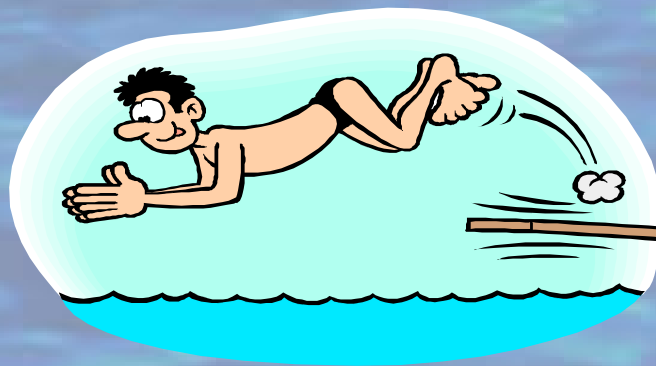
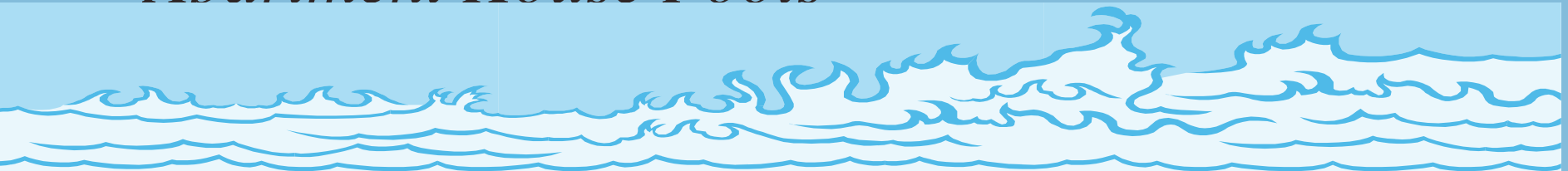
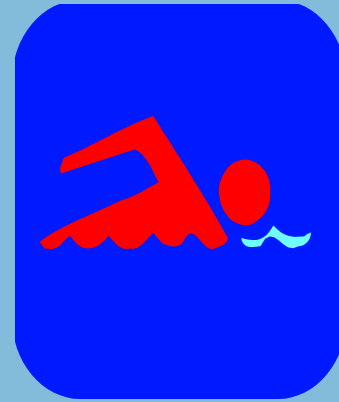


POOL TRAINING



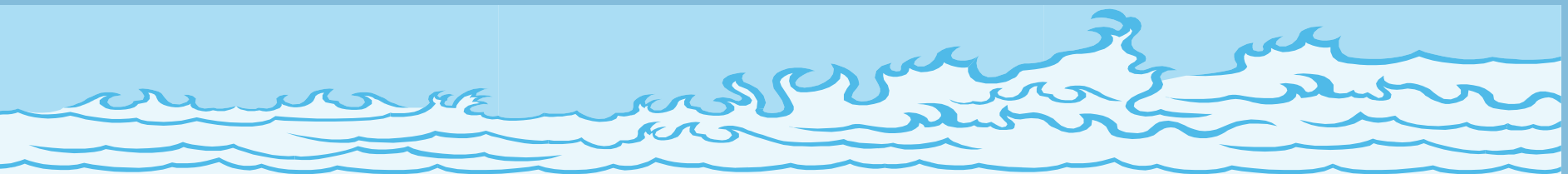
PUBLIC AND SEMI-PUBLIC SWIMMING POOLS

- *Commercial Pools*
- *Real Estate Pools*
- *Community Pools*
- *Hotel/Motel Pools*
- *Resort Pools*
- *Auto/Trailer Park Pools*
- *Apartment House Pools*



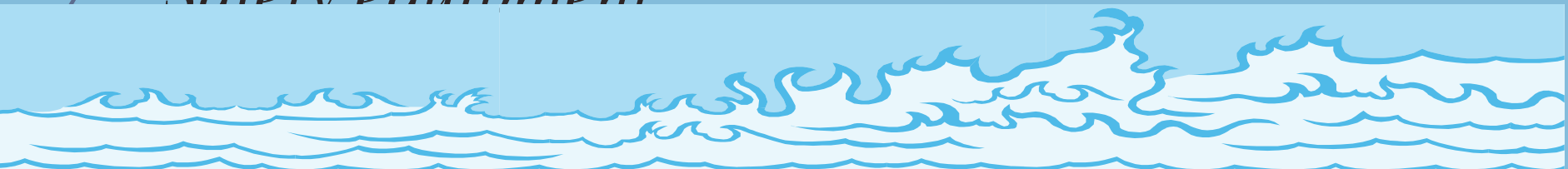
PUBLIC AND SEMI-PUBLIC SWIMMING POOLS CONT'D

- ▶ *Club Pools*
- ▶ *Public/Private School Pools*
- ▶ *Gymnasium Pools*
- ▶ *Health Club Pools*
- ▶ *Townhouse/Condo Pools*
- ▶ *Campground Pools*
- ▶ *HOA Pools*



AUXILIARY STRUCTURES AND EQUIPMENT

1. *Locker rooms*
2. *Showers*
3. *Dressing rooms*
4. *Toilet facilities*
5. *Filtration equipment*
6. *Piping*
7. *Safety equipment*

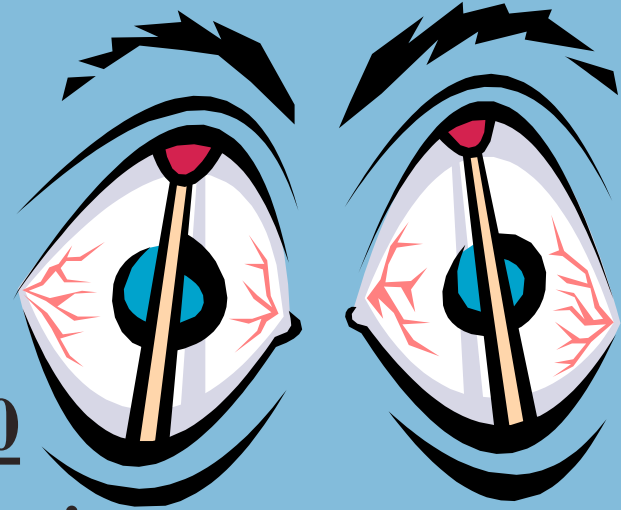


WATER QUALITY

- Ⓢ *pH range between 7.2 – 8.0*
- Ⓢ *Cyanuric acid below 100 ppm*
- Ⓢ *Free chlorine residual of at least 1.5ppm when cyanuric acid present*
- Ⓢ *Free chlorine residual of at least 1.0 ppm without cyanurics in pool*
(page 8;section 65529)
- Ⓢ *Temperature at or below 104°F*
(page 31; section 3125D 2)



pH Scale

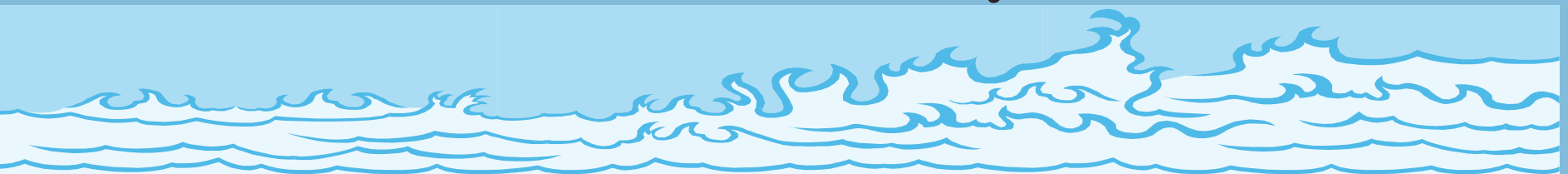


pH below 7.2

- Corrosion- copper pipes / blue out
- Etching of plaster
- Eye and skin irritation
- Excessive sanitizer used

pH above 8.0

- Scale formation
- Cloudy water
- Staining of plaster
- Eye and skin irritation
- Drop in chlorine efficiency



