

OBSERVATIONS (Continued):

- c. A new pool can be no more Eastward than the existing pool;
 - d. The City of Boca Raton will require Site Plan Approval and may require a variance.
29. Mr. Stubbs recommended that a Site Planner produce a comprehensive Site Plan indicating the scope of the proposed new pool and deck construction / work to submit to the City of Boca Raton for Site Plan Approval and, if required, a variance. Subsequent to City approval, the Site Plan would be submitted to the Department of Environmental Protection.
30. Review of the rendering of a proposed redesigned pool and deck revealed that the new pool would have a larger footprint than the existing pool and the new deck layout would be enlarged by removal of the pool equipment building. It was noted that portions of the new pool were East of the existing pool.

CONCLUSIONS:


Based on field-observed conditions, review of Client-furnished materials and related experience, the conclusions of this evaluation are, to the best of my professional understanding and belief, as follows:

1. The overall design, appearance and layout of the pool, deck and pool equipment building are dated. Specifically, the raised precast coping and small-sized brick pavers are typical design features of the 1960's. The 8' depth of the pool results in a relatively large portion of the pool being unusable by non-swimmers and the younger population. Additionally, the pool equipment building is located such that it isolates a deck area West of same from the pool and visually occludes the ocean view from this deck area.
2. As reported in the Observations, the pool shell appears to be structurally sound and the pool finish is in generally good condition. However, the beam/gutter, gutter drain grates, gutter tile grout, cap tiles at the steps and raised precast coping stones all show signs of aging and wear and tear damage.
3. The pool deck adjacent to the steps in the Northeast corner of the pool has settled. Additionally, the Southeast corner of the pool appears to have settled unevenly relative to the remainder of the pool. This condition of induced stress on the pool shell could cause crack(s) in the pool shell over time. Soil testing is recommended to determine the condition of the soils underlying the deck and pool.
4. The pool equipment building has not visibly settled nor deteriorated, however it is located such that relatively loud equipment noise can be heard in the pool and deck area and, as reported above, it isolates a deck area West of same and visually occludes the ocean view from this deck area.
5. The electrical panelboard in the pool equipment building is to be replaced with a code-compliant unit that is installed in a good workmanship manner in accordance with the National Electrical Code and safety standards.

CONCLUSIONS (Continued):

6. As reported in the Observations, the pool equipment appears to be in fair to good condition. You indicated to me that upgrades to the pool equipment are being considered to include: a salt generator to replace liquid chemical feeders, a change from the cartridge filter system to sand filter(s) and relocation of the gas heater from outside to inside.
7. A salt water chlorination system (salt generator) combines dissolved salt and electrolysis to produce typical sanitizing agents resulting in somewhat "softened" pool water with less chlorine odor. The system, specifically the electrolytic cell, must be properly maintained and the chemistry / pH level of the pool water must also be maintained for the proper operation of the system and optimal pool water conditions. Note, under present codes, salt generators are accepted as a back-up system only to liquid chemical feeders. That is, the chemical feeders must be retained.
8. The benefit of a rapid sand filter would reduce maintenance time as the filters have an automatic backwash (cleaning) feature. Either filter system is suitable.
9. The gas heater is exposed to the elements, resulting in a diminished service life. You indicated that it was costly to operate. A properly designed and sized ground source (geothermal) heat pump should be considered as a replacement to a gas heater. Additionally, this equipment could be used to cool the pool water as needed.
10. The main drain appears to be connected directly to the recirculation pump. This is in violation of the 2010 Florida Building Code and the Virginia Graeme Baker Pool and Spa Safety Act / anti-entrapment act. As such, a properly-sized collector tank is required to bring the pool into compliance. Additionally an approved main drain (correct sump configuration, unblockable drain or two approved drains) is required.
11. The approval / permitting requirements for a new pool, as they relate to this project wherein the new pool would be East of the coastal construction control line, are as follows:
 - a. A Site Plan should be produced to depict the scope of the new pool and deck project;
 - b. The City of Boca Raton will require Site Plan Approval and may require a variance;
 - c. A Department of Environmental Protection permit would be required for pool replacement (new pool);
 - d. The Department of Environmental Protection would require that no net excavation be done (no viable beach sand removed East of the coastal construction control line);
 - e. A new pool can be no more Eastward than the existing pool.

CONCLUSIONS (Continued):

12. The redesigned pool and deck (rendering only reviewed) appears to be superior in layout to the existing structures and would serve a higher and better use of the property. The proposed redesign would require modification to bring the East wall of the pool in line with the East wall of the existing pool while maintaining a 48" minimum deck width around the pool.
13. The long term (44 years) exposure of the pool structure to the corrosive ocean environment typically results in chloride contamination of the concrete. Chloride contamination leads to reinforcing steel corrosion and concrete spalling. Despite the fact that there was no visible evidence of steel corrosion or concrete spalling, it has been my experience that these conditions are revealed during repairs and renovations. As such, modification of the existing pool shell and/or beam/gutter, to accommodate an expanded pool footprint or modern gutter design, is not recommended. 
14. A pool contractor would provide a warranty period for new pool construction, whereas pool repair work is typically not under warranty.
15. Pool equipment purchase and installation typically includes a product warranty and/or product replacement feature under appropriate conditions.
16. The retaining wall, located East and South of the pool area, is in generally good condition, except as follows: The spalled concrete panel and corroded reinforcing steel, South of the beach access stairs, are to be repaired in accordance with accepted practices.
17. You brought to my attention an enclosed area at the entrance to the parking garage as a potential location for pool equipment. I herein conclude that:
 - a. This space is sufficient in size for the existing or proposed pool equipment.
 - b. The collector tank would be installed at the pool deck level and therefore would not be housed in this area.
 - c. A pool equipment room or enclosure must be locked to prevent unauthorized access.
 - d. This area appears to be a passageway between the pool deck and the garage and if so, it is not an appropriate location for the pool equipment.
 - e. The spalled concrete at the pass door requires repair and the pass door requires replacement.