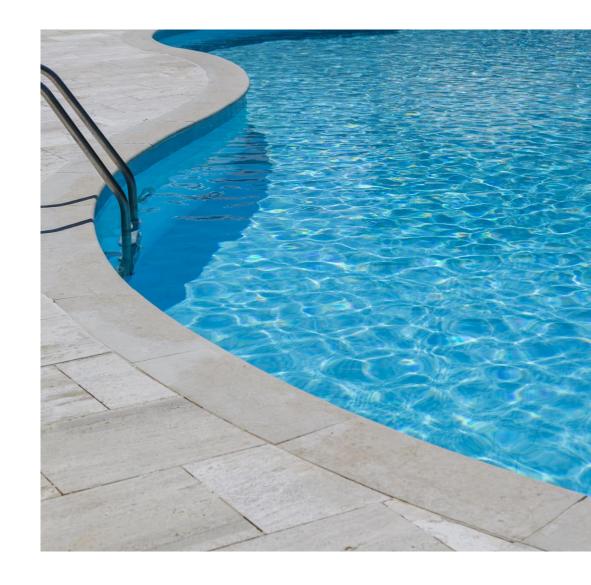


POOL FACILITIES: OPERATIONAL REQUIREMENTS AND PLAN CHECK PROCESS

County of San Diego

Department of Environmental Health and Quality Kat Olivas and Nolberto Colon-Droz



PUBLIC POOL REGULATORY CODES

- California Health and Safety Code
- California Electrical Code
- California Code of Regulations
 - Title 22: Governs pool operation standards for all public pools
- California Building Code
 - Title 24: Governs construction requirements for all public pools

POOL PROGRAM

- The CCR 65501(h) & CBC 3102B 113789 defines any public swimming pool, public bathhouse, public swimming place, and public bathing place that is or includes an artificial basin, chamber, or tank constructed or prefabricated with impermeable surfaces and such pools, bathhouses, and places are used or intended to be used for public swimming, diving, or recreational water activities. "Public Pool" does not include individual therapeutic tubs or baths where the main purpose is cleaning of the body. Any manmade lake or swimming lagoon with a sand beach or sand bottom is not a public pool.
- DEHQ regulates more than 7,300 public pool facilities in San Diego County.
- Our Registered Environmental Health Specialists (REHS) conduct more than 14,000 inspections at pool facilities each year. The Plan Check Unit reviews about 400 new pool and remodel submissions each year.

OPERATIONAL REQUIREMENTS

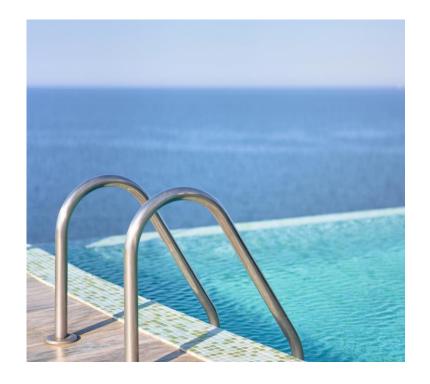


RISK FACTORS AND INTERVENTIONS

Maintaining a safe pool can help prevent injury, illness, and death.

Potential illnesses that can spread from using a swimming pool include Cryptosporidium, Giardia, and Pseudomonas Aeruginosa infection.

The CDC reports that drowning is a leading cause of death for children.







RISK FACTORS AND INTERVENTIONS

Assuring that major **risk factors** do not occur is vital to maintaining a safe pool

Interventions for controlling these risk factors are:

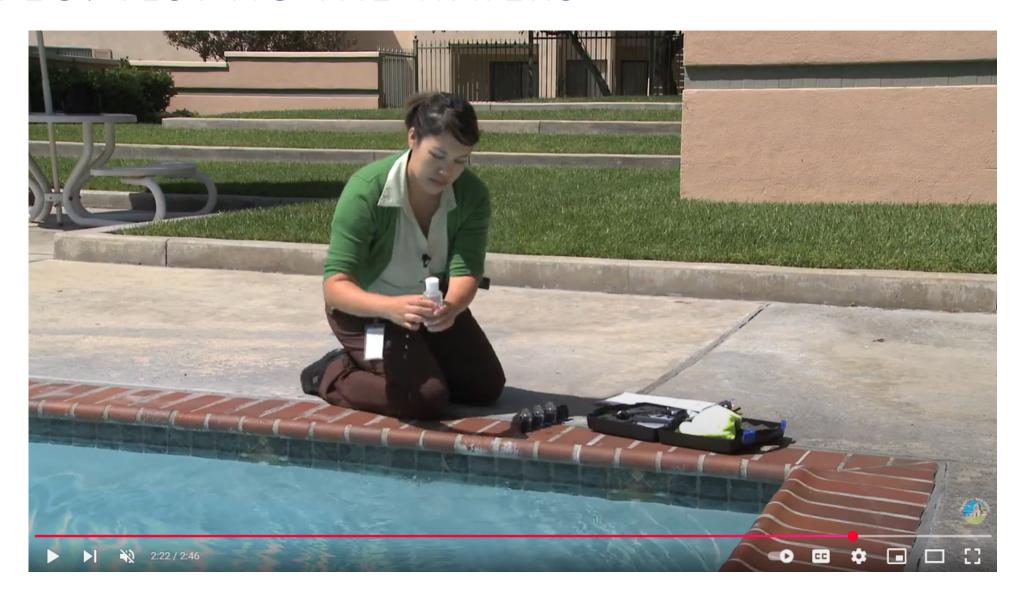
- 1. Record keeping
- 2. Demonstration of knowledge
- 3. Maintenance review
- 4. Operational review







VIDEO: TESTING THE WATERS



CRITICAL VIOLATIONS - CLOSURE

- Sanitizer level outside the approved range (low or high)
- Improper pH (low or high).
- Failure to meet microbiological (well systems) standards.
- The bottom of the pool, at the maximum depth, cannot be seen due to poor water quality.
- Main drain cover(s) or suction outlet covers missing, broken, loose, or not an approved anti-entrapment type.
- Enclosure broken or not adequate.
- Pool gates or doors not self-closing and self-latching.

CRITICAL VIOLATIONS - CLOSURE

- Lack of any safety equipment.
- Recirculation system is not properly operating or is off during pool hours of operation.
- Water temperature above 104°F.
- Spa emergency shut off switch does not properly function.
- Presence of inhalation hazards.
- Any condition which may threaten the public health, welfare, or safety is found to exist and cannot be immediately corrected (e.g. fecal matter in water, unapproved chemical storage, foreign items or chemicals in the pool, loose or missing underwater light, etc.).

WATER CHEMISTRY

	Free Chlorine Residual parts per million (ppm)				Bromine Residual (ppm)		рН	
	Without Cyanuric Acid		With Cyanuric Acid					
	Min	Max	Min	Max	Min	Max	Min	Max
Public Pools	1.0	10.0	2.0	10.0	2.0	-	7.2	7.8
Public Spas, Wading Pools, and Spray Grounds	3.0	10.0	3.0	10.0	4.0	-	7.2	7.8

RECIRCULATION SYSTEM

- Suction Outlet Covers/Fittings
- Pump
- Filters
- Chemical Feeders
- Skimmers/perimeter overflow systems
- Valves
- Pipes
- Anti-entrapment Devices or Systems
- Clean & Clear Water

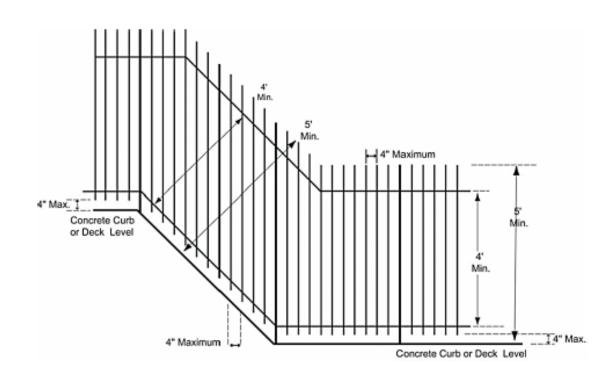
Recommend recirculation system operate 2 hours before normal hours of operation.