CYANURIC ACID

- ☀️ **Aka: stabilizer or conditioner**
- ☀️ **Slows down chlorine decay due to sunlight**
- ☀️ **Excessive levels interfere with effectiveness of chlorine**
- ☀️ **Dilute water to lower**

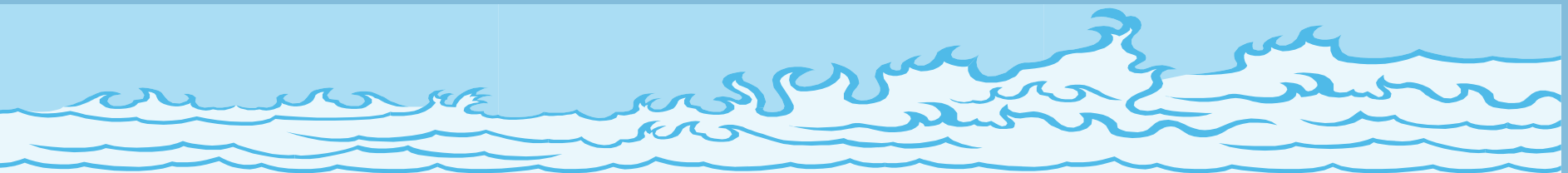
COMMON COMPLAINTS

- ☀️ **Water is salty**
- 📢☀️ **Water is cloudy**



CHLORINE

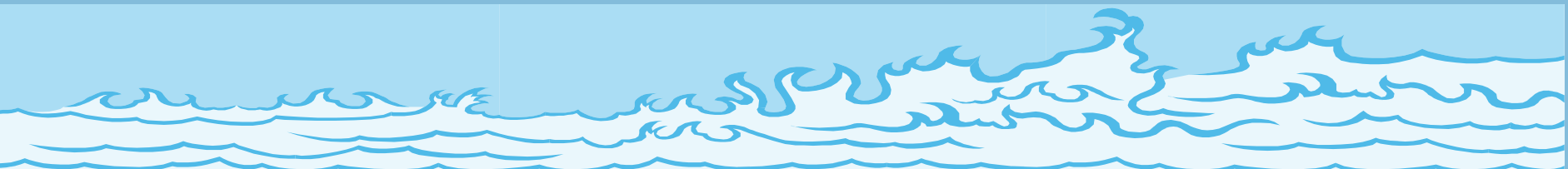
- ◆ *Most common sanitizer used*
- ◆ *Pools / spas are closed for chlorine residuals over 10 ppm.*
- ◆ *1.0 ppm or 1.5 ppm at minimum*
- ◆ *Chlorine combines with ammonia to form chloramines.*
- ◆ *Used in liquid, gas, tablet or granular forms*



CHLORINATORS

- ✦ *An automatic chlorinator must be installed on each recirculation system in order to continuously disinfect the water*
- ✦ *Liquid, tablets, and gas chlorine feeders are the most common types of automatic chlorinators*
- ✦ *If no chlorinator, reinspect the pool within 1-4 weeks*

(page 28; section 3133B)



MORE ON CHLORINATORS

- ▶ *Chlorine tablets may only be used in an automatic chlorinator*
- ▶ *Tablets may not be placed in or under skimmer basket!!!*
- ▶ *Floating chlorinators are not approved for use in public, or semi-public pools*

(page 28; section 3133B)

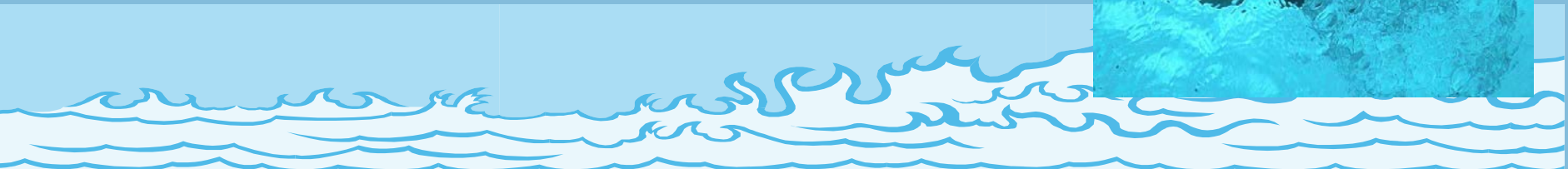
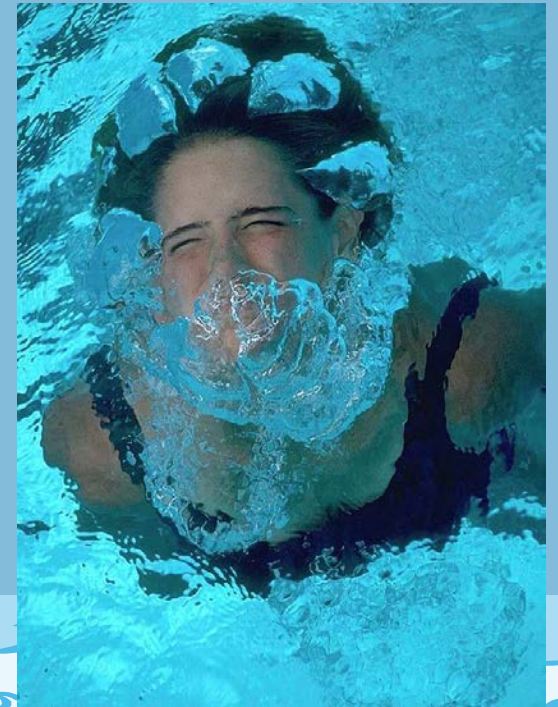


OTHER SANITIZERS

- ▶ *Bromine*
- ▶ *Ozone*
- ▶ *Hydrogen peroxide and Ultra-Violet light*
- ▶ *Ionization*



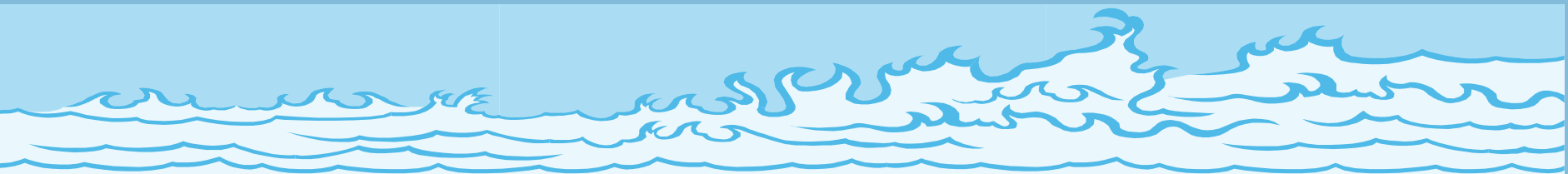
(page 8; section 65529)



WATER QUALITY INSPECTION

- ▶ *Water clarity: Main drain clearly visible.*
- ▶ *No leaves, debris, floating scum or algae growth (page 9, section 65533)*
- ▶ ***POOL CLOSED** if main drain is not visible!!!!*
- ▶ *Inspector may order the pool drained if pool is not visible within 48 hours*
- ▶ *Draining a pool can crack the shell in certain instances*

(page 8; section 65527)



