Narrative

The Towers Condominium Association
1221 N. Dearborn Parkway
Chicago, IL 60610

Re:

- Swimming Pool Renovation – Observation / Recommendation Report

To Whom it May Concern:

Please accept this 'Observation / Recommendation Report' as documentation associated to the existing Swimming Pool and respective filtration equipment located at 1221 Dearborn St., Chicago, IL 60010. This document includes observations made during Aquatic Design Parnters' (ADP) site visit completed on Thursday 02/08/2024.

Observations have been organized by general site location (Swimming Pool basin and Equipment Room, and utilization of cardinal directions for specific references). Associated photo references have been included and recommendations have been provided. Please note that recommendations have been assigned a priority rating based on a scale of High, Moderate, Low. All photos and notes taken by ADP can be found at this link:
https://www.dropbox.com/scl/fo/vu90qldrodo3svomvab4n/h?rlkey=eckgru5apy3jrafj1y1i91ycs&dl=0

Note: Websites such as Redfin, Chicago Apartment Finders, and Urban Real Estate, were referenced by ADP was able to see photos of the pool and pool deck prior to the demolition.

Appendix "A" of this report, provides sketches and narrative of the likely swimming pool that can be installed for pricing and conceptual consideration.

Findings and Recommendations:

A = Recommendation will be necessary due to building operations and code requirements, or recommendation is based on established scope provided by client.
B = Recommendation may be necessary but are yet to be determined via. reviewing agency.
C = Recommendation is not required but is advised for industry standards and best practice.

I. Swimming Pool:

1. Observation: North wall of exposed concrete structural wall/beam shows signs of deterioration behind where the previous pool coping/top of wall had been located:

a)
b) Recommendation: (A) Prior to any new swimming pool design/installation, it is recommended that the existing concrete enclosure be deemed structurally adequate to accept any expansion anchors, or bare any structural load. This certification shall be provided by a structural engineer.

2. Observation: Southeast corner of exposed concrete structural wall/beam shows severe spalling to the point of exposed rebar. :

a) 

b) Recommendation: (A) This area will need to be examined by a professional forensic structural engineer to confirm the extend to which existing concrete structural rebar has been compromised. The area was likely exposed to chloramines if the previous swimming pool's water chemistry was not constantly/properly maintained. Prior to any new swimming pool design/installation, it is recommended that the existing concrete enclosure be deemed structurally adequate to accept any expansion anchors, or bare any structural load. This certification shall be provided by a structural engineer. This area will also need to be "leveled off" to allow for anchoring of new swimming pool steel liner supports.

3. Observation: Various areas around the pool, especially those areas "boxed out" at the top of the pool wall show signs of spalling and staining from rebar exposure. The "box outs" may have been used to accommodate old swimming pool gutter piping drop outs. Original swimming pool construction documents will need to be provided to ADP prior to confirmation:

a) 

b) Recommendation: (A) The entire concrete enclosure needs to be examined by a professional structural engineer to confirm that the concrete enclosure is adequate to support a new swimming pool.

4. Observation: Existing concrete support slab slope exceeds the maximum Illinois Department of Health (IDPH) allowed slope of 1:12 for swimming pool floors. Any new swimming pool shall also be of a stainless-steel nature (min. Typ. 304L stainless steel).:

a)

