

Pool Renovation Guide



before



after

This guide will help you
become familiar with the pool renovation process,
your options and the results.



AquaThority
POOLS & SPAS, LLC

the clear choice in pool care



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Introduction

Renovating your swimming pool can be a matter of simply restoring it to its original luster by replacing all or parts of its coping, tile, plaster and equipment with new materials and components. Or, if you wish, it can be an opportunity to upgrade your pool's look and functionality altogether.

The decisions of what, and how much, are entirely yours. If you so choose, AquaThORITY will assist you with the discovery process and then bring your pool renovation to life. We will:

- personally inspect and assess your pool's condition and functionality
- prepare a proposal itemizing material and labor costs for each task
- guide you through your coping, tile, plaster, decking and other options
- personally coordinate, execute and manage the entire project, start to finish
- back-up our work with a comprehensive warranty and ongoing support

NOTE: We do not subcontract the work; our employees perform all of the tasks with owner oversight.

Renovation Indicators

The most common renovation indicators are loose, displaced or crumbling tile and/or coping, worn and pitted plaster, and deteriorated concrete decking.

Coping and Tile

The common sequential cause-and-effect of loose coping and/or tile is:

- freezing water causes the initial disruption of the coping and/or tile
- progressive deterioration of coping pointing and/or tile grout ensues
- perennial freeze-and-thaw eventually dislodges the coping and/or tile

Tap-Test

The homeowner tap-test:

- using a hammer of substance, drag or tap the coping and tile of the pool
- hollow sound indicates that the coping and/or tile are not firmly set (loose)
- solid sound indicates that the coping and/or tile are firmly set (tight)

Remedies

If the hollow condition is limited to a couple of locations, then resetting or replacing the affected coping and/or tile is worthy of consideration; however, if the condition is prevailing, then it's likely that all of your coping and tile needs to be replaced.

Plaster

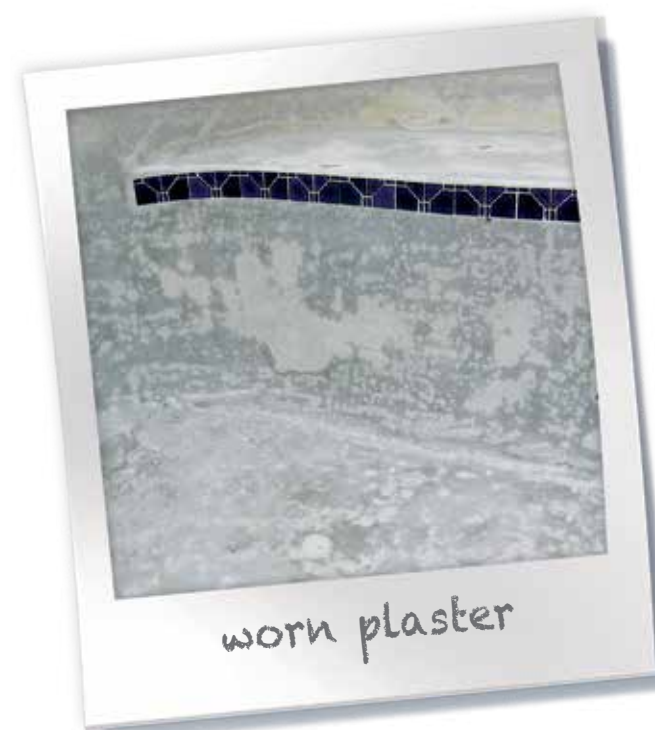
Worn, pitted and scaled plaster most often is an indication of age and/or poor water chemistry. While some plaster conditions may be improved through water chemistry, extreme conditions may only be remedied with new plaster.

Please reference our New Plaster Guide for more information about plaster and our Water Chemistry Guide for specific water chemistry instructions.

Decking

Cracked, broken, disrupted and worn concrete decking can be the result of a number of factors: age, erosion, freeze/thaw heaving and settling, etc. Decking can be repaired, restored or replaced.

