PHOTOS SECT 15 1996

25 JUN 1996

EPIDEMIOLOGIC INVESTIGATION REPORT

1. CASE NUMBER	2. INVESTIGATOR'S ID	3. OFFICE CODE
960528CNE5144	8170	8 0 0
4. INCIDENT DATE: 960525	5. DATE ID/ INITIATED: 960528	

6. SYNOPSIS OF INCIDENT OR COMPLAINT

A 16 year old female drowned in the hot tub of an athletic club when she apparently fell on top of a 12 inch square hyrotherapy floor drain with her buttocks completely covering the drain grate. This formed a complete vacuum holding the victim under the 3' of water in the hot tub. The victim was at the athletic club as part of the planned festivities to keep students from drinking and driving following their high school junior prom the evening before.

7. LOCATION	8. CITY	9. STATE
Athletic club(59)	Wall	NJ X X

10A. FIRST PRODUCT	11A. TRADE/BRAND NAME, MODEL NUMBER, MANUFACTURER & ADDRESS
Custom designed and constructed hot tub(NEISS 0698)	Custom designed concrete and tile hot tub for The Atlantic Club, 1904 Atlantic Ave., Wall, N. J. 07719
10B. SECOND PRODUCT 0700	**11B. TRADE/BRAND NAME, MODEL NUMBER, MANUFACTURER & ADDRESS**
Hyrotherapy drain grate(NEISS ~~0698~~)	Hathaway Model SP-1032, Hathaway Co., address UNKNOWN

12. AGE OF VICTIM	13. SEX	14. DISPOSITION	15. INJURY DIAGNOSIS
016	F=2	DOA=8	Drowning(69)

16. BODY PART	17. RESPONDENT(S)	18. INVESTIGATION TYPE	19. TIME SPENT
All parts(85)	Police, Asst. Medical Examiner, athletic club personnel, health dept.(3)	On-site(01)	24.0 hours

20. ATTACHMENTS	21. CASE SOURCE	22. REVIEWED BY	YR MO DAY
MULTI(9)	Newspaper(05)	8342	

23. PERMISSION TO DISCLOSE NAMES (NON-NEISS CASES ONLY)

CPSC MAY DISCLOSE MY NAME ___ CPSC MAY NOT DISCLOSE MY NAME X

24. NARRATIVE (See Instructions on Page 2)	25. REGIONAL DIRECTOR REVIEW	DATE
	TDS	6-19-96

MFR/PRVLBR NOTIFIED 1/28/96
No Comments made
Comments attached
Excisions/Revisions
Firm has not requested further notice
25(c)

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NOTE: The investigation by authorities into the drowning death of a 16 year old female high school junior at an athletic club is still open. The details and information contained in this report are not final and are subject to change pending release of the final reports. The information contained in this report was from the following sources: Wall Township Police Dept., the athletic club personnel, Monmouth Co. Prosecutor's Office, Monmouth Co. Medical Examiner's Office, Monmouth Co. Dept. of Health, N. J. Dept. of Health and the N. J. Dept. of Community Affairs. Documentation from investigating authorities(police, medical examiner, etc.) has been requested and will be submitted when received. This investigator was accompanied during the on-site investigation of the hot tub by Roy Deppa, ESME.

PRE-INCIDENT

The athletic club where this incident occurred contains a number of newer modern style brick structures on numerous acres of property with surrounding playing and athletic fields. The club is decribed by management as an up-scale club with about 4,000 members. It reportedly has a related club in at least one other state.

The main building on the property houses a large swimming pool, spa, weight rooms, exercise rooms, lobby luncheon and shopping facilities, etc. in addition to the main offices of the club. At least one other spa is reported to be situated in another building on the campus but it reportedly is of a different design. The complete facilities of the club were not examined during this on-site visit. This incident occurred in the main building housing the hot tub.

The club manager mentioned that the club, as part of an agreement with local high schools and parents organizations, rents the use of the facilities out to high schools or parents organizations during prom nights as a means of entertaining the students and reduce the incidents of drinking and driving amongst teenagers. He related that this has been done over the past seven years with thousands of students making use of the facilities. He reports no previous injuries of students using the facilities during these events and this includes the hot tub. Per club manager these events are well chaperoned by parents, teachers and extra security personnel are hired for these events.

Per club manager the victim was part of a group of about 300 high school juniors from a nearby high school who came to the athletic club after their junior class prom on 5/24/96. Reportedly the victim did not attend the prom due to an apparent mixup in

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signing up but did come to the post prom event billed as the school's third annual "Project Prom" held at the athletic club. It runs from approximately midnight to dawn and costs for the event are usually paid for by grants and donations.

Per club manager the hot tub was constructed along with the main building in 1989. The hot tub had been designed by an architect for the club and constructed by a nearby construction company. Reportedly numerous sub-contractors were involved in the construction, with plumbing, electrical, tile work, etc.

Per club manager the hot tub had operated for 7 years and he is not aware of any major repairs, problems or malfunctions. It was reportedly designed for 14-15 occupants at one time.

The hot tub is rated at 2500 gallons capacity and is situated in the main building on an elevated tiled area next to the swimming pool. Two steps lead up to the blue tiled section where the hot tub is located. The elevated section has a metal railing to separate it from the pool area on one side and from a handicapped entrance on the opposite side. Situated on the elevated tiled section were some white metal chairs, chaise lounges and a glass topped umbrella table.

Exhibit A is a diagram of the basic hot tub design with the architects listed at the bottom. The actual configuration and dimensions differ slightly as does the location of the main drains(MD). See Exhibit B. Exhibit C are the specifications by the construction company for the hot tub known as "Whirlpool #1". Note that the involved hot tub has two hydrotherapy drains and one center main drain or recirculating drain connected to the filtration system.

The township police report that the victim arrived at the club sometime between midnight on 5/24 and 0100 hrs. on 5/25/96. She is described as being outgoing and active in many school activities with many friends. The victim's father is a detective with the police department. The occupation of the victim's mother is unknown. The victim has an older brother, age 24. Per medical examiner's office the victim measured 66" and weighed approximately 200 lbs. before organ harvest and there were no signs of past physical impairments or injuries such as broken bones, impaired eyesight, etc.

Per township police immediately prior to the incident, the victim had gone swimming in the pool and then reportedly went into the adjoining hot tub to warm up sometime between 0430 hours and 0500 hours on 5/25/96. The victim was attired in a bikini bathing suit while in the swimming pool and hot tub.

During the time the victim entered the hot tub there were reportedly 7 other individuals in the hot tub. Per club manager

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the hot tub water temperature was set at 100oF. The victim was believed to have been in the hot tub for only a brief period of time, a few minutes, when the incident occurred. She was sitting on the seating ledge of the hot tub near the swimming pool side(see photographs/Exhibit B). This ledge is 18" above the hot tub floor and the back extends up another 24". The ledge is 16" wide. The hot tub reportedly had a 3' depth of water throughout.

Per police the victim was reportedly chatting with the other students in the spa as she was seated on the ledge and told them she was going to get her hair wet. She apparently was sitting on the edge of the ledge seat and she bent over at the waist and dunked her head underwater to get her hair wet. She apparently slipped off the edge of the ledge seat and landed on her buttocks over an approximately 12" square hydrotherapy drain cover which is flush with the tiled bottom of the hot tub. The drain cover is approximately 32" from the ledge wall. The victim's head was completely underwater at this time.

The exact sequence of events is still under investigation but it appears that the victim's buttock completely covered the 12" square drain opening. The police report that sometime shortly before the victim dunked her head into the water, a student activated the ON switch to start the two hydrotherapy pumps for the hot tub. This ON switch is located on a wall about 20'-25' from the hot tub. It is an ON switch only and will not stop the pumps. An OFF switch to the pumps is located downstairs in the pump/filter area. The On switch, once activated, is automatically timed to run the hydrotherapy pumps for a period of approximately 10 minutes before it will automatically shut off the pumps.

Per medical examiner it appears from the marks and indentations on the victim's buttocks that her buttocks covered the entire 12" square drain forming a total vacuum. The victim's buttocks were being sucked down the drain as the plastic drain grate broke. This occurred either at impact on the grate or shortly thereafter, the ABS plastic grate broke into four almost equal pieces of 6" square. The indentations left on the victim's buttock show this break in the grate with the grate and victim's buttocks being forced downward into the sump.

The police report that the victim's arms and hands were flailing about apparently trying to grab someone for assistance. People in the hot tub thought the victim was playing. It was not until the victim failed to surface that they attempted to lift the victim from the drain. This failed even with two lifeguards and a security officer assisting. An estimated five individuals were attempting at the same time to remove the victim from the drain but to no avail. It was at that time that a pool employee ran down to the basement and turned the pump switch OFF. It reportedly then took about two minutes for the suction to

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dissipate permitting the victim to be released from the drain and removed from the hot tub.

INCIDENT

A 16 year old female drowned in the hot tub of an athletic club when she apparently fell on top of a 12 inch square hydrotherapy floor drain with her buttocks completely covering the drain grate. This formed a complete vacuum holding the victim under the 3' of water in the hot tub.