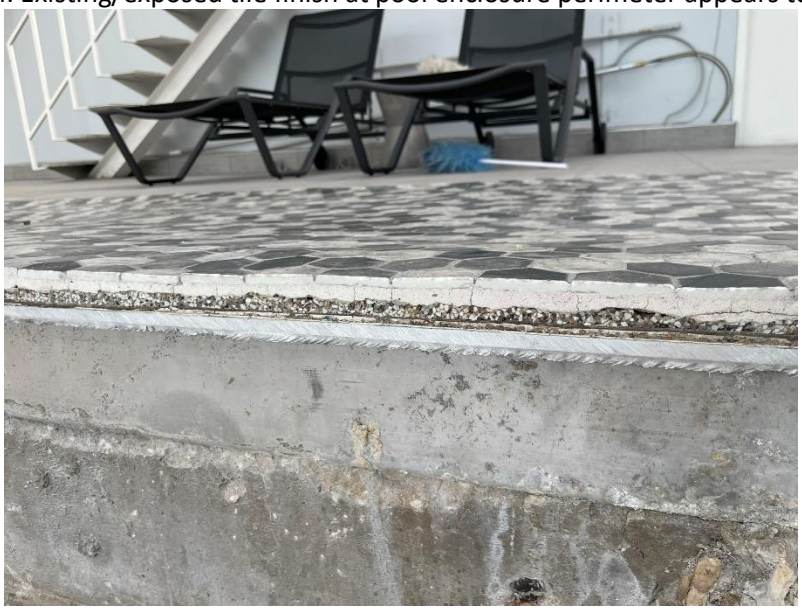
b) Recommendation: (A) Prior to installation of any new stainless steel pool liner, a fluid applied waterproofing membrane shall be applied to the existing concrete enclosure and leak tested. A min. 3" thick light weight concrete fill shall be required to accommodate maximum allowed pool floor slope of 1:12. Due to the swimming pool's location above residences, stainless steel swimming pool shall be installed with Unistrut bracing support. The bracing shall be anchored into the existing swimming pool concrete structural walls/beams and new light weight concrete topping slab.

5. Observation: Existing penetration in Southwest corner of swimming pool floor slab has single penetration for main drain (assumed to be previous swimming pool's main drain, but original swimming pool plans are needed to verify):

a) 

b) Recommendation: (A) Any new swimming pool will require the main drains to be anti-entrapment compliant, and subject to the Virginia Graeme Baker Pool and Spa Safety Act. (2) Main drains spaced no closer that 3'-0" apart will need penetrations into the existing floor slab. Likely to be 2" or 3" schedule 80 piping (dependent upon final design selection). The existing penetration shown above can be reused as an "emergency weep drain" and routed to an open site hub drain for observation of any potential leaks that need to be addressed.

6. Observation: Existing/exposed tile finish at pool enclosure perimeter appears to be in good condition.

a) 

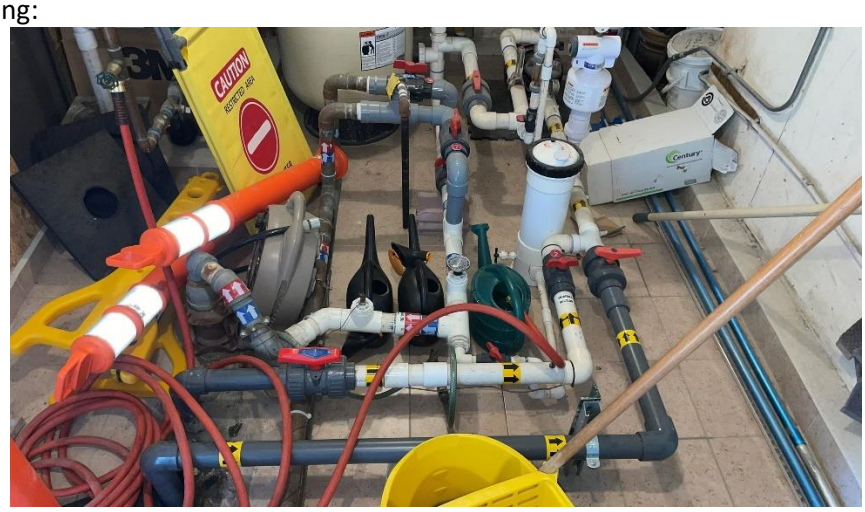
b) Recommendation: (A) Any new swimming pool will require a continuous steel flashing tied into the existing pool deck and tile finish. Same tile must be used to avoid regulatory issues with IDPH. I.e. if same tile cannot be found and reused, new tile will be required. This will "trigger" upgrades to the entire pool deck per IDPH direction provided the week of (2/19/24).