Please reference our Pool Decking Guide for more information about common concrete decking issues, remedies and options, including imagery.



Renovation Process

#1: Inspection

We will personally inspect, assess and record the condition and measurements of your pool; and leave with you with a renovation kit, including a full-color coping and tile catalog.

#2: Written Proposal

Several days following the pool inspection, we will email you a descriptive pool renovation proposal itemizing the costs for the relevant components: coping, tile, plaster, labor, etc.



#3: Material Selection

At our West Chester showroom, we will guide you through your many coping, tile, and plaster choices, and other pertinent materials – e.g. spray deck, equipment, etc. – in which you have an interest.

#4: Commencement

We will remove the cover (if one exists), drain your pool of its water (upon neutralizing, if needed) into the street or onto your property (if advisable), and remove the hydro-static plugs.

#5: Demolition

The pool renovation begins with the demolition of the pertinent components. As applicable, this entails the jack-hammering, chipping, excavating and disposing of: coping, tile, decking, etc.

#6: Installation

As applicable, we typically install in this order:

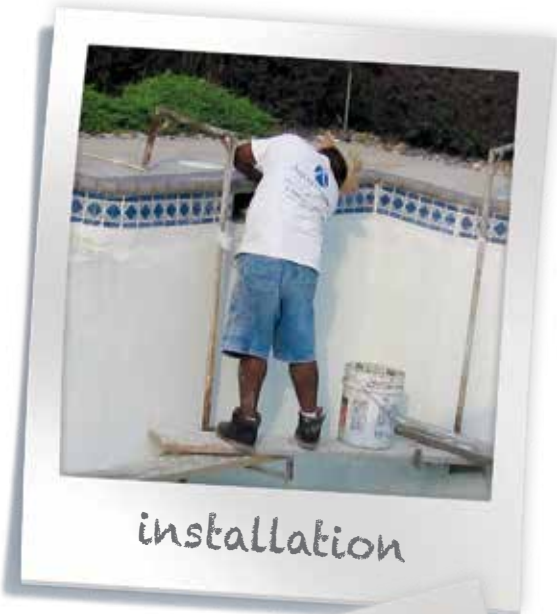
- coping
- tile
- decking
- plaster
- gap filling

#7: Remediation

During and following the renovation, we will clean-up and tend to any property disturbances resulting from the renovation process, e.g. ruts, debris and dirt.

#8: Start-up

Upon completion we will begin filling your pool with your hose and if you so choose, we will coordinate water delivery. Once filled, we will start-up your pool and tutor you accordingly.



installation



demolition



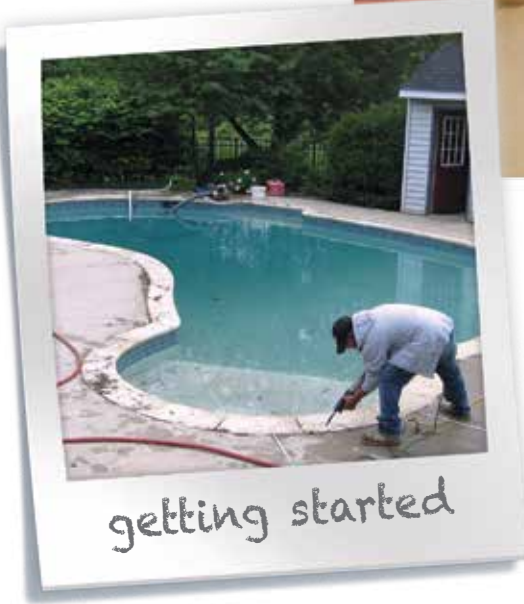
remediation



pool fill

Renovation Process

- Inspection
- Written Proposal
- Material Selection
- Commencement
- Demolition
- Installation
- Remediation
- Start-Up



getting started

Anatomy of a Pool Renovation

The primary components of a conventional concrete in-ground swimming pool are the shell, bond beam, coping, tile, plaster, filtration system and decking.