POST INCIDENT

Per police it is estimated that the time interval between when the victim fell onto the drain and when the pump was turned off at 5 to 8 minutes. It is known that the 10 minute pump cycle had not ended. The victim was transported to the hospital but reportedly no vital signs were evident. The victim was pronounced dead at approximately 0930 hours on 5/25/96.

The police stated that they have the victim's bikini top but not the bottom. Per assistant medical examiner, the bikini tops were on the victim when she arrived but not the bottoms. These may have been sucked down the drain and snared in the system. The two hydrotherapy drains are each powered by a single pump with no bypass connections and the returned water is forced through the 23 jets mounted on the upper sides of the hot tub. The number of jets to each pump is not immediately known.

The hot tub was drained after the incident and declared off limits by the township police. The club management reportedly is waiting for recommendations from the N. J. Dept of Health and/or N. J. Dept. of Community Affairs as to what measures can be taken to prevent a reoccurrence. The management of the club appears willing to expend the necessary funds required to make whatever changes are recommended to the hot tub.

When the hot tub was constructed in 1989, the New Jersey State Sanitary Code Chapter IX on Public Recreational Bathing(January 1987) was in effect(Exhibits D1/2). It calls for either a bypass outlet, an antivortex drain or a 12" x 12" or larger square grate. In this hot tub design the 12" x 12" grate was used. These requirements were also included in the May 1991 revision of the Sanitary Code(Exhibit E). On or about 1992, CPSC and ANSI recommended installation of antivortex grates and a bypass system (two drains, drain plus skimmer, etc.)on all hot tubs, spas, etc. However the Sanitary Code was reportedly not amended to reflect the updates in the voluntary national code requirements.

The shut off switch to the hot tub is located on a wall mounted panel box in the pump/filtration area almost directly beneath the hot tub. To reach the shut off switch from the hot tub requires

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going around one end of the swimming pool, through an office, through the lobby, through an exercise room, through a weight room and then down two flights of stairs into the basement. From there one must pass through a workshop area, a storage area and then into the pump/filtration area where 8 shut off switches are located on the wall. Switch #4 shuts off the hot tub. During a reconstruction of the actual shut off event, it took an experienced athletic club employee familiar with the location of the switch almost one minute at a fast pace to turn off the switch.

PRODUCT IDENTIFICATION

The hot tub involved in this incident was at The Athletic Club, 1904 Atlantic Ave., Wall, N. J. 07719. It was reportedly constructed in 1989 along with the main building. The architect designing the hot tub was Gym Wilson Architects, 37 South Main St., Lumberton, N. J. 08048. The hot tub was reportedly constructed by South Jersey Concrete Construction Co., Inc., 573 Ramtown Rd., Howell, N. J. 07731 which reportedly subcontracted out the tile work, electrical, plumbing, etc. The identities of the subcontractors is not known at this time.

Exhibit A shows the basic hot tub configuration but there was some variations in the actual hot tub constructed. Exhibit B is a more accurate sketch particularly with respect to location of drains. It is not to scale.

Each recirculating drain was powered by a 10 hp. motor. The original motors are by U. S. Electrical Motors, Div. of Emerson Electric Co., Milford, CT., however one orginal motor was reportedly replaced by another U. S. Electrical Motors motor rated at the same capacity. It is not known when this change took place. It appears from placements of the pumps in the basement that the original pump powered the drain involved in this incident while the replacement pump powered the noninvolved drain. This is based upon the location of the pump and plumbing in the basement with location of the hydrotherapy drains upstairs. The exact pump/drain involvement would require removal of basement ceiling panels or the plumbing schematic.

It appears that no bypass system was in place for each pump and a 6" diameter PVC pipe drained directly from the hydrotherapy sump to each pump and each pump then forced the water through a 4" diameter PVC pipe to the jets as previous mentioned. The two 10 hp. motors are rated at 3500 rpm at 480V 60 HZ.

The hydrotherapy pumps are by Sta-Rite Industries, Inc., Delavan, WI. Attached as Exhibit F are pump specification sheets. The plastic grates and frames are made of ABS plastic. The hydrotherapy grates measured approx. 11 3/4" square. The main drain or recirculating drain measures approx. 9 1/2" square.

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The grate involved in this incident broke into 4 almost equal size pieces of approx. 6" square. The grate is discolored brown apparently from the bromine used in the hot tub. The age of this grate is not known. The involved grate did not bear any markings or identification.

The grate not involved in this incident appears to be of a heavier thicker plastic and is whiter indicating it may be a replacement grate whereas the involved grate is original. The noninvolved grate bears the designation " H SP-1032 B" on a back crossmember. H is reportedly for the manufacturer, Hayward, address unknown. Exhibit G is a specification sheet listing Model SP-1032 at 12" x 12" with 4 securing screws. Note that the police could not locate any securing screws on any grates in the hot tub.

The cast concrete hyrotherapy sumps were the approximate size of a 5 gallon bucket and measured 13" diameter at top and were 14 1/2" deep. Each has an approximately 6" diameter hole in the side where apparently the 6" diameter PVC drain pipe is connected. Each sump had a 2 1/2" diameter drain plug at the bottom.

STANDARDS

The hot tub involved in this incident was reportedly constructed to codes and standards in effect at time of construction in 1989. The component pieces and equipment used in the hot tub appear to meet their respective codes at time of installation.

EXHIBITS

Exhibit A: Hot tub diagram from architect
Exhibit B: Diagram with dimensions by investigator
Exhibit C: Specification sheet for hot tub(Whirlpool #1)
Exhibit D1/D2: N. J. State Sanitary Code(1987)
Exhibit E: N. J. State Sanitary Code(1991)
Exhibit F: Pump specification sheets
Exhibit G: Drains, frames & grates specification sheet
Exhibit H: Photocopy of autopsy photograph(Polaroid)
Exhibits I1/I54: Photographs
Exhibit J: Autopsy/Toxicology Reports

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NEW JERSEY STATE
DEPARTMENT OF HEALTH
CN 364
TRENTON, N.J. 08625-0364

NEW JERSEY STATE SANITARY CODE
CHAPTER IX
PUBLIC RECREATIONAL BATHING
N.J.A.C. 8:26-1 et seq

JANUARY 1987

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(k) The design and construction of recessed treads, when provided, shall conform to the following:

1. Stepholes at the centerline shall have a uniform vertical spacing of 12 inches (30 centimeters) maximum and 7 inches (17.5 centimeters) minimum.

2. Maximum vertical distance between the coping edge and the uppermost recessed tread shall be 12 inches (30 centimeters).

3. Stepholes shall have a minimum tread depth of 5 inches (13 centimeters) and a minimum tread width of 12 inches (30 centimeters).

4. Stephole treads shall drain into the tub or spa to prevent the accumulation of dirt thereon.

5. Each set of recessed treads shall be provided with two handrails to fully serve all treads and risers.

8:26-4.3 Decks: construction and design

(a) Decks shall be in conformance with the requirements for swimming pool decks and found at N.J.A.C. 8:26-3.10, and as follows:

1. Decks, ramps, and similar surfaces, including step treads and coping, shall be slip-resistant. The roughness or irregularity of such surfaces shall not cause injury or discomfort under intended use.

2. A 4 foot wide minimum continuous unobstructed deck, which may include the coping, shall be provided around 50 percent or more of the hot tub or spa.

3. Decks shall be edged, radiused or otherwise relieved so as not to present exposed sharp corners.

8:26-4.4 Heater and temperature requirements

(a) The maximum temperature of the hot tub or spa water shall be 104 degrees Fahrenheit (40 degrees centigrade).

(b) A thermostatic control for the water temperature shall be installed and maintained in good operating condition.

(c) An audible alarm to warn users and management and an automatic safety to shut off heater when the temperature exceeds 104 degrees Fahrenheit (40 degrees centigrade) shall be provided.

(d) A thermometer accurate to plus or minus 2 degrees Fahrenheit and visible to the public shall be provided.

8:26-4.5 Electrical, illumination and ventilation requirements

All electrical wiring, illumination and ventilation shall comply with the requirements of the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

8:26-4.6 Protection of potable water

(a) Physical connections between potable water systems and pool circulation systems shall not be permitted.

(b) Potable water for hot tub or spa make-up purposes shall be added by way of an over-the-rim spout properly shielded which does not create a safety hazard. The open end of the spout shall have no sharp edges and protrude no more than 2 inches (5.1 centimeters) beyond the edge of the hot tub or spa.

(c) An alternate method of adding make-up water may be employed with the approval of the health authority.

8:26-4.7 Inlets and outlets

(a) Inlets and outlets shall be provided and arranged to produce a uniform circulation of water so as to maintain a uniform disinfectant residual throughout the spa.

(b) A means shall be provided to drain the hot tub or spa which may include: bottom drains, circulatory drains, or any other approved drain.

(c) Grates shall conform to the following rules:

1. The total velocity through grate openings shall not exceed 2 feet per second (61 centimeters/second).

2. The open area in the grates shall be of such design as to prevent physical entrapment of fingers, toes, etc.

3. Outlets, except skimmers, shall be covered with suitable protective grates that cannot be removed except with tools.

(d) Water velocity in the pool piping shall not exceed 10 feet per second (3.05 meters/second) for discharge piping, except for copper pipe where the velocity for piping shall not exceed 8 feet per second (2.44 meters/second).