7. General Observation: Interstitial space under deck and between the swimming pool and existing equipment room will need to be accessed to route/connect any new filtration recirculation piping.

a) 

II. Swimming Pool Equipment Room:

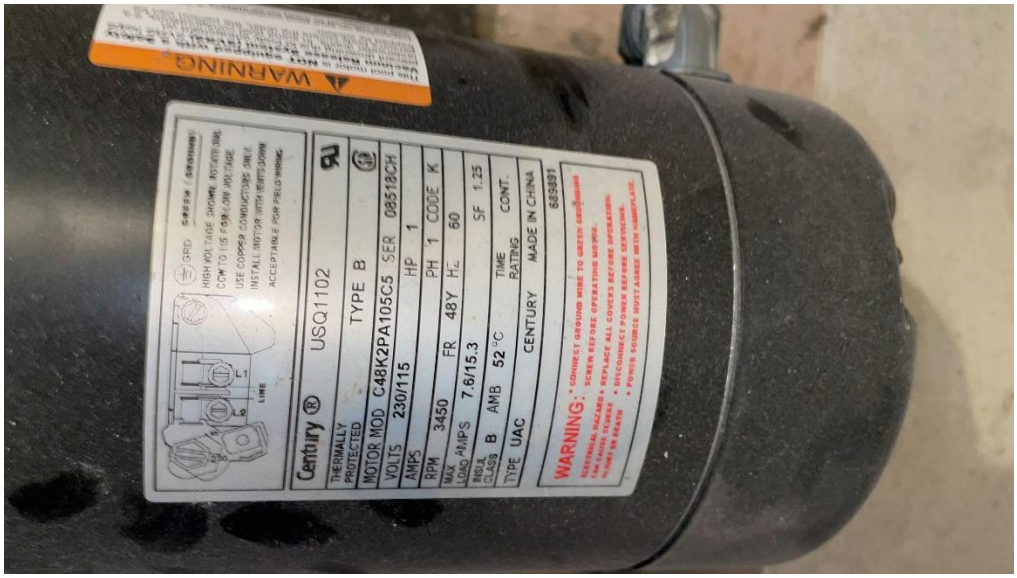
1. Observation: Swimming pool filter recirculation piping has a mix of copper, Schedule 80 PVC and Schedule 40 PVC piping:

a) 

b) Recommendation: (C) For system flowrate consistency and ease of material availability during maintenance, it is recommended that all piping be replaced. Any new recirculation piping shall be all Schedule 80 PVC. Swimming pool heater bypass piping shall be of Schedule 80 CPVC. Pipe sizing is subject to final pool design/volume, but likely to be 3" to 2" piping.

2. Observation: The existing swimming pool heater and filtration pump are assumed to be from the previous swimming pool's operational history. It is unknown how long the equipment has been sitting unused:

a) 