Shell

The shell is comprised of rebar and concrete: either shot-crete (cement, sand, and stone) or gunite (cement and sand). While a shell rarely fails, it can have cracks and/or deterioration to its steps and/or benches. If these conditions are discovered, they should be remedied on the occasion of the renovation.

Our shell protocol:

- visual inspection of the shell for superficial cracks
- as needed, grind-out and fill cracks with an epoxy
- check the steps and benches for hollow spots
- as needed, excavate and rebuild steps and benches

Most often, cracks are superficial (non-structural) and are repaired with an epoxy. Whereas the repair of structural cracks can be extensive and expensive, and require additional expert analysis. While rare, structural cracks are typically the result of pool shifting (aka: popping).

A pool is vulnerable to such movement when empty: to safeguard such, we remove the shell's hydrostatic plugs (when empty).

NOTE: Any and all repaired cracks can recur and/or exhibit discoloring; there is no warranty for such.



stripped shell



grind-out crack



fill with epoxy



crumbling steps



concrete repair



solid & complete



bond beam



rebar reinforcement



packed with concrete



solid & complete



travertine coping



stone coping



brick coping

Bond Beam

The bond beam (top of shell wall) is comprised of rebar and either shotcrete or gunite; coping is set in a bed of cement atop it. Upon the removal of the coping and its bed of cement, any soft or decaying conditions of the bond beam are then exposed, addressed and remedied.

Bond beam procedure:

- expose during the demolition process
- inspect and advise of its condition
- upon authorization, repair as needed

Most bond beam repairs are minor, and remedied when setting the new coping. In some cases, expansive portions, or the entire bond beam, may need to be rebuilt with new rebar and concrete.

Coping

Coping caps and hides the bond beam. It also provides: pleasant seating for bathers; keeps storm water out of the pool; and, transitions the pool to the surrounding decking to form a level meeting of the two bodies (except where the decking has shifted).

New coping:

- existing coping and its cement bed are removed, exposing the bond beam
- the bond beam is inspected and repaired as needed (with authorization)
- pitched away from the pool, new coping is set in cement atop the bond beam
- coping is pointed with gray cement and yellow sand (unless otherwise directed)

Today, the most popular and least costly coping material is coping bricks. Alternatives include: flagstones (e.g. fieldstone), imported stones (e.g. travertine), pavers (e.g. EP Henry), and other products.

NOTE: Natural stones may leech minerals and metals which can stain the surrounding materials.



applying brown-coat



applying thin-set



setting tile



grouting tile

Tile Band

The 6" tile band beneath the coping hides the scum line and also protects the plaster. The 2" or 3" trim tile (aka: running or spot tile) which adorns the façade or the top of the steps and benches, serves as a marker for those swimming, entering or exiting the pool.

New tile:

- existing tile is removed and the loose subsurface is chipped as needed
- cement foundation (brown coat) is applied and troweled to the surface
- new tile is set in white cement (thin-set) and grouted to match plaster color

New tile installed without new plaster may protrude. However, new tile with new plaster will finish flush. Pool shell irregularity can cause installation challenges: spacing and alignment may vary especially at the radiuses and corners where the tiles will be hand-cut to fit the irregular spaces and pitches.



complete



running tile (face)



running tile (top)



spot tile (top)

Trim Tile

An option when a pool is originally built or re-plastered, trim tile provides aesthetic and safety values. Defined as the tile which adorns the steps and benches as either spot tile or running tile, trim tile highlights the interior components to those entering or exiting the pool.

Two types of trim tile:

- Spot tile is evenly spaced on the top of the steps and/or benches
- Running tile is contiguous on the façade or top of steps and/or benches

Most appropriate at a dimension of either 2" or 3" square, trim tile is typically derived from the tile used for the tile band or, if circumstance dictates, another tile which is complementary to such. And because trim tile is embedded in the plaster, it is only an option for pools which are being plastered.



spot & running tile



water blasting



chipping plaster



bond coat

Plaster

Smooth and durable, plaster is the best finish for concrete pools. Still, plaster has inherent nuances. It's compounded from imperfect mined materials (cement and aggregate); hand troweled over irregular surfaces; and, subjected to the ill-effects of environment, foreign particles, and water chemistry.