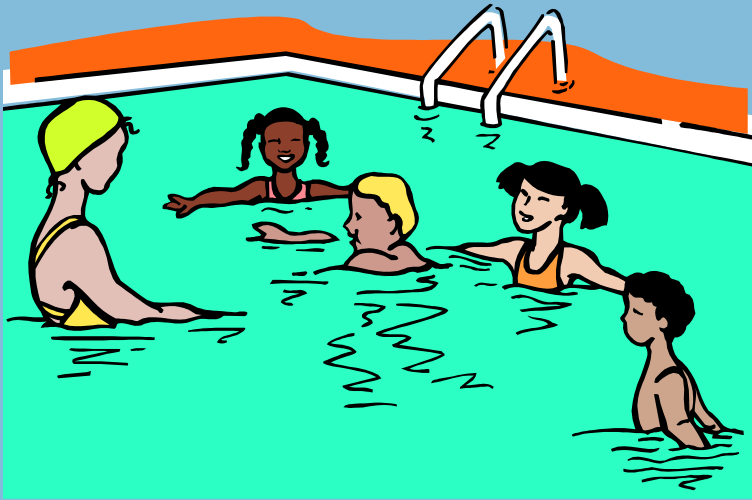
MORE MISC. WATER

- A Pool test kit should be available. (page 8; section 65529)

- Water temperature can not exceed 104°F (page 31, section 3135B.2)

- No direct connection of pool or recirculation system to the sewer

(page 32: section 3137B.2)



RECIRCULATION SYSTEM

All components must be in good working order

■ *Main Drain*

■ *Skimmers*

■ *Hair strainer*

■ *Pump*

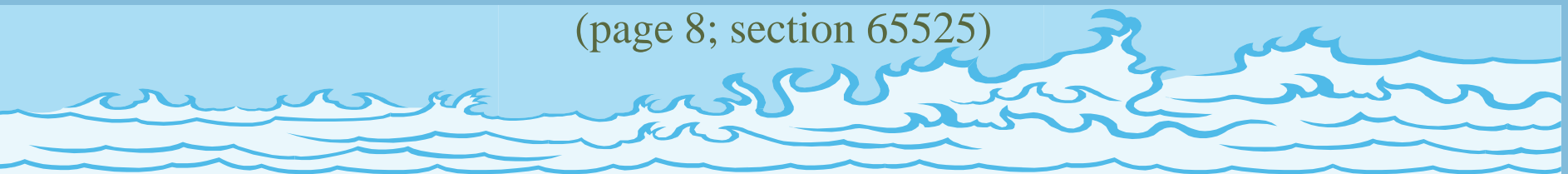
■ *Filter*

■ *Chlorinator*

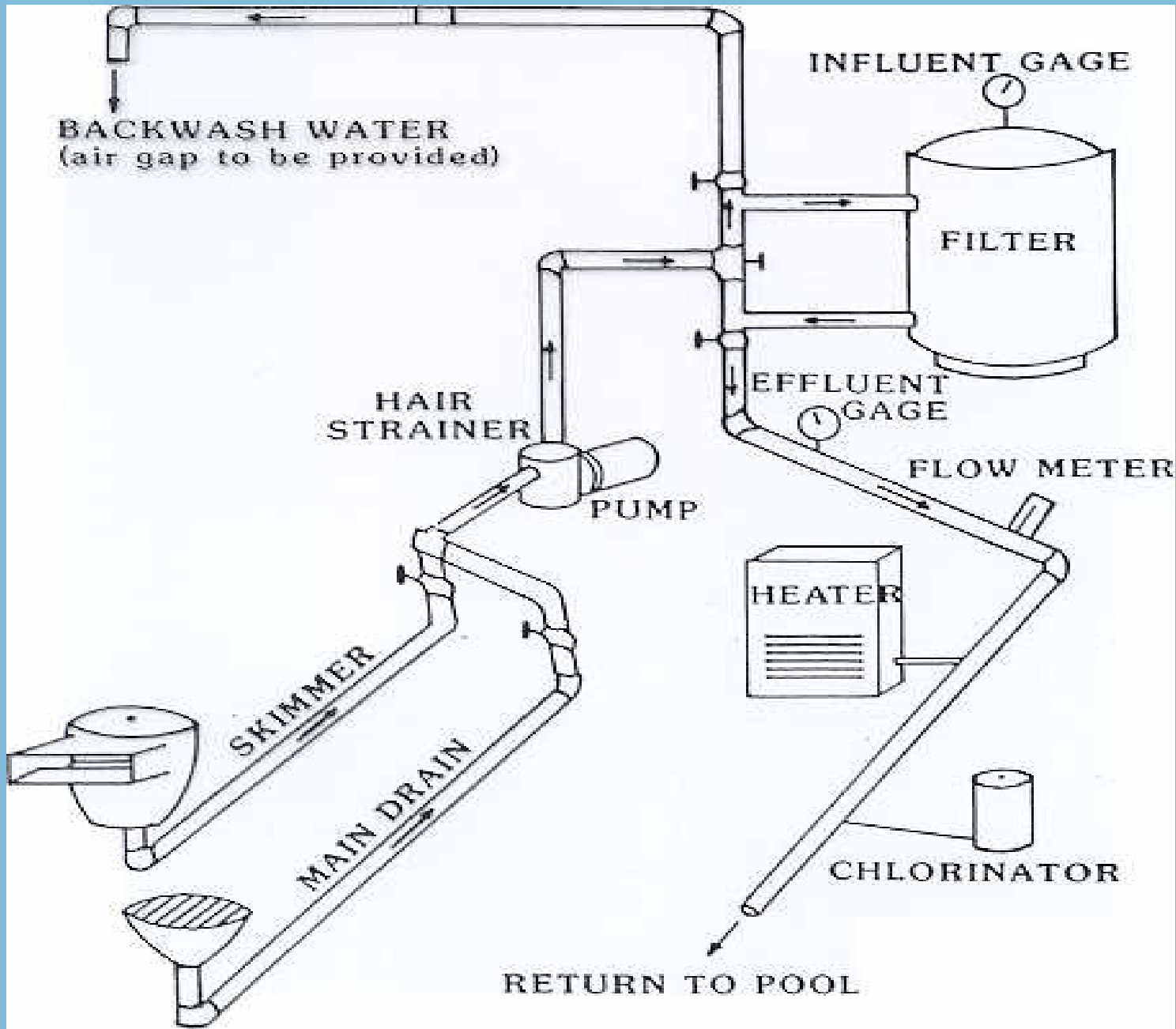
■ *Gauges*

■ *Heater*

(page 8; section 65525)

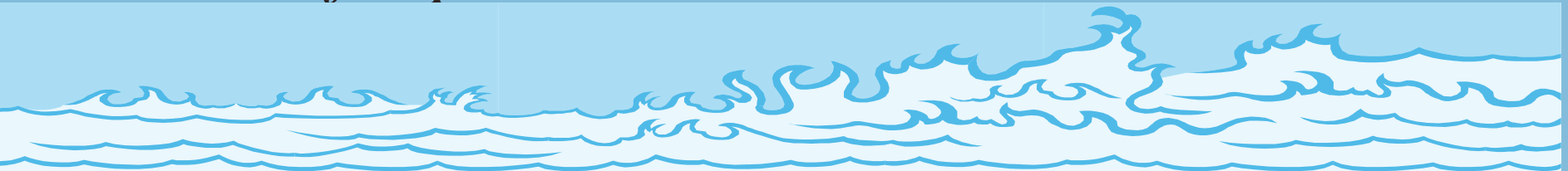


RECIRCULATION SYSTEM



Recirculation

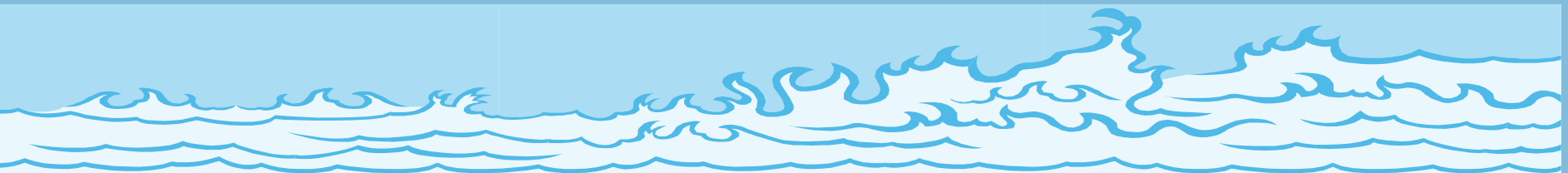
- ▶ *Is the pump in operation when the pool is available for use?*
- ▶ *Is the pump on at additional times to maintain the water in a clear and disinfected state?*
- ▶ *Is turnover time $\frac{1}{2}$ hr. or less for spa, one hour or less for wading pool, and 6 hrs. or less for pool? (page 24; section 3124B)*



