

Pool technicians at the Clinton G. Martin Park Pool, North Hempstead, N.Y., begin early to prepare the seasonal facility for opening in early June.

# Ready for Summer — Outdoor Pool Operators Prepare for Opening Day

**T**he busy summer swim season is almost here, and it's time to finish spring cleaning and last-minute preparations for summer pool openings.

Hopefully, pool operators haven't waited until two weeks before Memorial Day to begin the process of readying the pool for a holiday weekend opening. Unseasonably bad weather, winter damage, vandalism or unavailable products and equipment can cause opening procedures to take longer than expected. Delays also can occur due to overloaded pool service professionals who are busy during the spring months. And last-minute emergency calls to pool service firms during this peak season can be very costly.

Pool operators who have dragged their feet on this year's openings should decide now to take a proactive approach to next year's openings and should plan accordingly.

The most important thing to remember about seasonal pool openings is that correct winterizing procedures will help prevent common spring start-up problems. The job will be much simpler, less expensive and less time consuming if proper maintenance was performed when the pool was shut down or idled for the winter.

Once the cover is removed, the silt and small debris must be vacuumed out. If the pool was not covered or winterized properly, the water is likely to be full of algae and debris. For large cleanup and repair projects, the pool water may have

to be drained. This should be done with a trash pump, rather than through the main drains or by backwashing, as debris may clog the circulation lines. When the pool is almost empty, a submersible sump pump with an automatic shut-off device can be used to remove the last few inches of water from the pool.

In addition, the filters, chemical controllers, heaters and pump equipment must be restarted and tested, according to manufacturers' recommended operating procedures.

The circulation lines, after they are rinsed to remove any anti-freeze, should be pressure-tested to detect possible damage by the freeze-thaw cycles or by trapped water. Any broken pipes should be repaired to prevent leakage and water loss once the pool is refilled.

## Pool Surface Preparation

The next step is to clean the pool shell. Begin by washing it down with a high-pressure nozzle and hose. Many facilities borrow fire hoses for this purpose. The gutters or skimmers should be flushed with fresh water, winterizing plugs and



expansion blocks should be removed and inlets must be uncapped.

If a simple cleaning is not enough, the pool surface may need to be sandblasted, acid washed, repainted or even refinished, depending on its type. Various materials have specific requirements for cleaning, replacement or seasonal preparation. Follow the manufacturer's or builder's guidelines when preparing for the season.

Mineral stains are one common reason for acid washing the pool. Acid washing may not be necessary if the chemistry of the source water is analyzed and pools are properly winterized.

Being able to identify the source of the metal and prevent it from entering the pool water in the first place or from staining the pool surface can reduce significantly the time required to prepare the pool for seasonal opening.

If acid washing is necessary, a service expert familiar with the technique and the required safety precautions should be called in.

Once the procedure is finished, the pool should be cleaned, scrubbed and rinsed to remove any traces of the acid.

For pools with mineral stains that otherwise do not need to be drained there is an easier answer. The Catfish from

Neptune-Benson, Westwick, R.I. is a mechanical device that can be used to acid wash stained areas without emptying the pool. The device pumps acid to a submerged cleaning head that is slowly pushed by the operator along the pool walls and bottom to clean a stained area of the pool. Draining the pool is not required because acid is concentrated in one small area of the pool wall at a time, also eliminating the need to scrub, explained Judy Allen, the firm's product promotion manager.

After the pool surface is prepared, depth markings, drop-off lines, lane lines and targets, step edges and graphics can be painted or touched up. After all metal parts and hardware such as gutter drain grates, bolts, gaskets, inlets and plugs are lubricated, they can be reinstalled. The hydrostatic relief valve must be checked for proper operation before the main drain grates are bolted to the pool bottom. In addition, skimmer baskets, weirs and lids must be cleaned and reinstalled. Cracked or chipped tiles also should be repaired as necessary.

#### Just Add Water

Begin refilling the pool at least seven to 10 days prior to the anticipated opening. The flow of water into the pool should

not be interrupted until it is completely full; otherwise, a water line stain could form on the pool wall. As soon as the water covers the inlets, start circulating and filtering it. The skimmer lines should be shut off to prevent air from entering the recirculation system and damaging the pump and motor until the water level reaches halfway up the skimmer weir.