New plaster installation entails:

- water-blast paint (if it exists) and acid-wash the surface
- inspect the surface and chip pop-offs and repair cracks
- apply bond-coat to the surface (to which the new plaster will bond)
- pump the plaster to the pool and shoot directly onto the surface
- hand-trowel the plaster to an even, smooth and hardened finish

Please reference AquaThority's New Plaster Guide: it presents the essential characteristics of plaster, types of plaster, new plaster care instructions, and other relevant information.



plaster truck



shooting plaster



plaster finishing



new hand rail



new piping



new drain



new skimmer

Filtration System and Equipment

Filtration systems and pool equipment can need updating or replacement for reasons of failure or efficiency; as can heaters, pool cleaners, chlorine feeders, lights, water features, automatic controls, etc.

A basic system is typically comprised of:

- drain(s) and skimmer(s): points of suction
- pump motor (and basket): creates suction
- valves (2 or 3 way): directs the water flow
- filter (D.E. is most common): filters the water
- return(s): returns the clean water to the pool

With highly efficient variable-speed pump-motors and heaters providing long-term paybacks through savings in fuel and energy consumption, replacement cost can be justified. Updated filters, chlorine feeders, automation, and pool cleaners can also deliver convenience and value.



new pool cleaner line



new equipment



broom concrete



wet-set stone



stamped concrete



spray-deck veneer



caulking

Decking

Typically pool decking is the area adjacent to, and surrounding, the in-ground swimming pool. The most common type of pool decking is concrete (broom finish, exposed aggregate, or stamped) which can become disrupted and unsightly over-time and, therefore, need repair, resurfacing or replacement.

Although there are numerous decking options, AquaThority provides four:

- spray-deck veneer: applied over existing concrete deck
- concrete: formed and poured with broom, exposed or stamped finish
- wet-set stone: travertine, flagstones (e.g. Pennsylvania), etc.
- dry-set pavers: interlocking, travertine, flagstone, etc.

Please reference our Pool Decking Guide for more information. And, if you're interested, we will provide you with supplemental information and costs based on your ideas, needs and budget.

Gap Filling

The expansion joint (aka: gap) is a buffer zone. Because decking can move and disrupt the coping, the gap which separates the decking from coping provides space for such movement. We fill the gap with sand, then limestone gray caulk with a sand topping, as a standard part of our coping renovation. The gap should be a minimum of .5" but typically varies in width due to existing circumstance.

NOTE: We do not warranty our gap filling due to expansion and contraction caused by freeze and thaw.

Surprises (the bad kind)

We don't like surprises either and, inasmuch as our initial inspection and assessment is thorough, sometimes there are hidden conditions which are not evident until the renovation is underway.



beam repair

Bond Beam

An aged bond beam can deteriorate from environmental ill-effects. The exact condition of the bond beam won't be known until the coping and tile are removed and it's inspected for soft, hollow or decaying conditions.

Because the bond beam supports the coping and tile, it's imperative to fix any deterioration. While most repairs are isolated and minor, in some cases, expansive portions of or the entire bond beam needs rebuilding (at an additional cost of \$24 to \$36 per linear foot). If discovered, we will show you the condition and advise you of the remedy and cost, and seek your authorization for such.



before



excavated



repaired



finished

Plaster Pop-Offs

A pop-off occurs when there is separation between the plaster and its underlying surface. A pop-off is discovered when the pool is empty and the plaster is inspected for hollow sounds. Applying new plaster to a pop-off is improper. Plaster pop-offs need to be chipped and removed.

Pop-offs are more likely to occur with pools which have been plastered more than once. Typically, they are limited to several spots and will be chipped at no charge. However, if extensive chipping of expansive portions of plaster is required, then a cost of \$3.50 per square foot will be charged (for chipping, removing and discarding).