1. Suction velocity for all piping shall not exceed 6 feet per second (1.83 meters/second).

2. Water velocity in asbestos cement pipe shall not exceed 6 feet per second (1.83 meters/second).

(e) Spa outlets shall be designed so that each pumping system (filter system(s) or ~~booster~~ system(s)), if so equipped, provides one of the following:

1. Two outlets whose pipe diameter sizes are equal, (This may be two outlet drains or an outlet drain and a skimmer. The system shall be designed so that neither one of the two outlets can be cut out of the suction line by a valve or other means) or;

2. One antivortex drain, (in depths 4 feet 6 inches (1.37 meters) and less, the antivortex drain shall not provide a tripping or stubbing hazard to the feet) or;

3. A 12 inch x 12 inch (30 centimeters x 30 centimeters) or larger square grate, or;

4. Other approved means that guard against outlet entrapment.

8:26-4.8 Circulation systems

(a) The circulation equipment shall be sized to turn over the entire pool water capacity at least once every 30 minutes and shall be capable of returning the pool water to a turbidity of 0.50 NTU's or equivalent within 4 hours following the peak bather load.

(b) An influent pressure gauge with an appropriate range shall be provided on all filters.

(c) A flow meter shall be provided which meets the requirements outlined in N.J.A.C. 8:26-3.15(f).

(d) Filters shall be designed to maintain hot tub or spa water under anticipated operating conditions in accordance with (a) above.

1. All separation tanks must have a cautionary statement warning the user not to start up the filter pump without first opening the air release. The statement must be visible and noticeable within the the area of the air release.

2. Piping furnished with the filter shall be of suitable material capable of withstanding three times the working pressure. The suction piping shall not collapse when there is a complete shut-off of flow on the suction side of the pump.

3. Filter components which require servicing shall be accessible and available for inspection and repair when installed according to the manufacturer's instructions.

4. Filters shall meet such safety and performance standards as will provide safe operation

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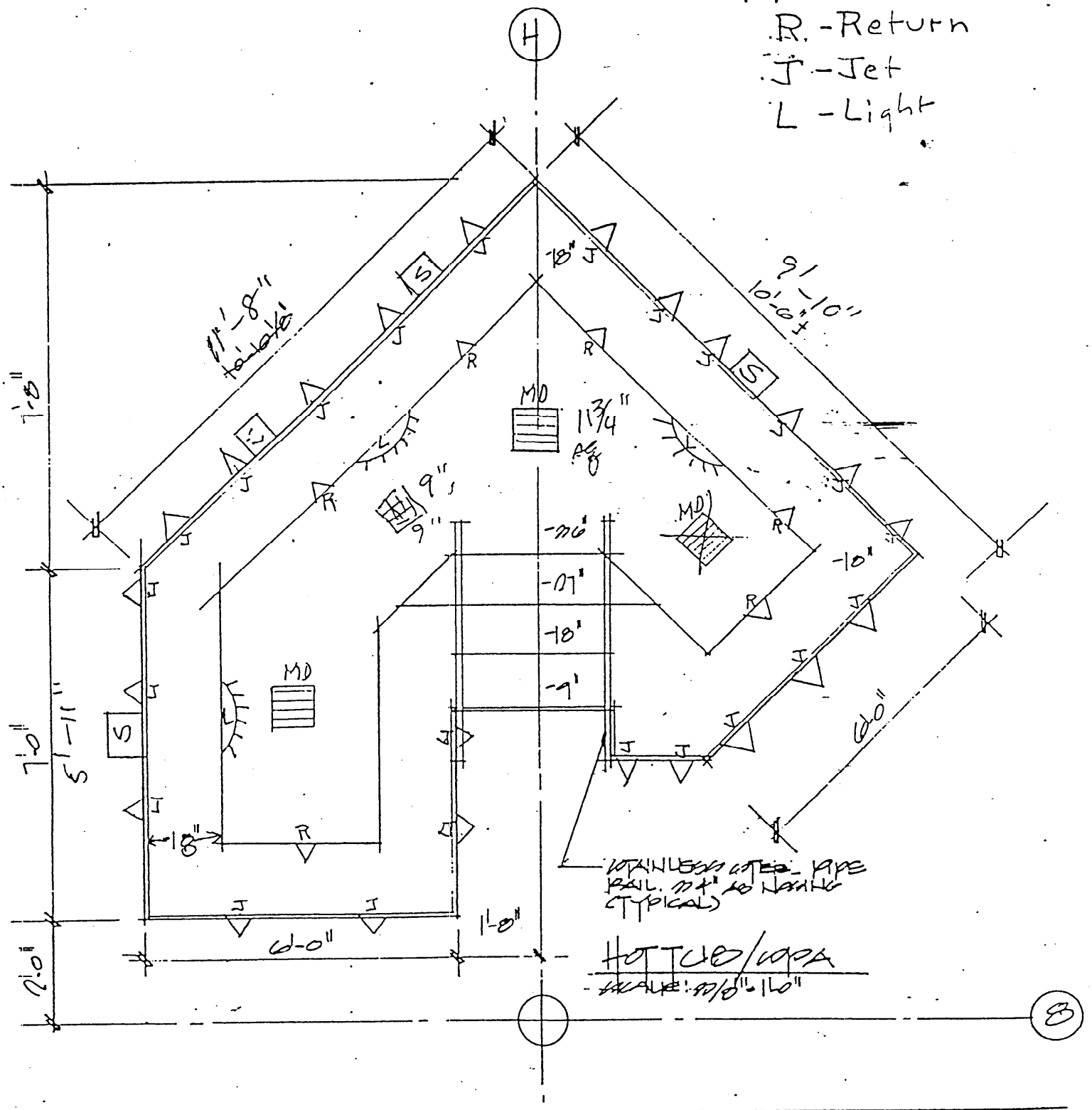
MD - Main Drain
R - Return
J - Jet
L - Light



SHT.TITLE SKETCH FOR HOT TUB/SPA @ NATATORIUM

SHT.NO. AD4

PROJECT THE ATLANTIC CLUB

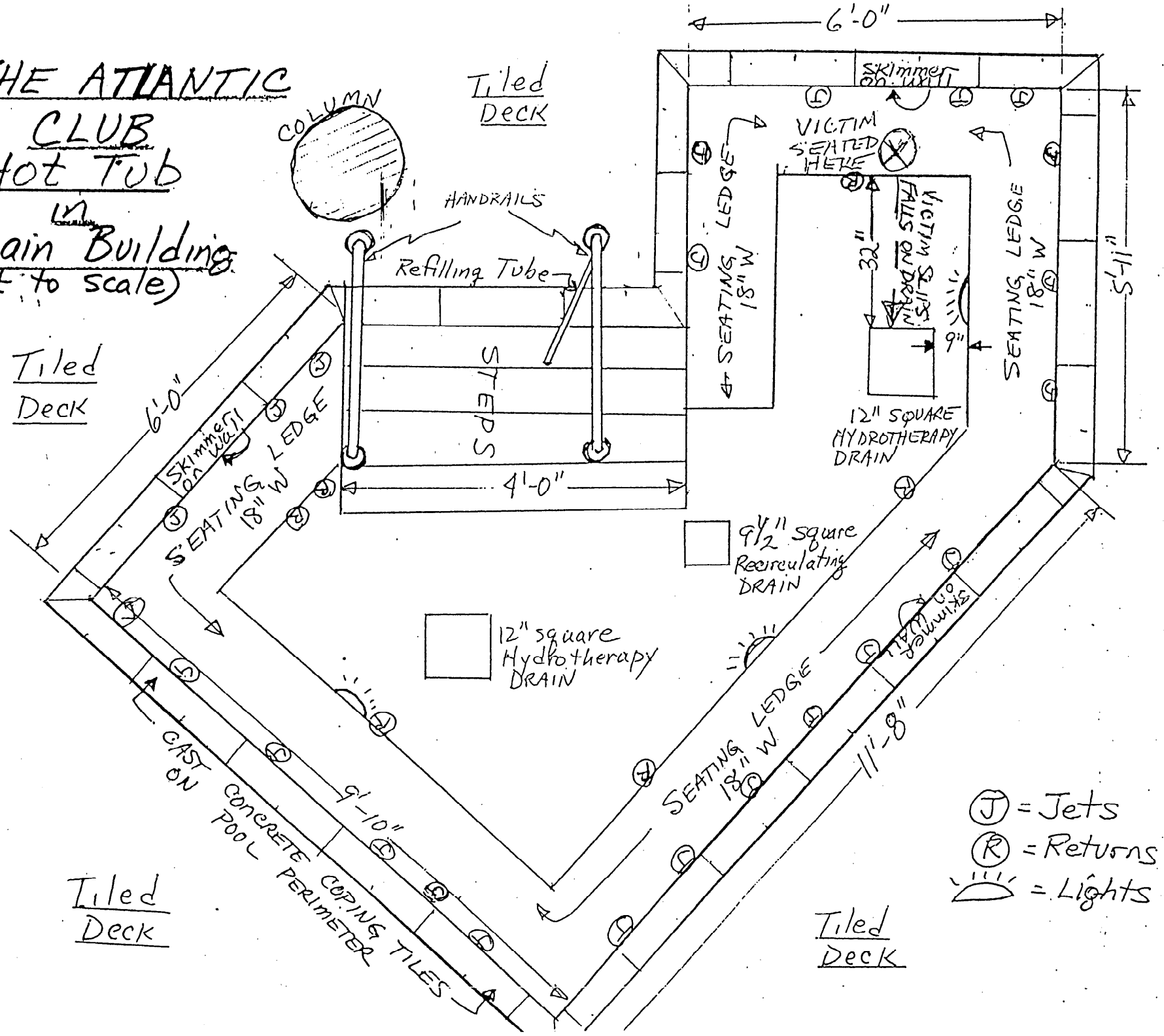
PROJ.NO. 85A292

25 AUG 88

GYM WILSON ARCHITECTS
37 South Main Street
Lumberton, New Jersey 08048

25 JUN 1996

THE ATLANTIC CLUB Hot Tub in Main Building (not to scale)