SKIMMERS

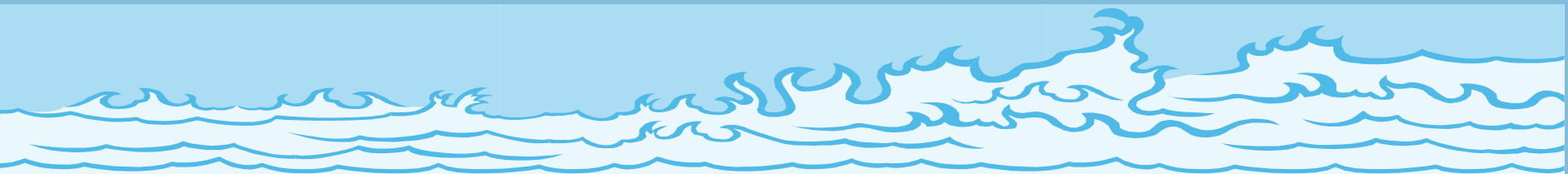
- ✓ *Skim leaves and debris from surface*
- ✓ *75% of flow should be drawn from the skimmers*
- ✓ *One skimmer per 500 sq. ft. of pool surface area*
- ✓ *Gutter system is alternative to skimmers*

(page 29; section 3134B)



MAIN DRAINS

- ▶ *Pool/spa closed if main drain cracked, missing, or loose*
- ▶ *In pools only- ok to have non-anti-vortex covers if they can only be removed with tools and openings no greater than 1/2 inch*





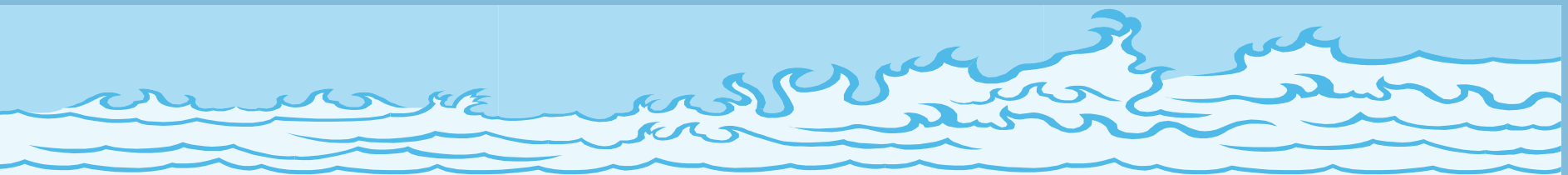
Oasis Water Park- missing main drain covers

Calculating Pool Gallonage

Length x width x average depth x 7.5 = gallons

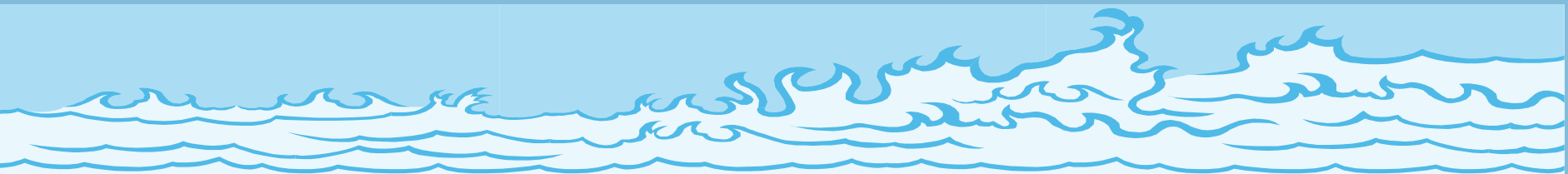
*Length x width x a.d. = cubic feet in pool x 7.5 =
total gallons*

*Length x width = sq. ft. surface area x
a.d. = cubic feet*



Calculating Pool Capacity

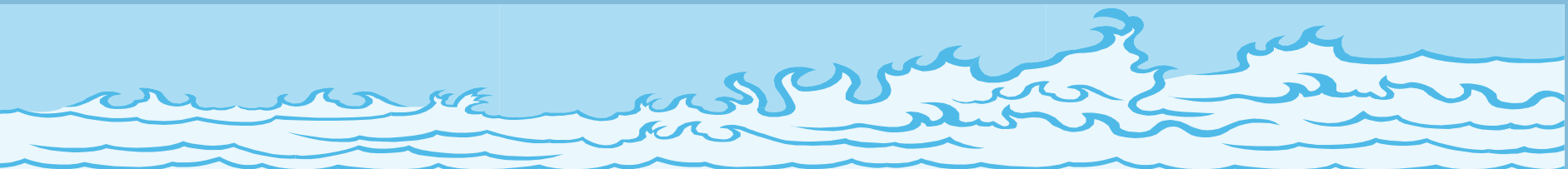
- ▶ *Length x width /20= pool capacity*
- ▶ *Length x width /10 = spa capacity*
- ▶ *Pi r²/10=spa capacity for round spas*
- ▶ **WADING POOLS ARE EXEMPT**
(pages 22,23; section 3119B)



FLOWRATES

- Flowrate is measured in gallons per minute (GPM)
- Example: For a 15,000 gallon pool, the turnover rate would be

$$\text{GPM} = \frac{15,000}{6 \text{ hours}} \times \frac{1}{60} = 42$$



FLOWMETER

- o A Reliable flowmeter is important in determining the effectiveness of the pump and filters.
- o Flowmeter is read in GPM
- o **Most important thing to check in flow-thru pools**
- o Check for stuck indicator weight!!!!

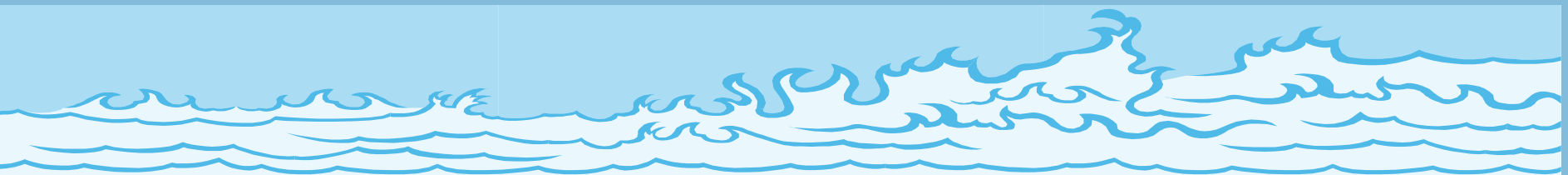
Proper verbiage for report: Repair/replace non-functional flowmeter

(page 25; section 3125B.3)





Needs to be accurate within 10% of actual flow rate



INFLUENT/EFFLUENT GAUGES

- **Both gauges should be installed at same elevation.**
- **A difference in the influent and effluent pressure gauges of > 15 psi indicates a problem and should be written up.**
- **In fluent gauge showing a reading > 30 psi indicates a problem.**
- **Cloudy water may indicate a need to clean or backwash filter also.**

(page 25; section 3125B.2)



A FILTERS' JOB

- *Remove very small particles from the water. Particulate matter adheres to the filter media*
- *3 common types of filters are; sand, diatomaceous earth, and cartridge*
- *the filtration system maintains water clarity*

(page 26)



SAFETY SIGNS

(page 22;3119B)

911 or appropriate other numbers.