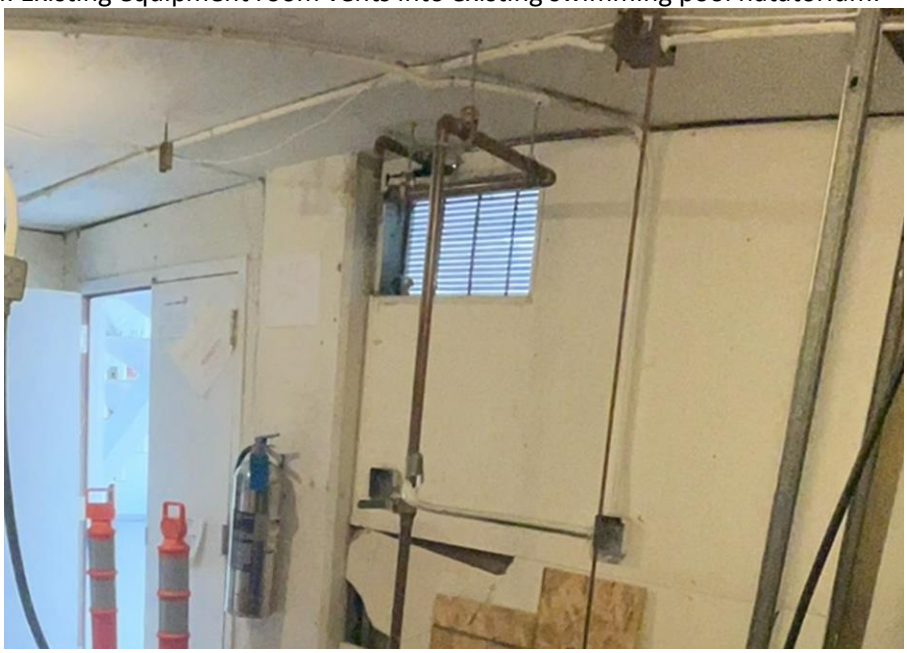
b) Recommendation: (C): Replacement of existing filtration pump and heater with new. Coordination with mechanical and electrical consultant required for either gas fired heater or electric heater. Long term cost savings can be gained via gas fired heater, or exchanger coordination with building HVAC system. New equipment utility load demand on existing electrical service dependent upon new swimming pool final design. To be coordinated with electrical engineer.

3. Observation: No 6” air gap at backwash/pool drain point of discharge to sanitary waste:

a) 

b) Recommendation: (C) New backwash piping shall simply have a 6” air gap at point of discharge to existing sanitary.

4. Observation: Existing equipment room vents into existing swimming pool natatorium:

a) 

b) Recommendation: (C) While not an IDPH Code compliance issue, it is recommended that an equipment room be vented into unoccupied space.

We thank you for the opportunity to assist and provide this report. Please let us know of any questions.

Sincerely,

Tyler Dailey

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Appendix – A:

Initial Basic Conceptual Briefing of Potential New Filtration System and New Swimming Pool Construction

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SWIMMING POOL

Approximate Pool Perimeters (Dependent upon final design).**:**
Capacity: Approx. 7,000 gallons
Flowrate – 40 GPM
Turnover rate – 2 hours 55 minutes
Size - 20'-2" x 18'-7"

Size and Depth: The swimming pool will be approximately 375 sq.ft. and includes in-pool stairs along the entire side of the east side with handrails. The anticipated water depths of the pool are 2'-7" to 3'-7".

Construction:
The pool construction will be stainless steel with Unistrut supports. The walls will be 10-gauge type 304L stainless steel and the floor will be 3/16" type 304L stainless steel. The floor and walls will be supported with P-1000, or P-5500 epoxy coated Unistrut anchored to existing concrete enclosure. The stainless-steel pool structure will be located inside an existing concrete enclosure.

Finish:
For cost considerations, the pool finish will be stainless steel with sandblasted pool floor and stair treads. The pool walls will be polished stainless steel. The leading edge of the stair treads will have a minimum of 2" wide contrasting stripes. All horizontal surfaces will have slip-resistant properties.

Lighting:
The pool will also include in-pool underwater white LED lights to meet IDPH underwater lighting requirements. The lights will require 12 volt 1-phase power with G.F.C.I. protection provided by the electrical engineer.