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SOUTH JERSEY CONCRETE CONSTRUCTION CO., INC.
573 RAMTOWN RD., HOWELL, NEW JERSEY 07731
201-458-2446

WHIRLPOOL #1

POOL DATA
****
POOL SIZE 10' X 10'
DEPTH 3' TO 3'
PERIMETER Ft 48 LF
SQUARE Ft 117 sq ft
POOL CAPACITY 2500 gal.
FILTER TURNOVER RATE 25 minutes
FILTRATION RATE 100GPM
BACKWASH RATE 100GPM

POOL EQUIPMENT
****
FILTER SIZE 2-30" Sand filters
PUMP 2 H.P. 100 G.P.M.
SKIMMER(S) # 4
MAIN DRAIN(S) # 3
INLET FITTING(S) # 6
CHLORINATOR OR BROMINATOR
VACUUM & VACUUM HOSE 20 Ft
BRUSH, TEST KIT, THERMOMETER, & LEAF SKIMMER
ROPE ANCHORS, & ROPE n.a Ft WITH FLOATS
HYDROSTATIC RELEIF VALVE WHERE NECESSARY
LIGHT(S) # 3 TO MEET N.E.C.
LADDER(S) #n.a. MUST BE GROUNDED PER N.E.C.

POOL CONSTRUCTION
****
1-GUNITE OR CONCRETE 7DAY STRENGTH 2500#
28DAY STRENGTH 4000#
2-THIS IS A NO DIVING POOL
3-FRESH WATER FILL MUST HAVE A VACUUM BREAKER
OR ANTI SYPHON VALVE
4-GROUNDING OF POOL RODS, LADDERS, RAILINGS AND
PATIO WIRE MESH. BY LICENSE ELECRICIAN N.E.C.
5-ELECTRIC MOTOR(S) & ELECTRIC COMPONENTS MUST
HAVE A GROUND FAULT DETECTING INTERRUPTER N.E.C.
6-POOL HAS TO BE FULL OF WATER YEAR ROUND
7-EXPANSION JOINT IS REQUIRED BETWEEN OUTER
VERTICAL SURFACE OF POOL WALL & CONCRETE PATIOS
8-COPING TO BE CONCRETE PRE CAST
9-LIFE GUARD CHAIR
10-DEPTH MARKERS TO BE 4" HIGH OF CONTRASTING
COLORS, AT 1'0" DEPTHS ON COPING & INSIDE OF POOL

STA-RITE

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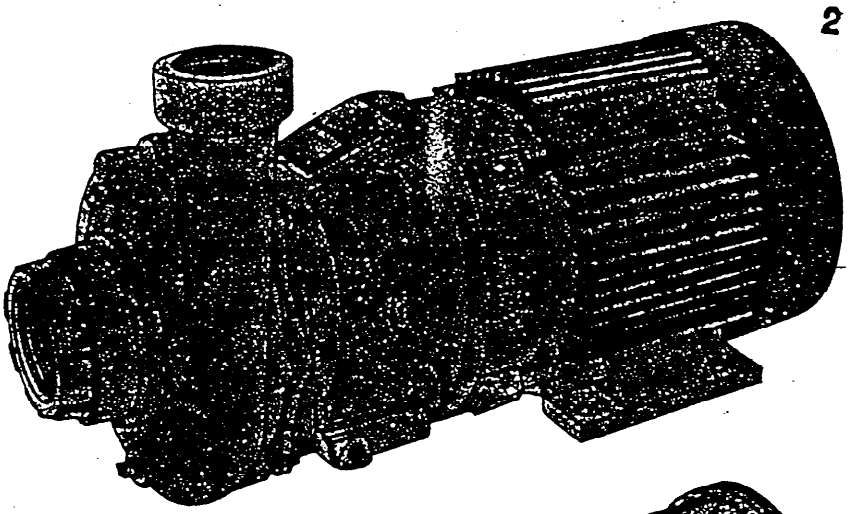


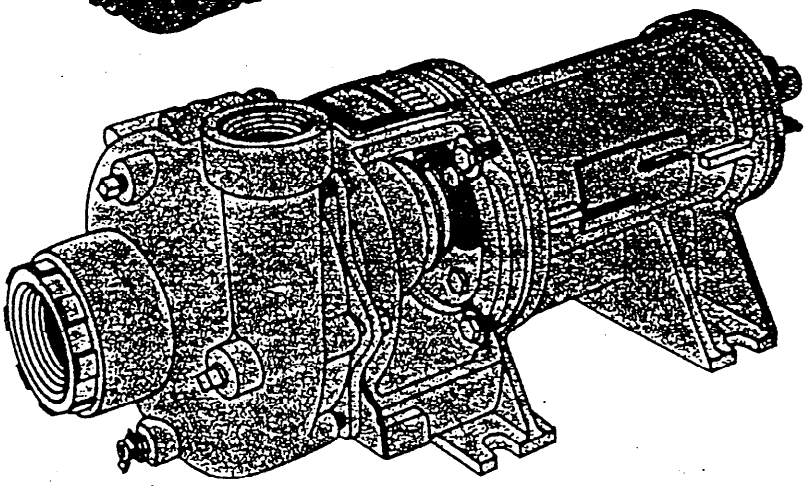
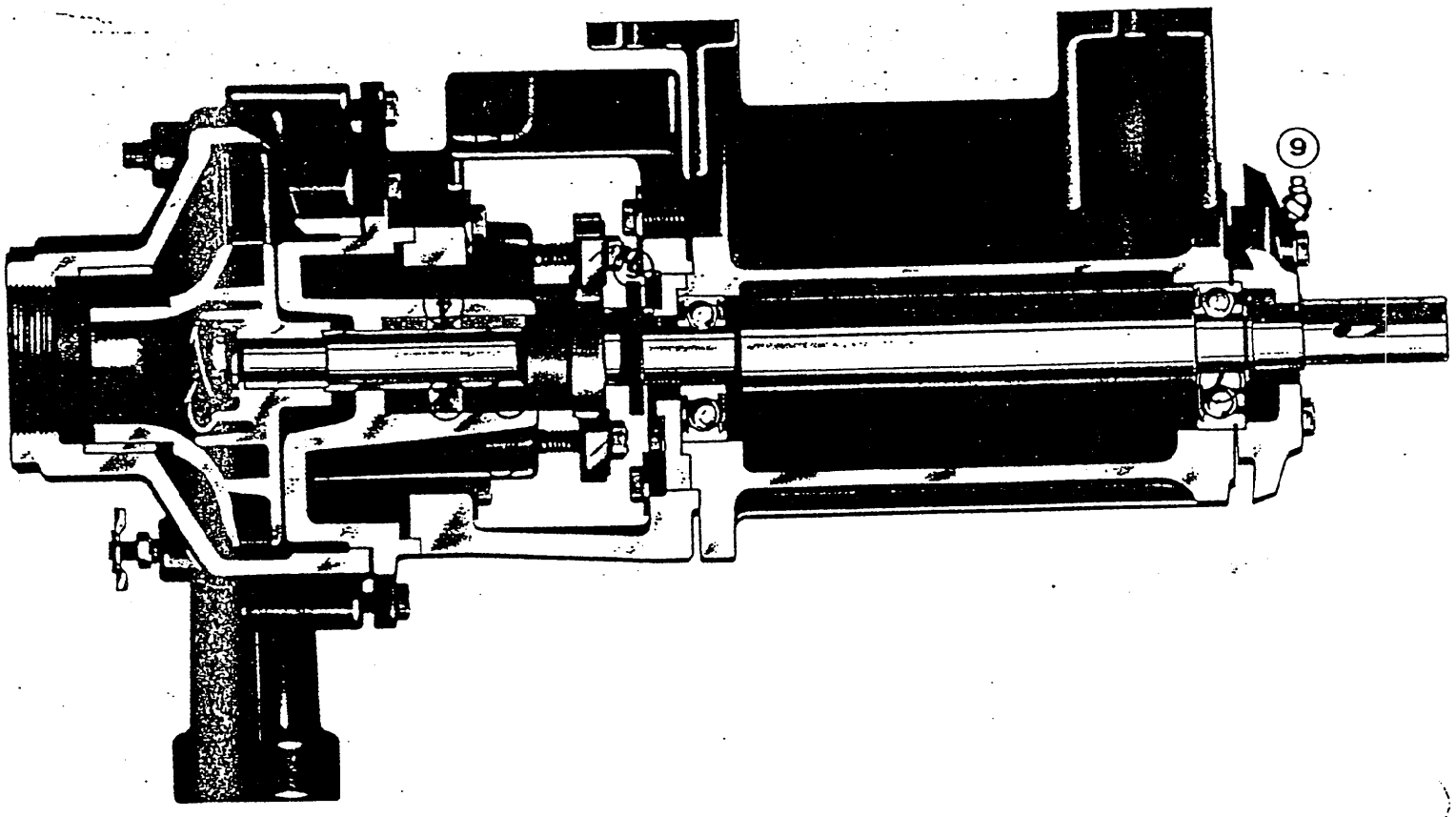