EMERGENCY PHONE NUMBERS	
AMBULANCE	_____
FIRE DEPT.	_____
POLICE	_____
HOSPITAL	_____
PHYSICIAN	_____

SW-6

Diagrammatic Artificial Respiration or CPR. 911 can be included on this sign.

(page 9; section 65539)

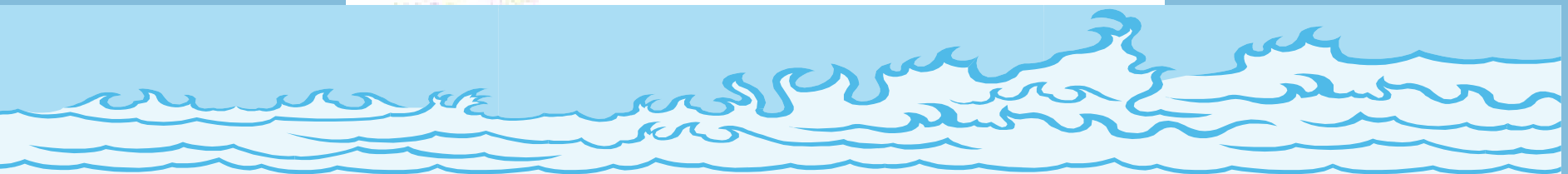


SW-3

‘NO DIVING’ FOR POOLS THAT ARE \leq 6’ DEEP.

LETTERS MUST BE AT LEAST 4” HIGH

(page 23; section 3119B.2)



MUST BE
POSTED
AT ALL
POOLS
NOT
CHARGING
A 'DIRECT
FEE' FOR
USE.

(PAGE 2;
116045)



SW-1



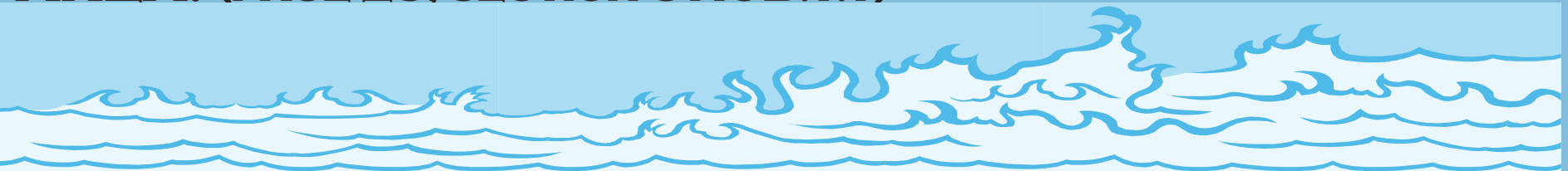
**LETTERS MUST BE AT LEAST 4" HIGH.
POOL CAPACITY IS ONE BATHER FOR
EVERY 20 SQUARE FEET OF POOL WATER
SURFACE AREA. (EXCEPTION IS WADING
POOLS-NO CAPACITY REQUIREMENTS) (PAGE 23;
SECTION 3119B.1.2)**

SPA CAPACITY

PERSONS

SW-16

**MUST BE IN LETTERS AT LEAST 4" HIGH.
CAPACITY IS ONE BATHER FOR EVERY 10
SQUARE FEET OF POOL WATER SURFACE
AREA. (PAGE 23; SECTION 3119B.1.1)**



CAUTION: SPA USERS

- 1 Elderly persons, pregnant women, infants and those with health conditions requiring medical care should consult with a physician before entering a spa.
- 2 Unsupervised use by children under the age of 14 is prohibited.
- 3 Hot water immersion while under the influence of alcohol, narcotics, drugs, or medicines may lead to serious consequences and is not recommended.
- 4 Do not use alone.
- 5 Long exposure may result in nausea, dizziness or fainting.

(page 23; section 3119B.4)



SW-40

**MUST BE ADJACENT TO SPA AND SHUT OFF
RECIRCULATION ONLY IF SPA WAS BUILT
BETWEEN 1982-1986, MUST SHUT OFF AERATION
AND RECIRCULATION IF BUILT AFTER 1986.**

(page 33, CCR, Title 24, Article 680-13)

EQUIPMENT

Life ring must have attached rope long enough to span the maximum width of pool. The ring must be at least 17" in diameter. Must be in an area that is easily accessible. Rope on life ring must be at least 3/16 inch.

(page 10; section 65539(e))



BODY HOOK AND RESCUE POLE

Body hook (pictured) must be permanently attached to a rescue pole at least 12 ft. in length.

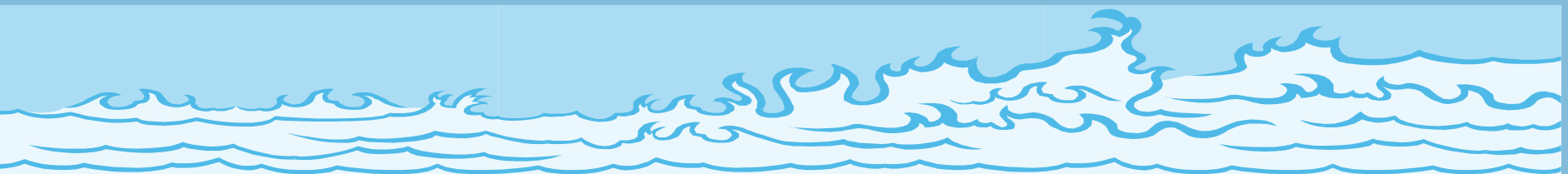
(page 10; section 65539 (e))



EXTRA EQUIPMENT NEEDED

- ✦ Enforcing agent (you) can require the following if you feel it's necessary:
- ✦ Square-sterned boat or paddle boat if pool is so big that lifeguard would not be able to easily swim to rescue people
- ✦ First-aid kit
- ✦ Gas Chlorinator extras (pages 24 & 33)

(page 10; section 65541, 65547)



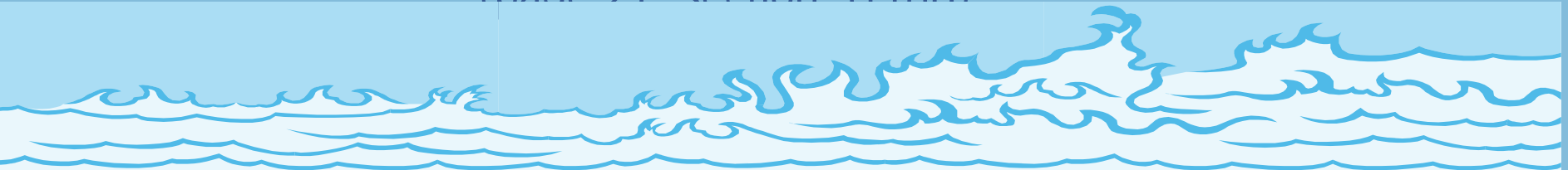
GATES AND FENCES

IMPORTANT DATES:

Pools built after 1994 need

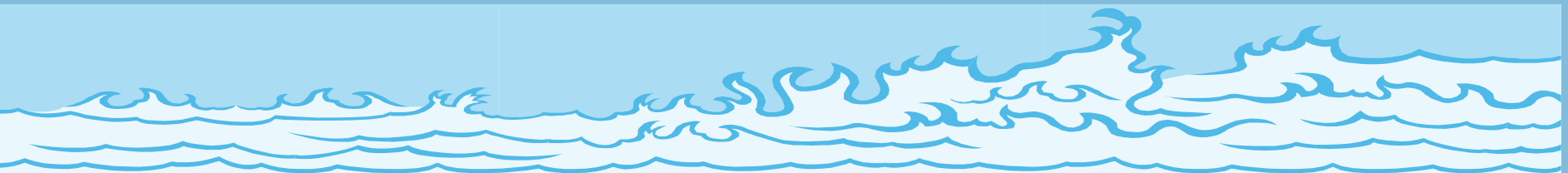
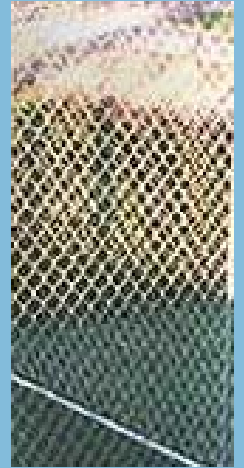
- ▲ A self-closing/self-latching gate
- ▲ Self-latching device must be at least 3 ½ ft. above the deck
- ▲ Fence/gate must be at least 5 ft. high
- ▲ Openings/holes/gaps in fence must be no larger than 4"
- ▲ Bottom of fence/gate shall be no higher than 2" from dirt or 4" from cement

(page 21, section 3118R)



GATES AND FENCING CONT'D.

- **GATE AND FENCE SHALL NOT BE READILY CLIMBABLE.**
- **HORIZONTAL OR DIAGONAL CROSSBARS MUST BE AT LEAST 48" APART.**
- **CHAIN LINK IS APPROVED IF OPENINGS ARE NOT GREATER THAN 1 ¾" MEASURED HORIZONTALLY.**
- **ALL GATES AND DOORS SHALL BE CAPABLE OF BEING LOCKED WHEN POOL IS CLOSED.**



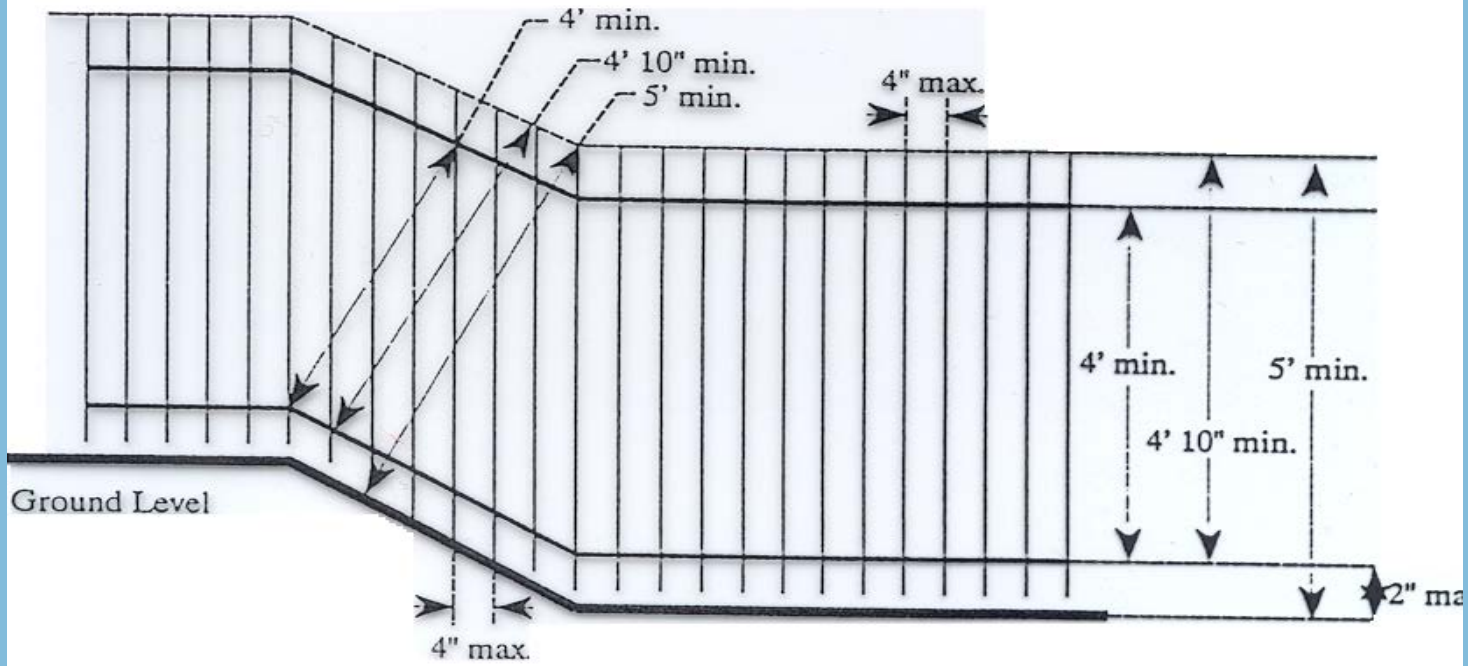


Figure 9024(a). Perpendicular fencing dimensions on sloping ground.

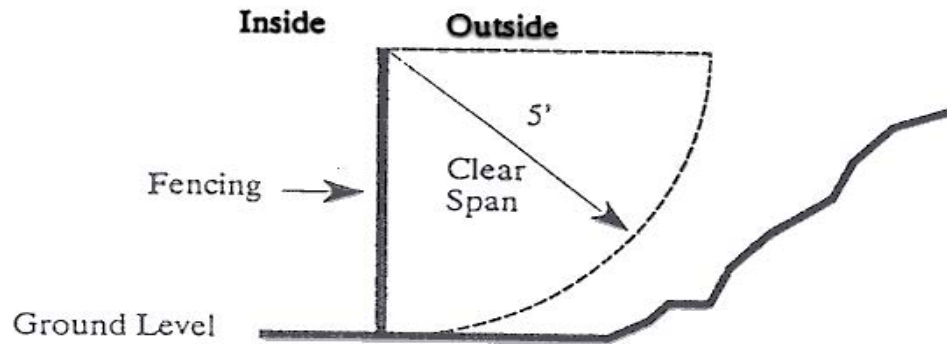


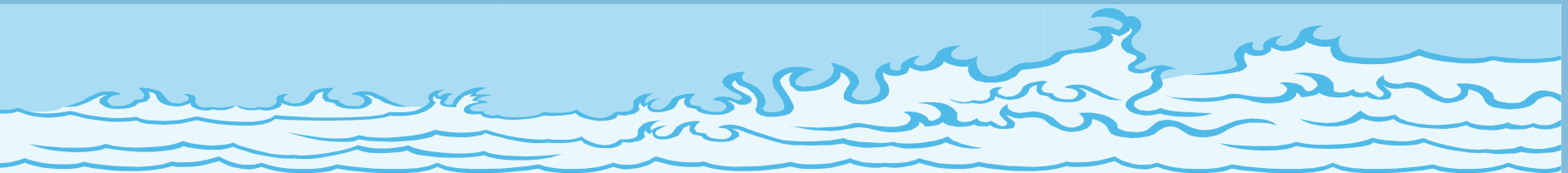
Figure 9024(b). Effective fencing height.