Once the pool is full, the circulation system should be tested for proper operation. Prior to seasonal opening in some states, an annual pool dye test must be conducted in the presence of a health official. These tests will check inlet operation and locate circulation "dead spots" in the pool. Sodium fluorescein or crystal violet is most commonly used and can be purchased from specialty pool chemical distributors or ordered directly from a chemical manufacturer.

Before using sodium fluorescein to dye the pool, first read the MSDS sheet provided by the chemical distributor and follow all manufacturer's recommendations. It also can be useful to videotape the test for future reference. Record the inlet through which the color was first observed entering the pool. Number the inlets on a diagram and record the order of color introduction. Document the inlet pattern, any inlets that don't work, inlets

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## COUNTDOWN TO OPENING DAY

To make sure all needed tasks are completed by opening day, start-up procedures should begin at least one month in advance.

### • Handle administrative tasks.

- Conduct a complete inventory.
- Make sure chemical and maintenance contracts are in effect and that chemicals have been ordered and delivered.
- Check to see that off-season repairs/renovations were completed.
- Hire/train pool staff and order staff uniforms, sunscreen products and personal protective gear.
- Check rescue and First Aid equipment and replace as necessary.
- Prepare all record forms and logs.
- Revise staff, policy and operating manuals.
- Have utilities (electric, gas, water, phone) turned on.

### • Inspect and prepare pool structure.

- Check for winter damage/vandalism
- Remove covers and all winterizing devices and fluids. Uncap inlets and reconnect pipes and equipment.
- Empty all debris from the pool with trash pumps and sump pumps.

- Prepare and repair pool surface and tile as needed.
- Paint or touch-up depth markings, drop-off lines, lane lines and targets, step edges, and graphics.

### • Check the pump room and mechanical equipment operation.

- Clean, service and test all pool equipment: filters, pumps, heaters, chemical feeders and controllers, valves and gauges.
- Reinstall skimmer baskets, weirs and lids as well as gaskets or O-rings.
- Lubricate all metal parts and hardware.
- Reinstall gutter drain grates, bolts, gaskets, inlets, main drain grates, plugs.
- Check the hydrostatic relief valve.
- Pressure test circulation lines to detect broken pipes. Repair broken pipes.
- Replace broken or burnt-out pool lights, lenses and seals. Lubricate, tighten bolts, and reinsert in the pool wall.
- Check ground wire connections.

### • Fill and balance the pool water.

- Add water and start circulation and filtration equipment as soon as possible after the water level covers the inlets. Remember to shut off the skimmer lines to prevent air from entering the system.

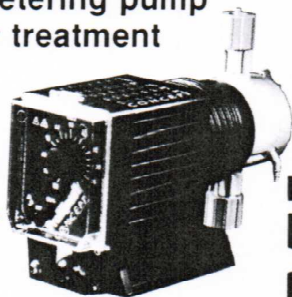
- Shock the pool.
- Add sequestering or chelating agents.
- Add a clarifier.
- Balance the water.
- Restock the test kit with fresh reagents.
- Calibrate testing instruments.
- Vacuum pool and backwash as needed until the water clears.
- Conduct dye test to check inlet operation and water circulation.
- Turn on the water heater to start raising the water temperature to desired levels.

### • Prepare deck and other areas.

- Clean and reinstall ladders, rails, guard chairs, backstroke flags, stanchions, slides and diving boards.
- Replace handles on hose bibs and fill spouts.
- Clean and disinfect the decks. Inspect for cracks or deterioration.
- Clean and arrange the deck furniture.
- Repaint, 'spruce up' and clean pool building, locker rooms and auxiliary areas.
- Replace vandalized or missing signs.
- Check for all required signage.
- Continue regular grounds maintenance.
- Conduct a pre-opening inspection and facility safety audit.

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where the water stream was weak, inlets pointed in the wrong direction or inlets in need of adjustment. Observe the circulation pattern. Look for and record circulation "dead spots," where the water does not change color.

Crystal violet also is commonly used as a dye for evaluating pool circulation patterns. The test is conducted in a similar manner with a few notable exceptions. Because the purple color produced by crystal violet will not appear in the presence of chlorine, all traces of chlorine must be removed from the pool prior to starting the test.