EXHIBIT F(1 of 4)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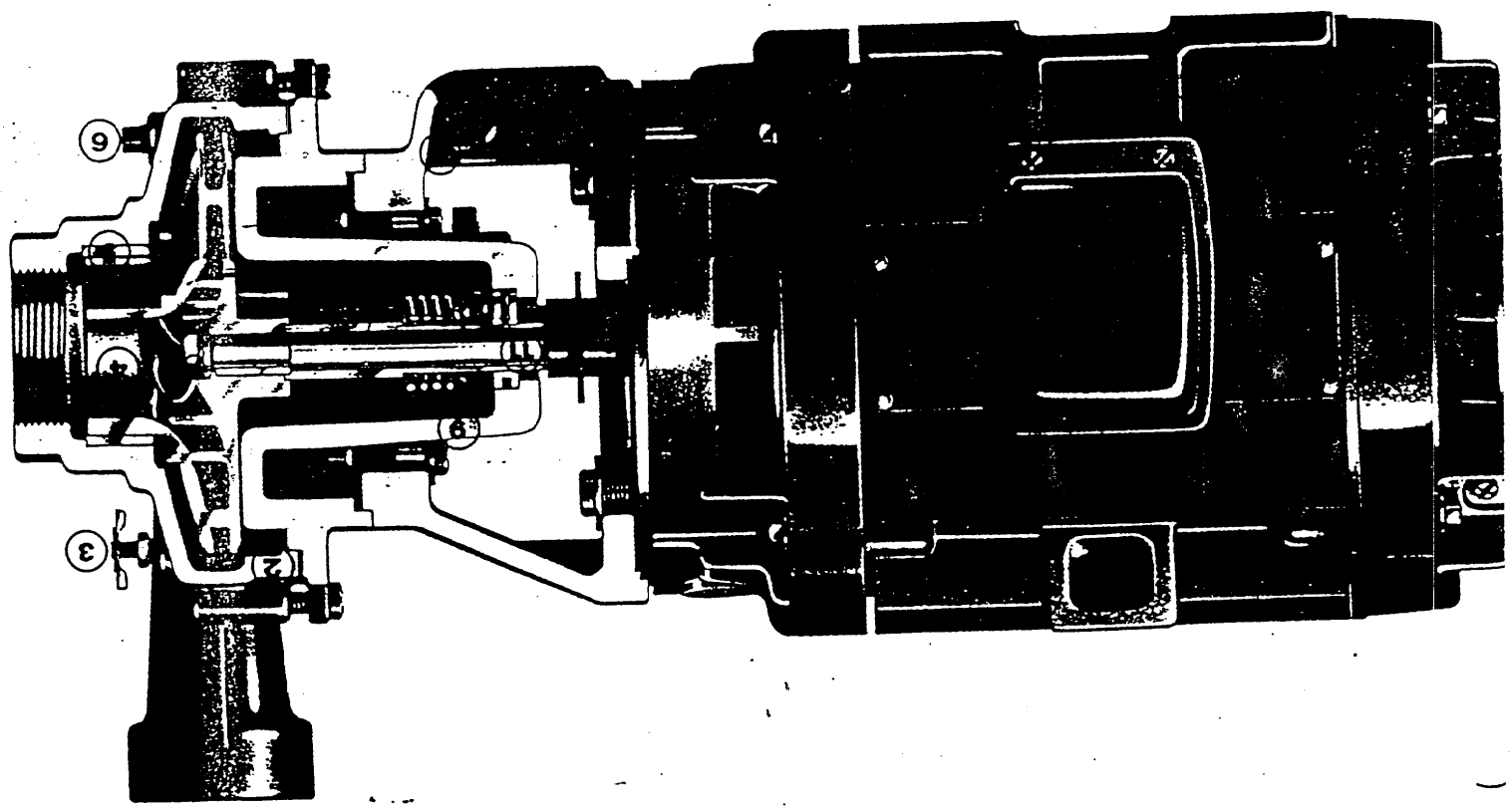
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3

STA-RITE INDUSTRIES, INC.
a WICOR company

CATALOG NUMBER NOMENCLATURE IDENTIFICATION

FOR FRAME MOUNTED UNITS

EXAMPLE CATALOG NUMBER FOR MODEL 3 x 4 x 6

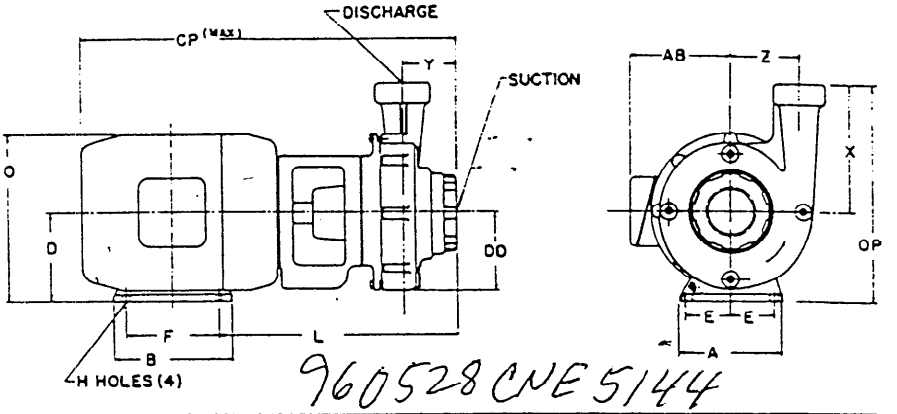
30 E 2 CS 60 - PM 6

- 6 — For Internal Use Only
- PM — Bearing Frame
  - P = Pedestal
  - S = Small
  - M = Medium
  - L = Large
- 60 — For Internal Use Only
- CS — Type of Construction
  - C = Cast Iron Fitted
  - B = Bronze Fitted
  - S = Mechanical Seal
  - P = Packing
- 2 — Maximum RPM - 2 = 2 Pole (3600 RPM), 4 = 4 Pole (1800 RPM)
- E — "E" Series Centrifugal Pump
- 30 — Discharge Size - 15 = 1-1/2", 20 = 2", 25 = 2-1/2", 30 = 3"

