



STAFF REPORT

DATE: October 5, 2022

TO: Ty Lasher - City Manager
Bel Aire City Council

FROM: Brian Hayes – Recreation Director

RE: Pool Surface

SUMMARY: Per instructions, staff has assembled preliminary information and estimates for re-plastering the Central Park Pool as well installation of a 60 mil commercial vinyl liner.

HISTORY: The Central Park Swimming Pool was constructed in 2005 as part of the original phase of the Central Park development. The pool was designed and constructed as a HOA amenity comparable to a large hotel pool. The original plan for the pool was for the Central Park Homeowners Association to take over operation of the facility as the development progressed. Those original intentions never came to be as the homeowners associations successfully cut ties to the pool in 2019.

Construction of the pool basin in 2005 took place during a rainy spring. The plan was to open the pool that summer but the concrete pool bottom failed shortly after it was poured due to suspected groundwater. Needless to say the pool did not open that year. Structural engineers recommended to remove the bad concrete, patch holes, seal cracks, and pour a cap over the affected area which took place in early 2006. The original contract included a plaster surface which was installed and the pool opened for business that Memorial weekend.

Plaster surfaces have an estimated 8-10 year life so the pool was re-plastered in 2015. Again, Mother Nature did not cooperate with a rainy spell before the re-plastering was complete. After the pool opened that year, a large portion of the new plaster bottom failed, again attributed to suspected groundwater. The pool then was closed for about 3 weeks in June while the old plaster floor was removed and replaced.

DISCUSSION: The current plaster surface is 7 years old and is showing signs of wear .The surface is becoming a bit porous and is rough in places resulting in maintenance difficulties as well as being rough to the touch. Unfortunately most concrete/plaster pool surfaces are rough due to their nature. The rough surface is susceptible to algae growth, harder to clean, and sometimes require more chemicals. Pool toes (*see attachment*) is also an issue with plaster pools even with newer surfaces. Truth is when swimmers are in the water for long periods of time, skin becomes tender and some feet get abrasions. Most of this subsides after their feet become callused. Water shoes can be worn to alleviate this if swimmers so choose.

If decided upon to re-plaster the pool, the recommended time to re-plaster would be the fall, typically because it's dryer and a lessor chance of groundwater issues that this pool has experienced since it was constructed. Once the plaster is completed and the pool is refilled, there is less chance of failure due to the ballast of the water in the pool.

Staff has had a difficult time obtaining quotes for re-plastering. Only one local company has been identified that may do this work and they have not yet submitted a quote. We spoke to an Oklahoma company who agreed to submit a quote but since has not responded to follow-up emails or phone messages. We were told by a local pool builder that this outfit is semi-retired and is notorious for picking and choosing work performed. One quote (*attached*) was submitted by Mid-West Plastering out of Kansas City for \$31,350. This quote was sight-unseen so depending on the condition of the plaster when drained could be more.

As an alternative to plastering, information and 3 initial estimates (*attached*) were received for installation of a 60 mil commercial vinyl liner that have limited 10 year warranties. We have extensively visited with these companies, pool builders and other professionals about the feasibility of installing a commercial liner to the Central Park Pool. A liner would be a large undertaking but would be an upgrade to the existing surface. The result would be a pool surface that would be smoother, easier to clean, and should require less chemicals. Right now although we have quotes for liner installation that range from \$52,000-\$73,000, there are many unknown costs and variables that need to further be researched by professionals in the field.

The main issue is with groundwater entering into the pool basin when empty. This pool was designed and constructed with no underground drainage. We have been informed that there are things that can be done such as installation of hydrostatic relief valves, underground drainage components, and pumps that can minimize groundwater entering the pool basin. A solution to this issue would be required before a liner could safely be installed.

Other liner issues to be considered are removal of the existing underwater tile, underwater light replacement, and possibly even having to reconfigure the ladder steps that are currently built into the sides of the pool.

Like re-plastering, liner installation would be best done in the fall typically because it's dryer and a lessor chance of groundwater issues. Once the liner is installed and the pool is refilled, there is less chance of failure due to the ballast of the water in the pool.