### Water Balance

Making sure the pool water is crystal clear, sanitary and inviting is the next step. Superchlorinate or use a non-chlorine shock product to oxidize organic contaminants and to prevent an algae bloom. Sequestering or chelating agents, which will prevent mineral staining of the newly refinished pool walls, and a biodegradable polymer clarifier can be added to the water. The appropriate chemicals then should be added to balance the water, making sure to adjust the total alkalinity, pH and calcium hardness to the desired levels. If chlorine stabilizer is to be used, begin adding the cyanuric acid gradually.

The pool should be vacuumed and the filters backwashed as needed until water clarity standards are met. A variety of pool cleaning systems are available today including in-line, portable, robotic, pressure-side and suction-side automatic vacuums, rechargeable units, hand pumps and in-floor vacuums. Today, many large commercial pools use some type of robotic pool cleaner.

Joanne Salerno, commercial account manager for Cedar Grove, N.J.-based Aqua Products, said that submersible, automatic robotic vacuums are designed to be plugged in, lowered into the pool each night and removed in the morning after having vacuumed the pool.

Robotic vacuums can remove leaves and other large debris, as well as small particles. The vacuums are grounded and plugged into a GFCI outlet. Some models can be operated by remote control so the vacuum can be driven to a particular spot in the pool. Some models have infrared light sensors to detect walls and obstructions to allow the vacuum to change direction. Microprocessors in the units can be programmed to clean a pre-selected pattern on the pool bottom, at the water line and on the walls.

### Final Preparations

As the opening draws near, walking through the facility once or twice a day will give a facility operator time to notice details that can be improved.

- Don't overlook the re-installation of ladders, lifeguard chairs, backstroke flags, stanchions, slides and diving boards.

- Replace handles on hose bibs and fill spouts.

- Clean and disinfect the decks.

- Clean and arrange the deck furniture.

- Repaint, "spruce up" and clean the pool building, locker rooms and auxiliary areas.

- Continue regular grounds maintenance, along with placement of lounge furniture and other site furnishings.

At the Clinton G. Martin Park Pool, North Hempstead, N.Y., for example, special care is taken to landscape the facility, which is located in a 37-acre park. "The pool area itself has about 25 planters that we fill with all kinds of annuals, and there is a lot of grass and shrubs all around the pool area to provide an enclosed feeling. We've even got trees on the pool deck and two canvas awnings that provide shade," said Michael DaSilva, pool operations technician for the seasonal pool.

After all repairs are completed and the

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water is clear and balanced, the pool water heater should be turned on so that the water temperature can be raised to the desired level. Covering the pool with a solar or insulating pool blanket will help prevent heat loss and keep energy costs under control.

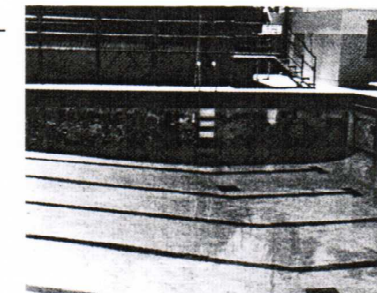
The pool should be operational in plenty of time for the water to achieve a balanced state, meet accepted clarity standards and reach the desired swimming temperature.

Because the North Hempstead pool is not equipped with heaters, DaSilva said it is especially important to fill the 560,000-gallon pool and diving well as far in advance of the June 6 opening as possible.

"It usually takes at least 10 to 14 days to get the water temperature warm enough for swimming. The water goes in at 55°. By the time the water is circulated through the equipment and goes through the holding tank under the building, it gets a lot warmer," DaSilva said.

#### Decked Out

In addition to preparing the pool itself, the deck and other areas of the facility must be prepared for seasonal operation. Inspect the deck for cracked or chipped tiles and replace as necessary. Make sure that surface materials were properly se-



Mineral stains such as the ones on this pool often can be identified by color.

lected and are appropriate for wet area applications. Decks should be slip-resistant with excellent traction, attractive and easily cleansed.