STA-RITE

"E" SERIES OUTLINE DIMENSIONS

CLOSE COUPLED



960528 CNE 5144

Pump Model	Frame	Disch.	Suct.	A	AB	B	CP	D	DD	E	F	G	H	L	O	OP	X	Y	Z
1½x2x6	143JP	1½	2	7	7 1/16	5	21 3/8	3½	4⅛	2¾	4	7/16	11/32	13¾	7¼	8½	5	3 11/16	3⅝
1½x2x6	145JP	1½	2	7	7 1/16	6	22⅜	3½	4⅛	2¾	5	7/16	11/32	13¾	7¼	8½	5	3 11/16	3⅝
1½x2x6	182JP	1½	2	9	8½	5¾	23½	4½	4⅛	3¾	4½	9/16	13/32	14½	9⅜	9½	5	3 11/16	3⅝
1½x2x6	184JP	1½	2	9	8½	6¾	24½	4½	4⅛	3¾	5½	9/16	13/32	14½	9⅜	9½	5	3 11/16	3⅝
1½x2x6	213WC	1½	2	10½	9 11/16	7	26⅛	5¼	4⅛	4¼	5½	⅝	13/32	15⅜	11⅛	10¼	5	3 11/16	3⅝
1½x2x8½	143JP	1½	2	7	7 1/16	5	20¾	3½	5 5/16	2¾	4	7/16	11/32	13⅛	7¼	10	8½	3¼	4⅝
1½x2x8½	145JP	1½	2	7	7 1/16	6	21¾	3½	5 5/16	2¾	5	7/16	11/32	13⅛	7¼	10	8½	3¼	4⅝
1½x2x8½	182JP	1½	2	9	8½	5¾	23⅞	4½	5 5/16	3¾	4½	9/16	13/32	13⅛	9⅜	11	8½	3¼	4⅝
1½x2x8½	184JP	1½	2	9	8½	6¾	23 13/16	4½	5 5/16	3¾	5½	9/16	13/32	13⅛	9⅜	11	8½	3¼	4⅝
1½x2x8½	213WC	1½	2	10½	9 11/16	7	25½	5¼	5 5/16	4¼	5½	⅝	13/32	14¾	11⅛	11¾	8½	3¼	4⅝
1½x2x8½	215WC	1½	2	10½	9 11/16	8½	27	5¼	5 5/16	4¼	7	⅝	13/32	14¾	11⅛	11¾	8½	3¼	4⅝
1½x2x12	145JP	1½	2	7	7 1/16	6	24 3/16	3½	7¼	2¾	5	7/16	11/32	15 9/16	7¼	13½	10	4⅝	6¾
1½x2x12	182JP	1½	2	9	8½	5¾	25⅝	4½	7¼	3¾	4½	9/16	13/32	16 5/16	9⅜	14½	10	4⅝	6¾
1½x2x12	184JP	1½	2	9	8½	6¾	26⅝	4½	7¼	3¾	5½	9/16	13/32	16 5/16	9⅜	14½	10	4⅝	6¾
1½x2x12	213JP	1½	2	10½	9 1/16	7	27 13/16	5¼	7¼	4¼	5½	⅝	13/32	17 3/16	11⅛	15¼	10	4⅝	6¾
1½x2x12	215JP	1½	2	10½	9 1/16	8½	29 7/16	5¼	7¼	4¼	7	⅝	13/32	17 3/16	11⅛	15¼	10	4⅝	6¾
1½x2x12	254JP	1½	2	12⅜	10 11/16	10½	31 13/16	6¼	7¼	5	8¼	¾	17/32	17 11/16	13¼	18¼	10	4⅝	6¾
2x2½x7	143JP	2	2½	7	7 1/16	5	20⅞	3½	4 5/16	2¾	4	7/16	11/32	13 5/16	7¼	11	7½	3¼	4⅛
2x2½x7	145JP	2	2½	7	7 1/16	6	21⅞	3½	4 5/16	2¾	5	7/16	11/32	13 5/16	7¼	11	7½	3¼	4⅛
2x2½x7	182JP	2	2½	9	8½	5¾	23	4½	4 5/16	3¾	4½	9/16	13/32	14 1/16	9⅜	12	7½	3¼	4⅛
2x2½x7	184JP	2	2½	9	8½	6¾	24	4½	4 5/16	3¾	5½	9/16	13/32	14 1/16	9⅜	12	7½	3¼	4⅛
2x2½x7	213WC	2	2½	10½	9 1/16	7	25⅝	5¼	4 5/16	4¼	5½	⅝	13/32	14 13/16	11⅛	12¾	7½	3¼	4⅛
2x2½x7	215WC	2	2½	10½	9 1/16	8½	27⅛	5¼	4 5/16	4¼	7	⅝	13/32	14 13/16	11⅛	12¾	7½	3¼	4⅛
2½x3x9	145JP	2½	3	7	7 1/16	6	23 11/16	3½	5⅜	2¾	5	7/16	11/32	15⅛	7¼	12⅜	8⅞	4 1/16	5 3/16
2½x3x9	182JP	2½	3	9	8½	5¾	24 13/16	4½	5⅜	3¾	4½	9/16	13/32	15⅞	9⅜	13⅜	8⅞	4 1/16	5 3/16
2½x3x9	184JP	2½	3	9	8½	6¾	25 13/16	4½	5⅜	3¾	5½	9/16	13/32	15⅞	9⅜	13⅜	8⅞	4 1/16	5 3/16
2½x3x9	254JP	2½	3	12⅜	10 11/16	10½	31⅞	6¼	5⅜	5	8¼	¾	17/32	17¼	13¼	15⅛	8⅞	4 1/16	5 3/16
2½x3x9	256JP	2½	3	12⅜	10 11/16	12¼	33⅛	6¼	5⅜	5	10	¾	17/32	17¼	13¼	15⅛	8⅞	4 1/16	5 3/16
2½x3x9	284JP	2½	3	13⅞	12⅝	12¼	33⅞	7	5⅜	5½	9½	⅞	17/32	17¼	15	15⅞	8⅞	4 1/16	5 3/16
2½x3x9	286JP	2½	3	13⅞	12⅝	13¾	34⅜	7	5⅜	5½	9½	⅞	17/32	17¼	15	15⅞	8⅞	4 1/16	5 3/16
2½x3x9	324JP	2½	3	15⅞	15⅛	13¾	35 5/16	8	5⅜	6¼	10½	⅞	21/32	17¾	17	16⅞	8⅞	4 1/16	5 3/16
2½x3x12	182JP	2½	3	9	8½	5¾	28 3/16	4½	7½	3¾	4½	9/16	13/32	17⅛	9⅜	14⅞	10⅜	5 3/16	7
2½x3x12	184JP	2½	3	9	8½	6¾	27⅞	4½	7½	3¾	5½	9/16	13/32	17⅛	9⅜	14⅞	10⅜	5 3/16	7
2½x3x12	213JP	2½	3	10½	9 1/16	7	28¾	5¼	7½	4¼	5½	⅝	13/32	18	11⅛	15⅞	10⅜	5 3/16	7
2½x3x12	215JP	2½	3	10½	9 1/16	8½	30¼	5¼	7½	4¼	7	⅝	13/32	18	11⅛	15⅞	10⅜	5 3/16	7
2½x3x12	254JP	2½	3	12⅜	10 11/16	10½	32⅞	6¼	7½	5	8¼	¾	17/32	18½	13¼	16⅜	10⅜	5 3/16	7
2½x3x12	256JP	2½	3	12⅜	10 11/16	12¼	34⅜	6¼	7½	5	10	¾	17/32	18½	13¼	16⅜	10⅜	5 3/16	7
2½x3x12	284JP	2½	3	13⅞	12⅝	12¼	34⅜	7	7½	5½	9½	⅞	17/32	18½	15	17⅜	10⅜	5 3/16	7
3x4x6	143JP	3	4	7	7 1/16	5	21⅜	3½	4 7/16	2¾	4	7/16	11/32	13¾	7¼	10½	7	3½	4 1/16
3x4x6	145JP	3	4	7	7 1/16	6	22⅜	3½	4 7/16	2¾	5	7/16	11/32	13¾	7¼	10½	7	3½	4 1/16
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3x4x6	213WC	3	4	10½	9 1/16	7	26 7/16	5¼	4 7/16	4¼	5½	⅝	13/32	15⅜	11⅛	12¼	7	3½	4 1/16
3x4x6	215WC	3	4	10½	9 1/16	8½	27 11/16	5¼	4 7/16	4¼	7	⅝	13/32	15⅜	11⅛	12¼	7	3½	4 1/16
3x4x6	254WC	3	4	12⅜	10 11/16	10½	29 13/16	6¼	4 7/16	5	8¼	¾	17/32	15⅞	13¼	13¼	7	3½	4 1/16
3x4x9	182JP	3	4	9	8½	5¾	25½	4½	5 13/16	3¾	4½	9/16	13/32	16 9/16	9¼	14 11/16	10 3/16	4⅝	5 3/16
3x4x9	184JP	3	4	9	8½	6¾	26½	4½	5 13/16	3¾	5½	9/16	13/32	16 9/16	9¼	14 11/16	10 3/16	4⅝	5 3/16
3x4x9	213JP	3	4	10½	9 1/16	7	28⅛	5¼	5 13/16	4¼	5½	⅝	13/32	17 7/16	11⅛	15 9/16	10 3/16	4⅝	5 3/16
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3x4x9	254JP	3	4	12⅜	10 11/16	10½	32	6¼	5 13/16	5	8¼	¾	17/32	17 13/16	13¼	16 7/16	10 3/16	4⅝	5 3/16
3x4x9	256JP	3	4	12⅜	10 11/16	12¼	33¾	6¼	5 13/16	5	10	¾	17/32	17 13/16	13¼	16 7/16	10 3/16	4⅝	5 3/16
[illegible]	284JP	3	4	13⅞	12⅝	12¼	33 13/16	7	5 13/16	5½	9½	⅞	17/32	17 13/16	15	17¾	10 3/16	4⅝	5 3/16
3x4x9	286JP	3	4	13⅞	12⅝	13¾	35 5/16	7	5 13/16	5½	11	⅞	17/32	17 13/16	15	17¾	10 3/16	4⅝	5 3/16
3x4x9	324JP	3	4	15⅞	15⅛	13¾	36	8	5 13/16	6¼	10½	⅞	21/32	18 7/16	17	18 3/16	10 3/16	4⅝	5 3/16
3x4x9	326JP	3	4	15⅞	15⅛	15¼	37½	8	5 13/16	6¼	12	⅞	21/32	18 7/16	17	18 3/16	10 3/16	4⅝	5 3/16
3x4x9	364JP	3	4	17¾	17 1/16	15	40⅝	9	5 13/16	7	11¼	1	21/32	20	19¼	19 3/16	10 3/16	4⅝	5 3/16
3x4x9	365JP	3	4	17¾	17 1/16	16	41⅞	9	5 13/16	7	12¼	1	21/32	20	19¼	19 3/16	10 3/16	4⅝	5 3/16
3x4x12	182JP	3	4	9	8½	5¾	26 7/16	4½	7¾	3¾	4½	9/16	13/32	17 3/16	9⅜	15⅛	10⅝	5 7/16	7 3/16
3x4x12	184JP	3	4	9	8½	6¾	27 7/16	4½	7¾	3¾	5½	9/16	13/32	17 3/16	9⅜	15⅛	10⅝	5 7/16	7 3/16
3x4x12	213JP	3	4	10½	9 1/16	7	29⅛	5¼	7¾	4¼	5½	⅝	13/32	18 3/16	11⅛	15⅞	10⅝	5 7/16	7 3/16
3x4x12	215JP	3	4	10½	9 1/16	8½	30 9/16	5¼	7¾	4¼	7	⅝	13/32	18 3/16	11⅛	15⅞	10⅝	5 7/16	7 3/16
3x4x12	254JP	3	4	12⅜	10 11/16	10½	33	6¼	7¾	5	8¼	¾	17/32	18 3/16	13¼	16⅞	10⅝	5 7/16	7 3/16
3x4x12	256JP	3	4	12⅜	10 11/16	12¼	34¾	6¼	7¾	5	10	¾	17/32	18 3/16	13¼	16⅞	10⅝	5 7/16	7 3/16
3x4x12	284JP	3	4	13⅞	12⅝	12¼	34¾	7	7¾	5½	9½	⅞	17/32	18 3/16	15	17⅞	10⅝	5 7/16	7 3/16
3x4x12	286JP	3	4	13⅞	12⅝	13¾	36¼	7	7¾	5½	11	⅞	17/32	18 3/16	15	17⅞	10⅝	5 7/16	7 3/16
3x4x12	324JP	3	4	15⅞	15⅛	13¾	41 9/16	8	7¾	6¼	10½	⅞	21/32	19 3/16	17	18⅞	10⅝	5 7/16	7 3/16
3x4x12	326JP	3	4	15⅞	15⅛	15¼	42 9/16	8	7¾	6¼	12	⅞	21/32	19 3/16	17	18⅞	10⅝	5 7/16	7 3/16