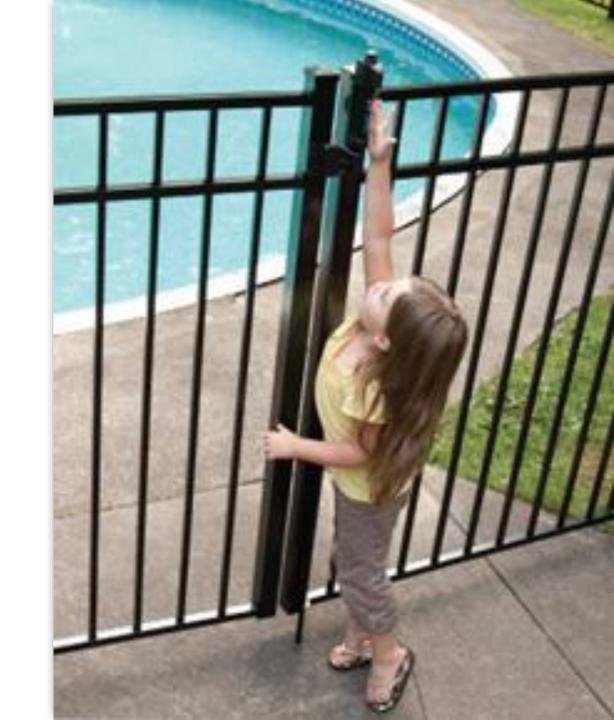
ENCLOSURES

- Before July 1, 1994 Minimum 4 feet high
- After 1994 Minimum 5 feet high
- Max 4-inch gaps between vertical bars
- Max 2-inch distance to ground over dirt or grass.
 All new and remodeled enclosures after September
 1, 2012 must have a max 4-inch distance to ground over durable material (concrete or concrete like)
- Horizontal members minimum 4 feet apart



ENCLOSURES - GATES

- Self-closing
- Self-latching
- Opening hardware minimum 3 ½ feet (42 inches) above the ground
- Exception to self-latching: doors leading from areas of hotels open to general public (restaurants, lobbies, bars, etc.)



LIFESAVING EQUIPMENT

- Life Ring w/ Attached Rope
 - 17-inch-minimum (exterior diameter) life ring.
 - Rope should be long enough to span the entire width of pool.
- Body Hook w/ Pole
 - Provide 12-foot pole with body hook permanently attached.
- For pools greater than 75 feet in length or 50 feet in width, provide life ring and rescue pole on opposing sides





SPA SAFETY

- 104°F max water temperature
- Emergency shutoff switch
 - 1982-1984 Required to shut off only main pump, not jets.
 - 1985 Required to shut off all suction pumps for newly constructed spas.
 - Max 5 feet from spa.





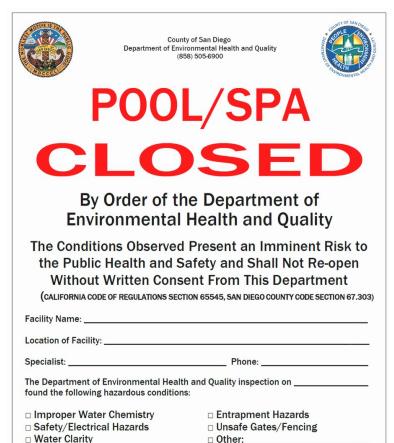
FECAL INCIDENTS

Formed stool

 Chlorine > 2.0 ppm, ≥77°F, pH 7.2 – 7.5 for at least 25 minutes

Diarrhea

- Chlorine 20.0 ppm for 12.75 hours $(\geq 77^{\circ}\text{F}, \text{pH } 7.2^{'} - 7.5)$
- If stabilizer is present, Chlorine 40.0 ppm for 30 hours (≥77°F, pH 6.5)



□ Other:

Penalty for Unauthorized Removal of this Notice

DEHQ:FH-431 (Rev. 7/22)

PLAN CHECK PROCESS



OVERVIEW

- Review of Plan Check Process
- Plan Check Program Update

PLAN CHECK PROCESS: PLAN SUBMITTAL WHAT AND WHY?

- Plans are a graphic representation of the proposed facility which includes utility connections and equipment.
 - CBC 3103B Plan Review
 - 3103B.1 A person proposing to construct, renovate or alter a pool, ancillary facilities or equipment and appurtenances shall submit plans and specifications detailing compliance with this chapter to the enforcing agent for review and written approval prior to commencing construction and shall first be cleared by the enforcing agent before substitution if not an exact duplicate of the units being changed or replaced. A local building department shall not issue a permit for a public pool or ancillary facility until the plans have been approved by the enforcing agent.

PLAN CHECK PROCESS: PLAN SUBMITTAL WHO?