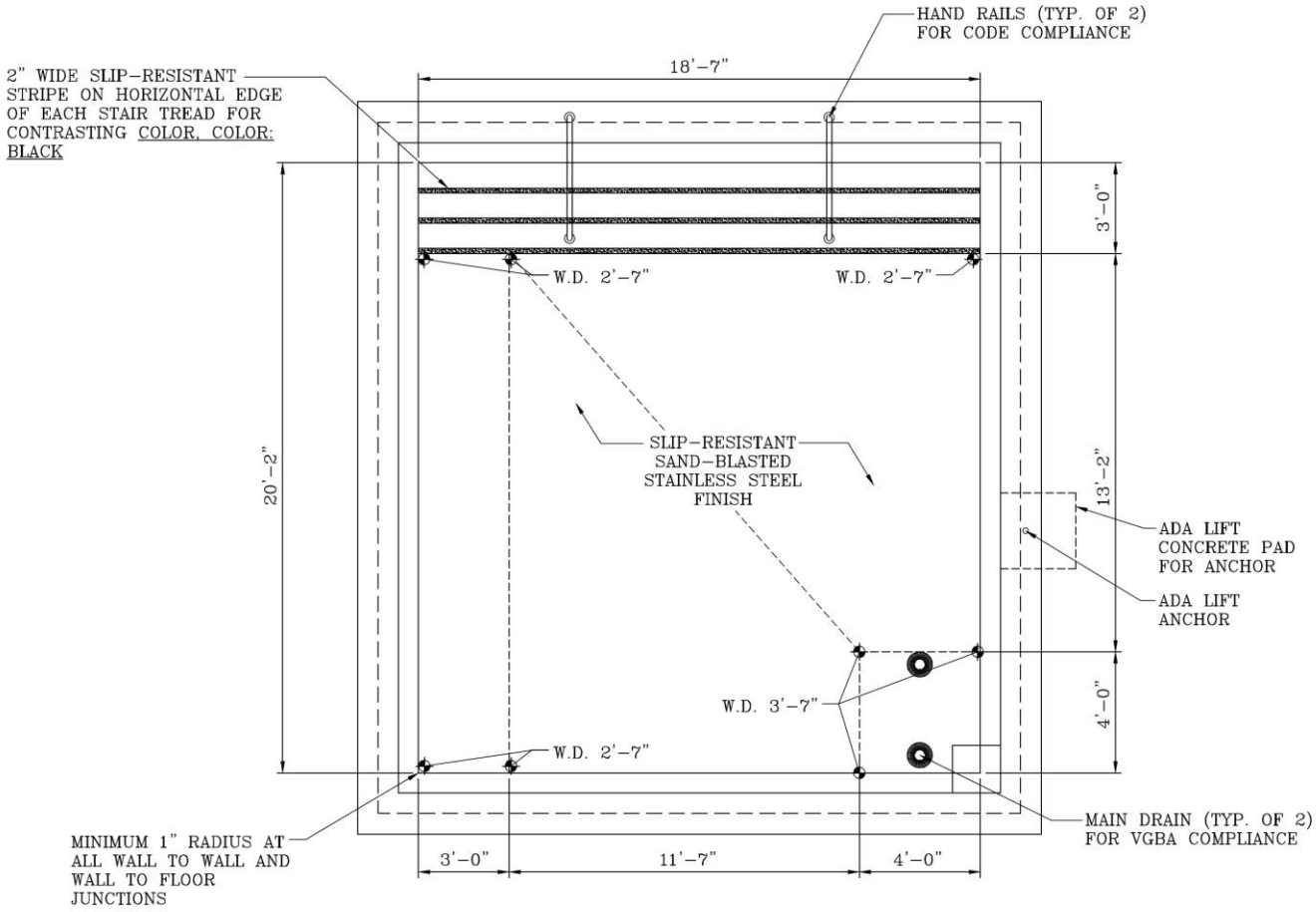
Recirculation System:
The pool recirculation system will be a skimmer. This skimmer style locates the water level in the pool 6 1/2" below the handhold.
The pool will be provided with a minimum of two VGBA compliant main drains or one unblockable main drain. The filtered water will be returned to the pool via supply inlets which will be in the pool wall.

Water Level Controller:
An automatic water level controller and sensing probes to maintain proper water levels will be provided in the equipment room. The water level fill pipe will be located on the pool level in a secured closet/ planter. The controller will require 120 volt, 1-phase power with G.F.C.I. protection.