4 of 4

25 JUN 1996

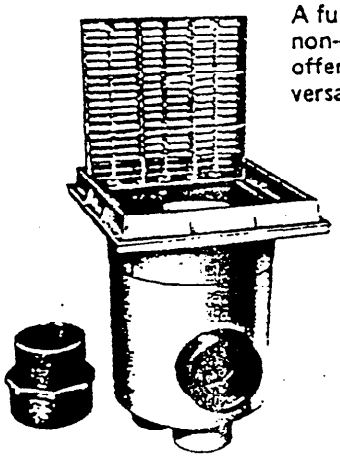
960528CNES144

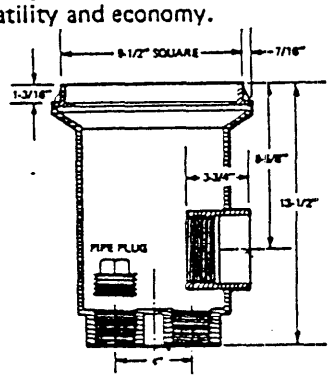
Drains, Frames & Grates

Hydrotherapy drain grates

COMMERCIAL ABS MAIN DRAIN

A full size, non-corrosive and non-conductive main drain sump, offering maximum piping versatility and economy.



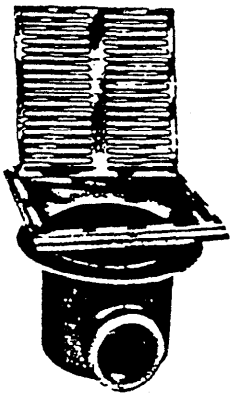


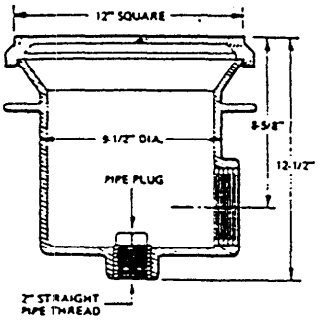
MODEL NO.	SIZE	DESCRIPTION
SP-1062	3" FIP and 3" SKT	ABS Body, 9" x 9" Square Frame and Grate. Welded PVC Side Outlet Coupling, plus 2" Bottom connections with plugs.

Open Area – 44 sq. in.

COMMERCIAL CAST MAIN DRAIN

Rugged, heavy cast main drain sump, with removable chrome bronze frame and grate.





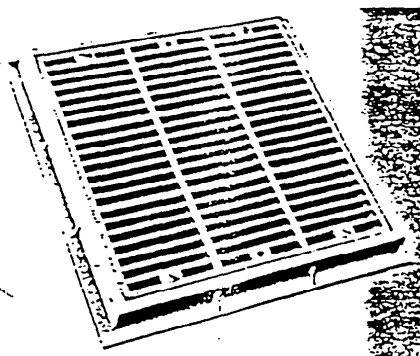
DISCONTINUED

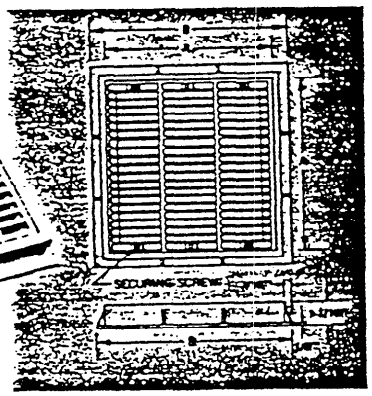
MODEL NUMBER	PIPE SIZE	DESCRIPTION
SP-63	4"	Iron Body, 12" x 12" Chrome Bronze Frame & Grate, 2" Bottom Outlet with Plug. With securing screws.

Open Area – 55 sq. in.

SQUARE FRAMES & GRATES

Beautifully designed, generous open areas and deep vertical ribs for extra strength. Totally non-corrosive and non-conductive.



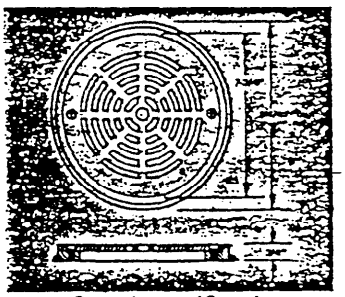


9", 12" and 18"

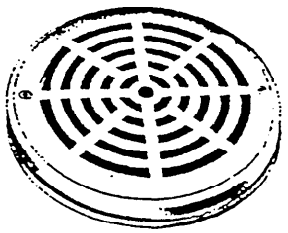
MODEL NO.	SIZE	DIM. A	DIM. B	SECURING SCREWS	OPEN AREA
SP-1031	9" x 9"	8-15/16"	10-1/2"	4	44 sq. in.
SP-1032	12" x 12"	11-15/16"	13-7/8"	4	78 sq. in.
SP-1033*	18" x 18"	17-3/4"	19-3/8"	8	176 sq. in.

*Four compartment, heavily Ribbed Frame receives Four (4) 9" x 9" Grates.

ROUND FRAMES & GRATES

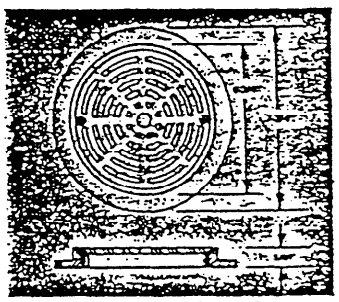


Open Area – 13 sq. in.



SP-1030

7¾" Diam., White, with securing screws.



Open Area – 14 sq. in.

DISCONTINUED

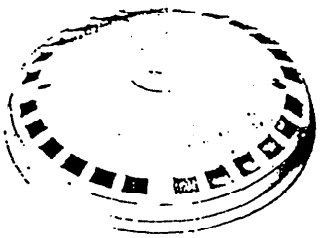
SP-1028

6¾" Diam., White, with securing screws.

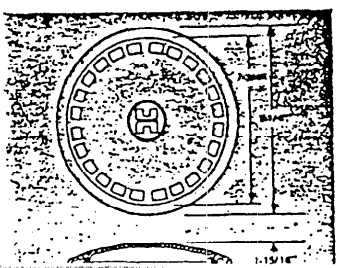
EXHIBIT G

ANTI-VORTEX COVER & FRAME

FOR CONCRETE POOLS

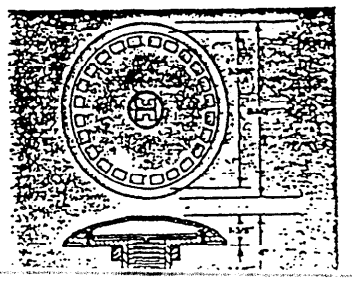


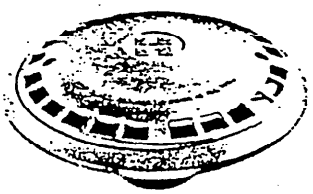
SP-1030AV



ANTI-VORTEX SPA MAIN DRAIN

FOR FIBERGLASS SPAS AND POOLS





SP-1035AV – 1½" x 2" Slip
SP-1035AVS – 1½" Skt. x 2" Slip

7-3/4" Diam. anti-vortex Spa drain.