- All locations/facilities that are proposing:
 - New builds
 - Remodels
 - Change of equipment
 - Restroom/Shower changes
 - Enclosure changes
 - Changes/addition of amenities (Fire Pits, BBQs, TVs, Games, etc.)
- Plans shall be <u>submitted and approved before</u> construction work begins

PLAN SUBMISSION

Plan Submission

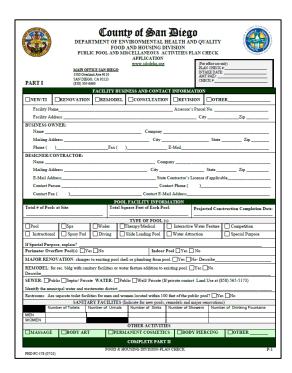
- For every newly built or remodeled pool facility
- Plan submission is required prior to construction
- 1 digital file if submitted online

Plan Review Process

- Plan Submittal
- Plan Review (within 20 business days)
- Plan Approval (construction can then begin)
 - Note: Building Approval Also Needed (for newly build pools and major renovations)
- Facility Inspections (pre-gunite, pre-plaster, and final)
- Approval for Operation (pending health permit application and permit fee payment)

PLAN SUBMISSION WHAT IS NEEDED?

- Plan Packet
 - Plans 3 sets if paper or 1 set if digital
 - Application (not needed if digital)
 - Fees
 - Specification sheets
 - Samples of plaster and/or tile finishes
 - Any other supporting documentation

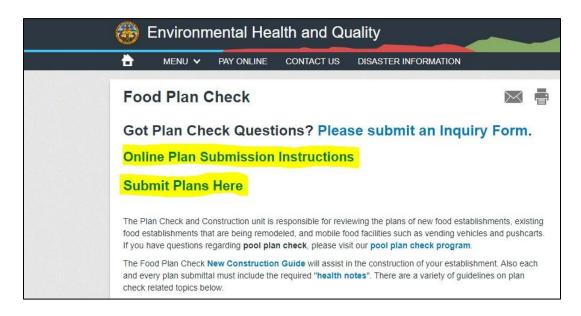


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		FOR OFFICE US	ONLY	
	Permit #:	Plan Check #:	Received Date:	Fee:
		FACILITY INFORMATION		
Facility Name:			Phone Numbe	r
Facility Address:		City:	State:	Zip:
Email:		Assessor's Parcel No.	: -	
		OWNER INFORMATION		
Owner Name:			Phone Numbe	r.
Owner/ Contact Address:		City:	State:	Zip:
Email:				
Designer/Submitter Name:	CONTRACTOR /	DESIGNER / SUBMITTER INFORI	MATION Phone Number	r.
Contact Address:		City:	State:	Zip:
Contractor/Builder Name:		California Contractors	State	License No:
(If other than Submitter)		License Board Type:		
Email:				
(Includes, but not limit and solar heater insta	An alteration or modification to ted to: resurfacing, tile lines, handralis, de liation)	PROJECT DESCRIPTION any part of the facility that does not ck work, enclosure changes, above ground p	lumbing and equipment cha	
	ted to: split suction outlets, surge tanks, a	the below ground plumbing of a BC nd main drain alterations; and changes to a p		ladders, or depths of the BOW
the same location	n, and meets similar specification ation over the counter or online	perment of an existing single piece of one as the existing equipment. An ap- for review by an inspector, (includes, e-make, manufacture, and model number, no	pointment must be mo	ade prior to submitting the
Describe Scope of Work		cation, attach 3 copies of a dia	gram for each bod	y of water and include
ne details identified i or all new and existir	n the "Remodel and Ancill ng equipment, submit one s	ary Facilities Information" se et of specification sheets that ump curves, and NSF-50 appr	ction of this applic includes all produ	ation on the diagran

PLAN SUBMISSION - HOW?

Submitting Plans

- Preferred and most efficient method:
 - Submittal Portal Accela Citizen Access
 https://publicservices.sandiegocounty.gov/CitizenAccess/Default.aspx
- Submittal Instructions & Link available on the Plan Check Website
 - www.sdcountyplancheck.org
- If paper plans to be submitted, submit in-person at our office





PLAN SUBMISSION - HOW?