MORE GATES/FENCES

• **AT LEAST ONE GATE/DOOR SHALL BE ABLE TO OPEN FROM INSIDE WITHOUT A KEY FOR EMERGENCY PURPOSES. (POOLS BUILT AFTER 7-1-94)**

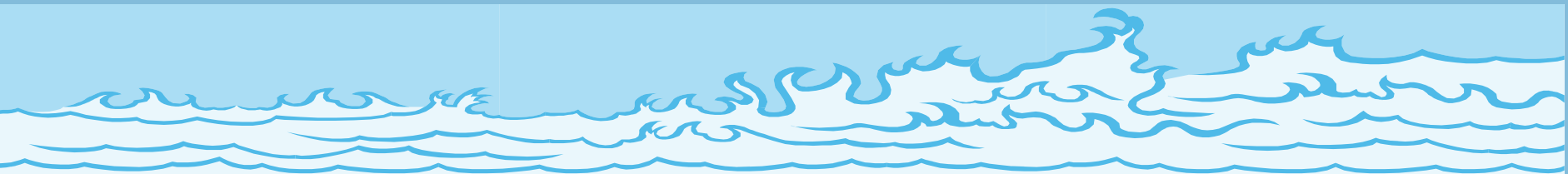
EXCEPTIONS: DOORS LEADING FROM RESTAURANTS, LOBBIES, MEETING ROOMS ETC. NEED NOT BE SELF-LATCHING.

POOLS BUILT PRIOR TO 1994 DO NOT ALWAYS NEED 4' DECK CLEARANCE



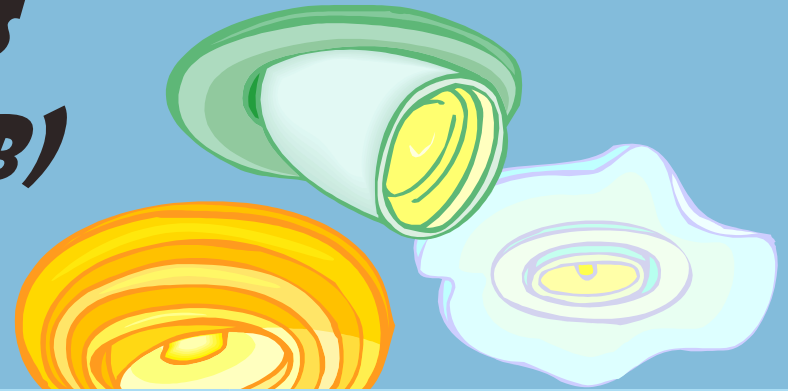
UNDERWATER LIGHTS

- ✦ ***POOL CLOSED IF LIGHT LOOSE OR MISSING!!!***
- ✦ ***IF UNDERWATER LIGHT IS NONFUNCTIONAL, IT MUST BE REPAIRED OR REMOVED IN APPROVED MANNER.***
- ✦ ***NO LIGHTS = NO USE OF POOL AFTER DARK. A SIGN WITH LETTERS AT LEAST 4" HIGH STATING "NO USE OF POOL AFTER DARK" MUST BE POSTED. (PAGE 23; SECTION 3119B.4)***



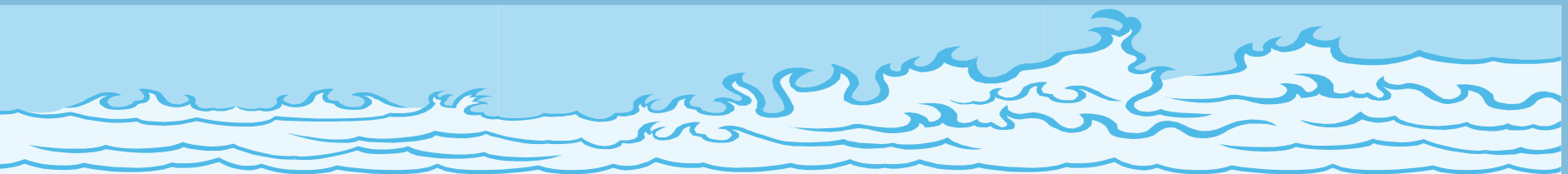
POOL LIGHTS CONT'D.

- ▶ **DECK LIGHTING IS APPROVED FOR USE INSTEAD OF UNDERWATER LIGHTS**
 - ▶ **DECK LIGHTING MUST BE EQUIVALENT IN ILLUMINATION TO UNDERWATER LIGHTS**
- (PAGE 20; SECTION 3114B)**



POOL SHELL & RELATED FACILITIES

- ✓ Broken, missing or unreadable depth markers.
- ✓ Loose or missing grab rails, ladder or tread.
- ✓ Unapproved materials such as indoor/outdoor carpeting, fountains, etc.



Pool shell & related facilities

cont'd.

- ✓ *Broken or missing coping or deteriorating/uplifting deck*
- ✓ *Broken or missing pool tiles*
- ✓ *Pool shell cracked, chipped or badly stained*
- ✓ *Deck obstructions*
- ✓ *Unapproved decking; indoor/outdoor carpeting*

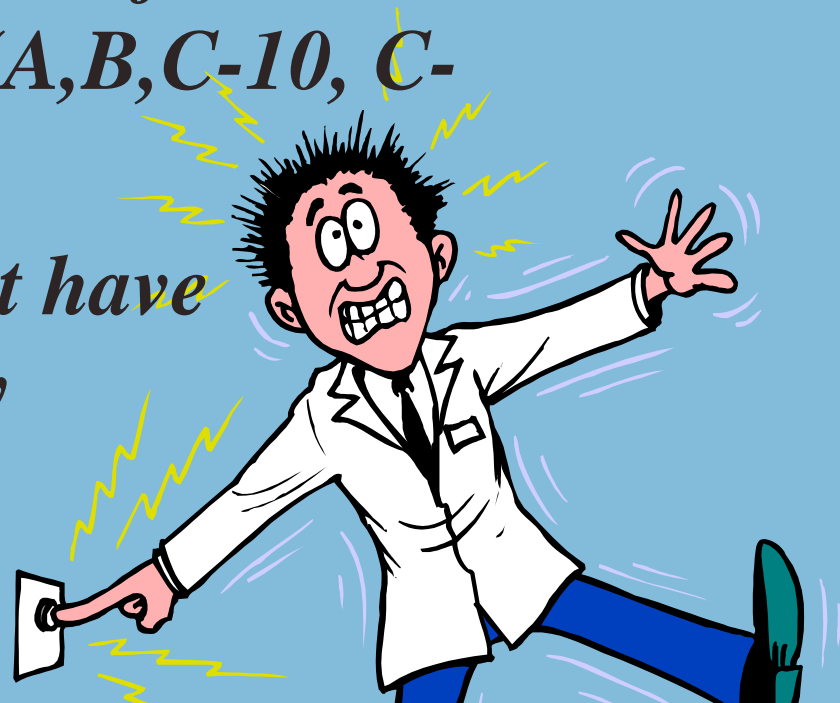
(page 9:section 65535)



Ground-Fault Circuit Interrupters (GFCI)

- ▶ *If pool is equipped with a GFCI, it must have been inspected by a qualified inspector by May 1, 1999 (A,B,C-10, C-53, C-61/D35 licensing)*
- ▶ *All pool light fixtures must have been fitted with a GFCI by May 1, 1999*

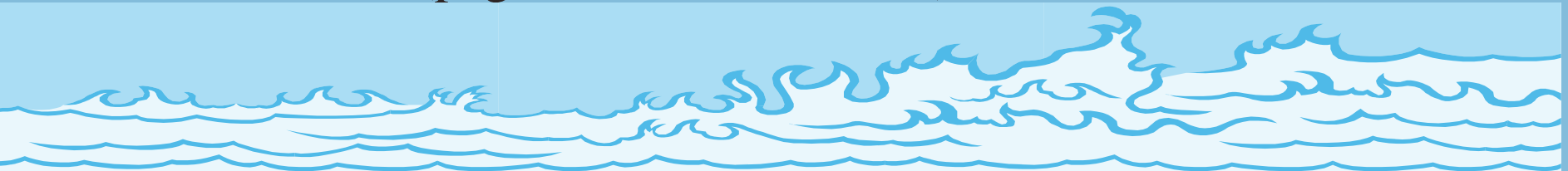
(AB 1622/SB 873)



POOL STRUCTURE

- ✦ Finished pool shell must be lined with white plaster.
- ✦ No recessed areas or projections.
- ✦ Shallow end maximum depth is 3 ½ feet.
- ✦ Minimum width of 15 feet at the main drain.
- ✦ Slope no greater than 1 foot vertically per 10 feet horizontally.