NOTE: While unlikely, repaired pop-offs can display color variations; there is no warranty for such.



pop-off



plaster chipping

Cracks

There are 2 types of cracks: superficial and structural. And there are 2 common causes of these cracks: shell expansion/contraction/movement, and/or plaster expansion/contraction (aka: craze cracking).

Most often, cracks are superficial (non-leaking) and readily repaired. Structural cracks can occur in the event the pool moves or shifts (aka: popping). A pool is vulnerable to such movement when empty: we remove the shell's hydrostatic plugs to prevent such.

At an additional cost of \$12 per linear foot, our pool masons repair superficial cracks by grinding-out and bonding them with an epoxy.

Whereas, structural cracks require a much more extensive and expensive repair. On these rare occasions, we seek the analysis and advice from an outside structural expert.

NOTE: Any and all repaired cracks can recur or exhibit discoloring; there is no warranty for such.



crack repair



crack repair

Frequently Asked Questions (FAQs)

Q Does my pool need to be drained of all of its water for pool renovation?

A: Yes, for coping, tile and/or plaster renovation the pool needs to be empty.

Q Does my pool need to be drained of all of its water for pool repair?

A: No, for most repairs to coping, tile and/or plaster, the pool need not be empty.

Q Can my pool water be saved or sold?

A: No, there is no viable way to save or sell the water.

Q Should I empty my pool weeks prior to the renovation?

A: No, we will empty; it's unhealthy for a pool to be empty for any length of time.

Q Can you reuse my coping for a renovation?

A: If natural stone, yes, but most coping is not salvageable.

Q Can you reuse my tile for a renovation?

A: No, your tile will be destroyed in the demolition process.

Q Can you reuse some of my coping and tile for a repair?

A: Yes, in some cases it can be reused.

Q Do I need tile?

A: Yes, your tile hides the scum line and protects the plaster.

Q Can I fill my pool with my garden hose upon completion of tile and coping renovation?

A: Yes, you can if you have sufficient water supply.

Q Can I fill my pool with my garden hose upon completion of plaster renovation?

A: Yes, but we highly recommend that water be trucked-in to protect the new plaster ASAP.

Q Can I replace just my coping and not my tile?

A: In rare cases, yes, but typically no because coping and tile share the same bed of cement.

Q Can I replace just my tile and not my coping?

A: Yes, in most cases provided the coping is secure.



Founders: Tim DeMirjian
& Bob Nask

People You Can Trust

Since the 2005 inception of AquaThORITY Pools and Spas, LLC, founders Bob and Debi Nask, and Tim and Jackie DeMirjian have been practicing what they preach to their employees and promise their customers throughout Chester, Delaware and Montgomery counties: be responsive, accountable and honest.

While this mandate is always welcomed and refreshing in the home contracting business, it's proven to be especially appreciated in the pool business: where a homeowner's experience with pool companies, and contractors as a whole, too often are negative due to no-shows, poor performance and lack of trust.

AquaThORITY is different. We do not subcontract.

Whether it's a routine pool opening, closing or service call, or a more involved pool repair, equipment installation or renovation, AquaThORITY honors its commitments by performing the work as promised and expected.

For those homeowners who have had trouble tracking-down contractors in the past, you'll be pleased to know that AquaThORITY does not subcontract; our employees perform all the work with owner oversight.

Also, unlike contractors who are typically "one and done", AquaThORITY is a service provider and will always be in the neighborhood providing the ongoing pool services our over 1,000 customers have come to rely upon.

Learn about us...through our customers.

We encourage you to call our references to seek their personal experience with AquaThORITY. And read our reviews on Angie's List from whom we have received their distinguished Super Service award for multiple years.

We appreciate your consideration and hope that you'll choose AquaThORITY Pools and Spas, LLC, the clear choice in pool care.

**Trust AquaThORITY with your pool
and enjoy peace of mind.**

- Better Business Bureau A+ rated
- Angie's List Super Service award
- National Plasterers Council member
- Home Advisor Pro recommended
- PA Registered Contractor: PA083523



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