New Minor Remodel/Renovation Template Submission Package



County of San Diego

DEPARTMENT OF ENVIRONMENTAL HEALTH & QUALITY PUBLIC SWIMMING POOL PROGRAM

P.O. BOX 129261, SAN DIEGO, CA 92112-9261 www.sdcountyplancheck.org

Plan Check Scheduling Line: (858) 505-6660

POOL, SPA, WADER - MINOR REMODEL/RENOVATION PLAN SUBMITTAL PACKAGE

A public pool is defined in the California Building Code, Title 24 as an artificial basin, chamber, or tank constructed or prefabricated with impermeable surfaces that is used or intended to be used, for public swimming, diving, or recreational activities. Any renovation or remodeling to the pool or its ancillary facilities is required to be reviewed by this Department via plan submission (Title 24-3103B).

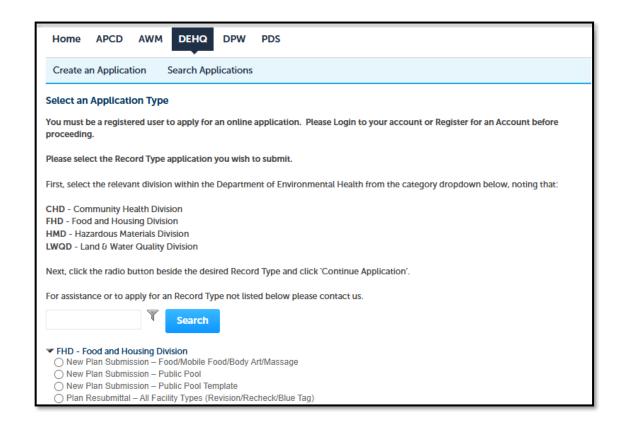
This packet can be used to draw or sketch your proposed pool/spa/wader Minor Remodel or Renovation scope of work and submit to our department for review and approval. You may draw your own plans using this document as guidance, but all items listed in this document must be represented in your submitted plans. Operators are required to have all plans approved prior to the start of construction work to prevent any additional costs that would be incurred if modifications are needed should changes be noted on the plans. All items provided on the following pages are required unless otherwise noted.

Definitions:

"Minor Remodel" means the remodeling of a Body of Water that includes resurfacing or replastering, decking work, above ground equipment changes, enclosure changes, and related ancillary facility modifications.

"Renovation" means making modifications to an existing Body of Water that include replacement or changes to the below ground plumbing of a Body of Water, including surge tanks and main drain alterations.

- Page 2 For your Scope of Work, check all that applies.
- Page 2 Sign and date acknowledgment.
- Page 3-5 Complete these pages for each Body of Water (BOW) with a Scope of Work.
- Page 6-17 Complete applicable Scope of Work documents. Provide specification sheets and plan drawings as indicated that are relevant to your Scope of Work.
- Page 18 Pool Signage Requirements. Any work done will require that all existing signage is updated to meet current code.
- Page 19-21 Example overhead drawings.
- Page 22-24 Draw or attach your own overhead drawings per body of water.
- Page 25-27 Turnover Times and Other Formulas



PLAN CHECK CONSTRUCTION INSPECTIONS

- After the approval of plans, inspections need to be conducted while construction is occurring to ensure the facility is being built to the approved plans
- For **NEWLY** built pools or **MAJOR** remodels there are 4 allotted inspections and could be a combination of the following:
 - Preliminary/Plumbing Inspection (Optional)
 - Pre-Gunite/Plumbing Inspection (Required)
 - Pre-Plaster Inspection (Required)
 - Final Inspection (100% Complete & Required)
 - Any additional inspections would be charged an inspection fee
- After Final Inspection, facility will be given approval to operate (pending health permit application submittal and permit fee payment)

PLAN CHECK CONSTRUCTION INSPECTIONS

- For pool **RENOVATIONS** there are 2 allotted inspections and could be a combination of the following:
 - Plumbing Inspection (Required)
 - Final Inspection (100% Complete & Required)
 - Any additional inspection after the 2 inspections would be charged an inspection fee
- For a **MINOR** pool remodel there is 1 allotted inspection:
 - Final Inspection (100% Complete & Required)
 - Any additional inspection after the 1 inspection would be charged an inspection fee



Plan Check Updates – TDH & SOFAs

- Suction Outlet Fittings Assembly (SOFA) standards updated in 2017 and 2020.
 - ANSI/APSA/ICC-7 updated in 2020
 - ANSI/APSA/ICC-16 updated in 2017
- Suction Outlet Fittings Assembly (SOFA) all components, including the cover/grate, used to attach a cover/grate(s) to the finished surface of a pool and to an individual suction system
- Total Dynamic Head (TDH) the total amount of pressure a pump needs to exert on a fluid to move it through a system. It is measured in feet and is a key factor in pump specifications.
 - Multiple ways to calculate TDH.
 - Using the system's piping or system's dynamics (pressure/vacuum).