(page 15; section 3106B)





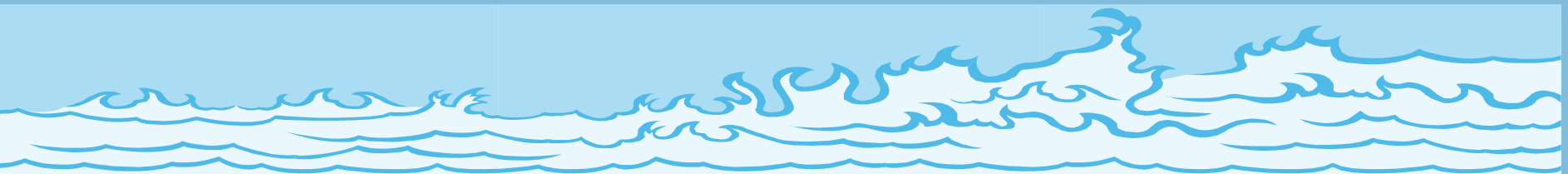
Desert Island pool with a dark navy blue finish
(unapproved)



Desert Island Pool- Dark Blue

TILE MARKINGS

- ▶ *Contrasting tile used along the edge of pool steps must be slip resistant.*
- ▶ *For pools greater than 5 feet in depth, a straight line of slip resistant tiles must be installed across the bottom at 4 ½ feet.*
- ▶ *For pools greater than 20 feet wide, slip resistant depth markers shall be located on the edge of the deck next to the pool.*

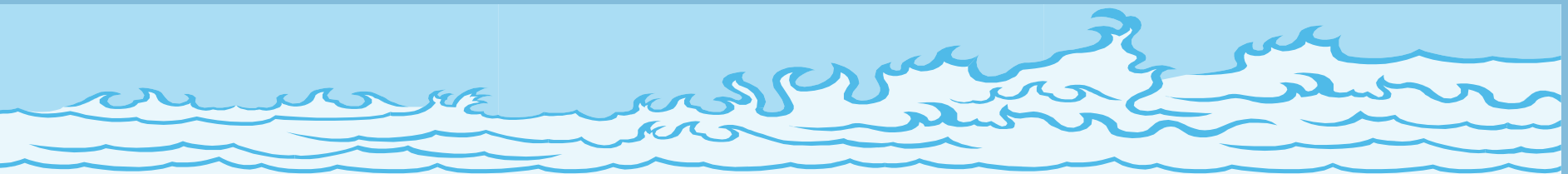


DEPTH MARKERS

Water depth shall be clearly marked at the following locations:

- 1. Maximum depth*
- 2. Minimum depth*
- 3. Each end*
- 4. Break in slope from shallow to deep*
- 5. Perimeter of pool every 25 feet or less*

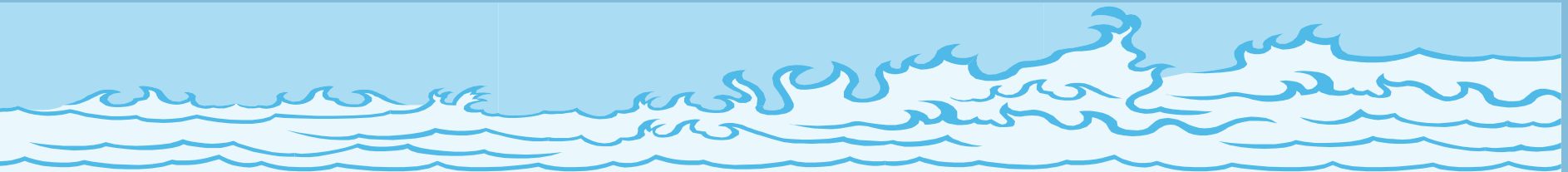
(page 17; section 3109B.4)



DEPTH MARKERS

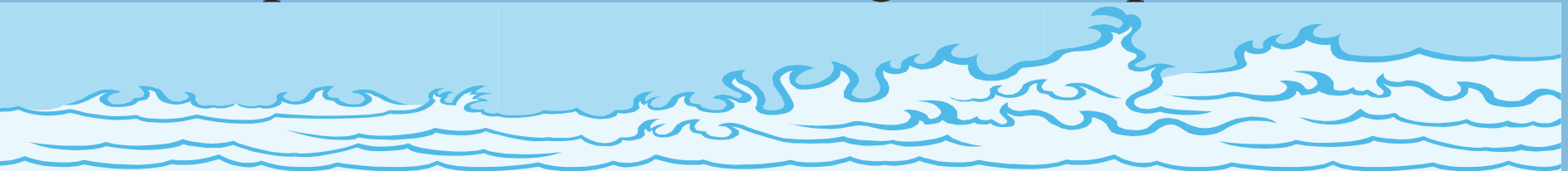
- ▶ **Depth markers shall be located on the vertical pool walls at each end and side of the pool at or above water level.**
- ▶ **If pool is greater than 20 feet in width additional markers shall be located on the edge of the deck next to the pool.**

(page 17; section 3109B.4)



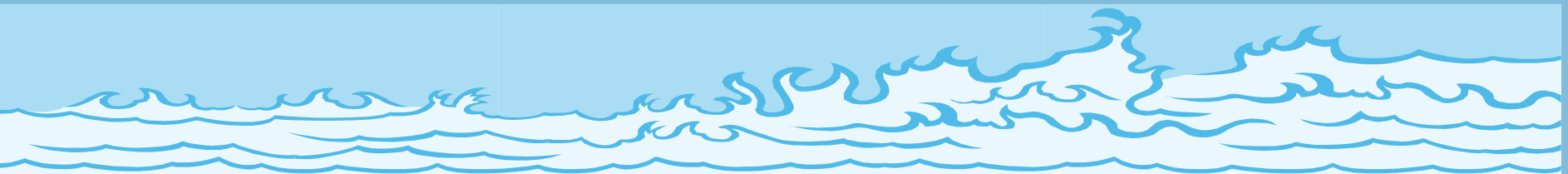
DEPTH MARKER SIZE

- ▶ Numerals must be a minimum of 3” in height.
- ▶ Numerals must be of a contrasting color with the background.
- ▶ Depth markers must be made of a durable material that is resistant to weathering and be slip resistant if they are on the deck.
- ▶ Spas and wading pools must have at least 2 depth markers indicating max depth.



POOL CLOSED

- ▶ *No Chlorine*
- ▶ *Excessive Chlorine*
- ▶ *High Temperature*
- ▶ *Main Drain Loose, Cracked, Missing*
- ▶ *Underwater Light Loose or Missing*
- ▶ *Can't See Main Drain*



THIS POOL IS CLOSED

**FOR VIOLATIONS OF SWIMMING POOL ACT, CONTAINED IN
CALIF. HEALTH & SAFETY CODE AND/OR CALIF. ADMINISTRATIVE CODE**

**By Order of the County of Riverside Health Services Agency
Department of Environmental Health**