark, New Jersey in 1986.

Safwat Tadrous, P.E, C.M.E, has over thirty (30) years of experience in civil, structural and environmental engineering, construction management, and engineering management. Mr. Tadrous' advanced professional courses and training include hydraulics, hydrology, coastal engineering, and environmental remediation. He holds the following related licenses, registrations and certifications:

1. State of New Jersey Registered Professional Engineer (#24GE03716800)
2. State of New York Professional Engineer (081817-1)
3. Certified Helical Piles/Mini Piles engineer, designer and installer.
4. New Jersey Certified Municipal Engineer. (CME577)
5. State of New Jersey D. E. P. Certified Underground Oil Tank Operator *(includes testing, installation, closure, and subsurface investigation)* (License #0021291, Reg. #0021291)
6. U.S. Housing and Urban Development Certified HUD203K Plan Consultant, Plan Reviewer and Inspector (HUD203K #P0879)
7. OSHA Certification (40 hrs.)
8. State of New Jersey Licensed Home Inspector (#24GI00032300)
9. State of New Jersey Licensed Lead Inspector / Risk Assessor (#031240)
10. Certified Mold Sampling & Testing Technician
11. State of New Jersey Home Improvement Contractor #13VH02789900

Mr. Tadrous' experience and expertise has been cultivated throughout his employment including the following engineering firms:

Vollmer Associates, New York City: January 1985 – September 1985
During early educational period, Mr. Tadrous engaged in the inspection of The Brooklyn-Queens Express Way and the Van Wyck Express Way in NY State for a period of nine (9) months.

Responsibilities included conducting field assessments, measurements of high bridges steel and concrete components of underdeck and abovedeck.

Johnson Engineering, Morristown, NJ: May 1986 through June of 1994 as staff or consultant.
Mr. Tadrous conducted site planning, subdivision, site design, stormwater management, floodplain management, dam and stormwater detention design/breach analysis, spillway design, highway culvert and winged wall design, grading, foundation drainage, retaining wall design and evaluation, including construction monitoring.

Carpenter Environmental, River Vale, NJ 1989:
Conducted subdivision designs and drainage analysis.

Brown Engineering E&C, Berkeley Heights, NJ. 1990
Conducted various site plan design, drainage design, tank farm truss supports, water tanks buoyancy control, secondary containment design, and chiller tower supply lines design.

Joseph R. Loring, New York City. 1991-1992
Site utilities and drainage for Kings and Bellevue hospitals, and large facilities (NY), and BASF (NJ)

For over 30 years TADCO has been a leader in the engineering and environmental industries. Headquartered in northern New Jersey, this organization is committed to client satisfaction by providing diverse, comprehensive professional services. From initial contact to project completion, TADCO's staff of engineers and environmental professionals delivers solutions to its clients founded upon extensive education, training, and knowledge of industry, products, codes and regulations. TADCO achieves its goals through continually upgraded quality control measures covering every client, every project at every stage.

TADCO's exemplary reputation is greatly attributed to its client-loyalty approach, which has yielded a dedicated clientele and a large referral base. By listening to its client's needs and preparing a customized course of action, TADCO ensures its clients are offered the care that exceeds their expectations. Furthermore, the company encourages clients' feedback and evaluation of its services, promoting effective communication at all stages of the project.

TADCO Engineering and Environmental Services, LLC - Formerly TADCO Inspection Services Company (March 1992-present)
Conducted numerous structural evaluation and design of residential, commercial and industrial buildings throughout New Jersey and New York States. Services were expanded to include Non-Destructive Evaluation (NDE), Subsurface engineering and environmental scanning (GPR), soil investigation, structural damage analysis for residential structures, numerous site-specific investigations and designs related to structural failure analysis, expert testimonials for contractual disputes, storm-related damages and floodplain inundation through utilization of sophisticated monitoring and modeling systems, sensors, and field-testing equipment.

TADCO provides subsurface scanning, steel rebar locating, non-destructive concrete strength analysis, thickness scanning, and helical pile underpinning design, monitoring and installation services.

Numerous structural upgrades and repairs were conducted by TADCO in addition to being retained for site management or oversight including residential and commercial projects.

TADCO conducts pre-demolition investigation, demolition monitoring and construction advisory services for the construction industry.

TADCO conducts construction inspections including footing, foundation, helical piles installation monitoring, steel and wood framing inspections, retaining wall inspections and modifications/upgrades, historic structures restorations, pre-demolition and demolition monitoring and shoring plans.

TADCO has been a leader in the environmental remediation field providing services ranging from Conducting Phase I and Phase II environmental screening and investigative services to conducting Geophysical probing and investigation services for all media.

TADCO conducts subsurface scanning utilizing the most advanced Ground Penetration Radar (GPR) which utilizes real-time satellite communication enabling 3-D imaging for pipe, conduit, transmission lines and large objects as buried tanks and vessels.

TADCO conducts soil, groundwater and soil gas investigation utilizing most advanced Geoprobe technology even in restricted access areas. Onsite test labs are available for remedial investigation process.