For deck surfaces that do not meet the slip-resistance recommendation of a dynamic friction in the 0.6 to 0.7 range, a commercially available acid-etching product is available. Most acid-etching processes use hydrofluoric and hydrochloric acid to chemically roughen the surface. There is no down time, and the treated surface can be walked upon immediately. There will be a slight reduction in gloss after the acid has been applied and the process will clean, but not damage, the grout.

Pool deck surfaces should be cleaned and disinfected to prevent the spread of

disease as well as the slippery feeling that results from biofilm growth. Most deck surfaces can be cleaned with a degreaser and a detergent and disinfected by using a mild (20:1) solution of sodium hypochlorite in an air-pressure garden sprayer or a commercial disinfectant. A steam cleaner or pressure washer also can be used.

If surfaces or coatings have started to chip and wear away, patching or recoating the deck may be required. Carole Rychtarik, business operations manager for Tucson, Ariz.-based Mortex Manufacturing, said a textured, cementitious, slip-resistant surface will improve both the appearance and function of pool decks. These coatings, which usually can be placed over new concrete or old decks that have been properly prepared, are available in several colors that will reflect heat, prevent bacteria growth and withstand freeze-thaw cycles.

Such decks are cleaned by wetting the surface and spreading on any caustic solution and scrubbing with either a brush or buffer.

"You can even use Cascade dishwashing detergent. It is a particularly good product to use because it is designed not to leave mineral deposits," Rychtarik said. Calcium and mineral stains can be

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removed with a floor buffer and wax stripping pad. The surface can be disinfected using a mild chlorine-based cleaner but should be thoroughly rinsed to prevent bleaching.

### Annual Upgrades

Sarah Clugston, director of parks and recreation for Hampden Township, Mechanicsburg, Pa., supervises the operation of a 500,000-gallon, outdoor municipal pool. The aquatic facility — which operates from Memorial Day to Labor Day — also includes a wading pool, waterslide, concession stand, bathhouse and offices.

Clugston, who has been working with the pool for 14 years, said her department always is remodeling and upgrading the town's only pool. "We upgrade something every year, starting as soon as the weather breaks. This year, the weather didn't seem to want to break, and we changed the disinfection system during the winter. We switched from gas chlorine and soda ash to bromine and corona discharge ozone. We also installed a larger pool pump and an automatic chemical control system," Clugston said. "And we're installing a new roof on the bathhouse."

According to Clugston, the physical condition of the facility is not her only area of concern. Staff members must be recruited, hired and trained. To prepare the staff, the recreation department offers a pre-season refresher course in life-guarding, CPR and First Aid for certified lifeguards. This year to comply with OSHA regulations, an emergency medical technician will conduct a half-hour training program on transmission of bloodborne pathogens. In addition, a representative from the American Cancer Society will lecture about sun exposure and the importance of using sunscreens and umbrellas.

"My target this year was to be up and running by May 10 because of the new pump and water system. It also helps in the Pennsylvania climate to get the water in the pool because it is better to get it warmer," Clugston said. "And, the faster we get the water in, the less likely we are to get algae problems. The faster the water goes in, the faster the chemicals can be applied and the water stabilized."

### Routine Maintenance

Every year, the gunite pool is drained, scrubbed with trisodium phosphate (TSP), washed, acid etched and repainted. Some years, the surface is sandblasted prior to painting as well, Clugston said.

Also, the floors in the locker rooms are scrubbed, patched and painted as needed to provide a non-slip surface.

In addition, the concession area, pool

deck and other buildings are steam-cleaned with a high-pressure washer. Every few years, the bathhouse and buildings are painted.

Every two years, Hampden Township hires a private electrical inspection agency to check ground wires, make sure there are no shorts and recertify the electrical systems. The Department of Environmental Resources inspector checks to make sure that the electrical system inspection sticker is on the breaker box, Clugston said.

The pool is filled using a fire hose con-

nected to a fire hydrant approximately 2½ weeks prior to opening. Water samples are taken to a lab, and the water is balanced.

"Then we hope and pray that everything works," Clugston said. Her advice, to pool managers about spring opening of seasonal facilities is to "get started as early as you can."

*Alison Osinski, Ph.D., is the principal consultant for Aquatic Consulting Services, San Diego, Calif.*



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