Plan Check Updates – TDH & SOFAs

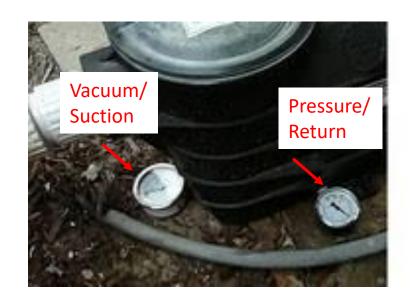
Applicable codes:

- CBC (Title 24) 3126B.3 every public swimming pool shall be equipped with anti-entrapment devices or systems that comply with ANSI/APSP/ICC-16 performance standard, or successor standard designed by the Federal Consumer Product Safety Commission (CPSC).
- ANSI/APSP/ICC-16 2017 Section 1.4 Related Standards: Because the scope of this standard is directly related to suction fittings, it is important to mention that the fittings themselves represent only one portion of the section entrapment scenario. Additional standard to be consulted to provide coverage for the various other potential hazards pools. These other standards include, but are not limited to, the following:
 - ANSI/APSP/ICC-7 2020 Standard for Suction Entrapment Avoidance in Pools
- ANSI/APSP/ICC-7 2020 The term design flow rate will be used to determine the correct pipe size; maximum flow rate will be used to determine the correct suction outlet cover. Flow rates will need to be verified after a project is finished by using a vacuum and pressure gauge, or by using a flow meter that is installed per manufacturer instructions.

Plan Check Updates – TDH & SOFAs

- Due to ANSI/APSP/ICC-7 2020, the design flow rate and maximum flow rate would be determined in conjunction with the respective total dynamic heads (TDHs).
 - Previously, a system was sized to presumptive TDH based on code.
- Plan Review & Inspection:
 - New/Major Remodel we will require the design flow rate to size the system, and the maximum flow rate to size the main drain covers.
 - Renovation/Minor Remodel we will require the maximum flow rate to size the main drain covers.
 - A flow meter, a vacuum gauge (pre-pump), and a pressure gauge (post-pump) will be required to be installed to verify flow rate and TDH. Code section 3125B.2.

Plan Check Updates – GAUGES AND LOCATIONS



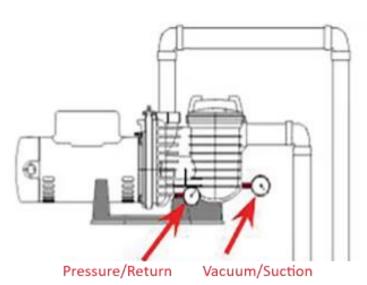


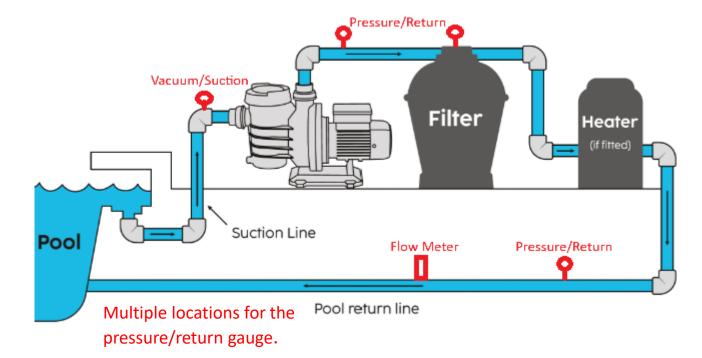




Pressure Gauge

Code Section: 3125B.2 – A pressure and vacuum gauge shall be provided for each pump system.





INDUSTRY UPDATE- Guest Speakers

Steven Barnes, Director of Science and Compliance, Aquastar Pool Products



Kenneth Gregory, Compliance and Safety Manager, Pentair Water Quality



CONTACTS

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 - www.sdcountyplancheck.org submit an online inquiry
 - **(858)** 505-6660
- For Health Permit Inquiries:
 - ► <u>FHDPermits@sdcounty.ca.gov</u>
 - **(858)** 505-6666
- For General Inquiries:
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Questions?