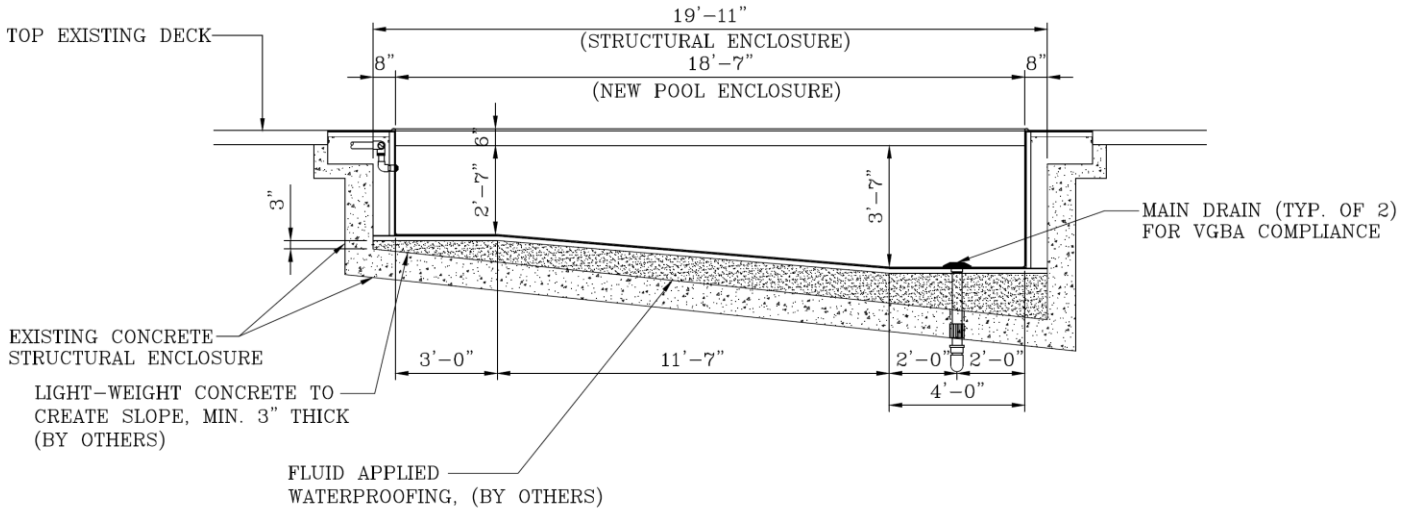
ADA Access:
A battery-powered ADA compliant pool lift shall be provided. The lift shall be provided with arm rest, footrest, seat belt, remote control, battery charger and extra battery.

Filtration System:
The pool filter will consist of a high-rate sand filter with influent and effluent pressure gauges. A backwash receptacle connected to sanitary will need to be provided. (Pentair TR-60)
The pool pump will consist of a self-priming pump with an influent vacuum/pressure gauge and effluent pressure gauge. The pump will require 208-230/460 volt, 3-phase power will need to be provided. (Pentair WFK-4)
A H2Flow Controls flow meter will be provided for monitoring the filtration flow rate.
The pool water will be heated by a electric heater with thermometers and an aquastat hi-limit sensor. The heater will require 208 volt, 3-phase power with G.F.C.I. protection.

Chemical System:
The pool chemical treatment will utilize Calcium Hypochlorite for chlorine distributed by an erosion-style chlorinator, and Sodium Bisulfate for acid distributed by a chemical metering pump.
Chemical levels will be monitored and adjusted utilizing an automatic chemical controller. The chlorinator and chemical controller will each require 120 volt, 1-phase power with G.F.C.I. protection. The acid metering pump plugs into the chemical controller and does not require a separate power supply.



Plan View (Top of Page Is Eastward Facing)



North-South Section Facing East

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