25 JUN 1996 960528CNE5144

New Jersey State
Department of Health
CN 364
Trenton, New Jersey 08625

NEW JERSEY STATE SANITARY CODE
CHAPTER IX
PUBLIC RECREATIONAL BATHING
N.J.A.C. 8:26-1 et seq

MAY 1991

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New Jersey State
Department of Health
Trenton, New Jersey 08625

TITLE 26
HEALTH AND VITAL STATISTICS
CHAPTER 4A

PUBLIC SWIMMING POOLS AND PLACES

Section

26:4A-1 to 26:4A-3. Repealed.
26:4A-4. Definitions.
26:4A-5. Specially exempt facility exempt from mandatory first aid personnel and lifeguard requirements; owner or manager on premises when swimming area open for use.
26:4A-6. Posting of signs required of specially exempt facilities.
26:5A-7. Rules and regulations.

26:4A-1 to 26:4A-3. Repealed by L. 1991, c. 135, § 5, eff. May 10, 1991

Historical and Statutory Notes

Repealed § 26:4A-1, added L. 1946, c. 172, § 1, amended L. 1947, c. 241, § 1, related to life-saving personnel and appliances required at for-profit swimming places.

Repealed § 26:4A-1.1, added L. 1981, c. 216, § 1, related to optional provisions for swimming pool or place under 1000 square feet.

Repealed § § 26:4A-2, 26:4A-3, added L. 1946. c. 172, § § 2, 3, related to rules and regulations of the department of health and to penalties for violations.

26:4A-4. Definitions

As used in this act:

"Campground" means a plot of ground upon which two or more campsites are located, established or maintained for occupancy by camping units of the general public as temporary living quarters for children or adults, or both, for a total of 15 days or more in any calendar year, for recreation, education, or vacation purposes.

"Common interest community" means:

a. property subject to the "Condominium Act," P.L. 1969, c. 257 (C.46:8B-1 et seq.) or the "Horizontal Property Act," P.L. 1963, c. 168 (C.46:8A-1 et seq.);

b. a housing corporation or association, commonly known as a cooperative, which entitles the holder of a share or membership interest thereof to possess and occupy for dwelling purposes a house, apartment, manufactured or mobile home or other unit of housing owned or leased by the corporation or association, or to lease or purchase a unit of housing constructed or to be constructed by the corporation or association; or

c. real estate with respect to which a person, by virtue of his ownership of a unit, is obligated to pay for real estate taxes, insurance premiums, maintenance or improvement of other real estate described in the instrument, however denominated, which creates the common interest community. Ownership of a unit does not include holding a leasehold interest of less than 20 years in a unit, including renewal options;

"Hotel" or "motel" means a commercial establishment with a building of four or more dwelling units or rooms used for rental and lodging by guests.

"Mobile home park" means a parcel of land, or two or more contiguous parcels of land, containing at least 10 sites equipped for the installation of mobile or manufactured homes, where these sites are under common ownership and control, other than as a cooperative, for the purpose of leasing each site to the owner of a mobile or manufactured home for the installation thereof, and where the owner provides services, which are provided by the municipality in which the park is located for property owners outside the park, which services may include, but shall not be limited to:

a. Construction and maintenance of streets;
b. Lighting of streets and other common areas;
c. Garbage removal;
d. Snow removal; and
e. Provision for the drainage of surface water from home sites and common areas.

"Private lake, river or bay or private community lake, river or bay association" means an organization of property owners within a fixed or defined geographical area with deeded or other rights to utilize, with similarly situated owners, various lakefront, riverfront or bayfront properties, which properties are not open to the general public, other than bona fide guests of a member of the private lake, river or bay or private community lake, river or bay association.

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CHAPTER 26

PUBLIC RECREATIONAL BATHING

SUBCHAPTER 1. PURPOSE, SCOPE AND DEFINITIONS

8:26-1.1 Purpose

The purpose of this chapter shall be to set reasonable sanitary and safety regulations for public recreational bathing places and to preserve and improve the public health in this state as provided for in N.J.S.A. 26:1A-7.

8:26-1.2 Scope

These rules shall govern all recreational bathing places in the State of New Jersey with the exception of a private bathing place as defined in 8:26-1.3. The provisions of the State Sanitary Code have the force and effect of law. Under the authority of N.J.S.A. 26:1A-9, the provisions are enforceable by the State Department of Health, local departments of health, local police authorities, local sheriff's departments and other enforcement agencies.

8:26-1.3 Definitions

The following words and terms, when used in this Chapter shall have the following meanings unless the context clearly indicates otherwise:

"Adult" means a person aged 18 years or older.

"Alter" means and includes any modification, or relocation of any structure or equipment, or diversion and change of water flow patterns in an existing recreational bathing place such that the design, configuration and/or operating characteristics are different from the original design, configuration and/or operating characteristics. The term does not include normal maintenance, repair or replacement of equipment previously approved.

"Approved" means acceptable to the State Department of Health or the local health authority based on its determination as to conformance with appropriate standards and good public health practices.

"Authorized agent" means a licensed health officer, sanitary inspector, or any other properly qualified and licensed person who is delegated to function within specified limits as the agent of the local health authority or the department.

"Bathing beach" means the designated area of a natural or artificially constructed pond, lake, stream, river, bay, tidal waters, ocean or other body of fresh or salt water, which is used for bathing and swimming purposes together with buildings, equipment, and appurtenances, if any, and the land areas used in connection therewith.

"Certified laboratory" means a water laboratory certified by the New Jersey Department of Environmental Protection.

"Common interest community" means:

1. Property subject to the Condominium Act, P.L. 1969, c.257 (N.J.S.A. 46:8B-1 et seq.), The Horizontal Property Act, P.L. 1963, c.168 (N.J.S.A. 46:8A-1 et seq) and The Continuing Care Retirement Community Regulation and Financial Disclosure Act (N.J.S.A. 52:27D-330 et. seq.);

2. A housing corporation or association, commonly known as a cooperative, which entitles the holder of a share or membership interest thereof to possess and occupy for dwelling purposes a house, apartment, manufactured or mobile home or other unit of housing owned or leased by the corporation or association or to lease or purchase a unit of housing constructed or to be constructed by the corporation or association; or

3. Real estate with respect to which a person, by virtue of his ownership of a unit, is obligated to pay for real estate taxes, insurance premiums, maintenance or improvement of other real estate described in the instrument, however denominated, which creates the common interest community. Ownership of a unit does not include holding a lease-hold interest of less than 20 years in a unit, including renewal options.

"Construct" means and include building or installing a new recreational bathing place or altering an existing recreational bathing ~~place~~ or any of its facilities.

"Deck" means those areas surrounding a pool which are specifically constructed or installed for use by bathers.

"Department" means the State Department of Health.

"Diving" means entering a body of water head first.

"Health authority" means the agent of the Local Board of Health and/or State Department of Health duly licensed to act in the enforcement of its ordinances and the sanitary laws of the state.

"Hot tub or spa" means any pool having a maximum depth of 48 inches (1.2 meters) used in conjunction with high velocity water recirculation systems, utilizing hot, cold, or ambient temperature water either mineral or nonmineral in nature, which is not emptied after each individual use. (Industry terminology for a hot tub or spa includes, but is not limited to, therapeutic pool, whirlpool, and hydrotherapy pool.)

"Lifeguard" means a person who holds a lifesaving/lifeguarding certificate issued from an organization recognized by the New Jersey State Department of Health, as listed in the Appendix at the end of this chapter.

"Locate" means designating the site or place of a recreational bathing place.

"Nephelometric Turbidity Unit (NTU)" means the turbidity of a specified concentration of formazin suspension used when measuring water clarity.

"Operate" means to conduct, maintain, or otherwise provide facilities for recreational bathing.

"Person" means any corporations, companies, associations, societies, clubs, firms, partnerships, joint stock companies, governmental agencies as well as individuals.

"Private bathing place" means a body of water, natural or modified by man used for swimming, diving, and recreational bathing by an individual, family, or living unit member(s) and their guests which shall not serve any type of cooperative housing or joint tenancy of three or more living units.

"Private lake/river/bay or private community lake/river/bay association" means an organization of property owners within a fixed for defined geographical area with deeded or other rights to

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unit or units of such swimming pools shall be made in accordance with the applicable provisions of these rules.

8:26-2.6 Existing hot tubs and spas

N.J.A.C. 8:26-4.1 through 8:26-4.13 relating to location and construction shall not apply to hot tubs and spas that were constructed prior to the effective date of this Chapter, except that any alternations of any unit or units of such hot tubs and spas shall be made in accordance with the applicable provisions of these rules. The provisions for heater and temperature requirements at N.J.A.C. 8:26-4.4 and disinfectant and chemical feeders at N.J.A.C. 8:26-4.10 shall apply to all hot tubs and spas.

8:26-2.7 Pre-operational inspection

Whenever plans, specifications and reports, as required by N.J.A.C. 8:26-2.1, are submitted to the health authority for review and approval, the health authority shall inspect the recreational bathing place prior to opening for public use, to determine compliance with the requirements of this chapter.

8:26-2.8 Approval to operate

A recreational bathing place shall not be opened for public use until the health authority has given formal approval by issuance of an appropriate approval, license or permit. This approval, license or permit shall be displayed in a conspicuous place on the premises where it may be readily observed by all patrons. No person shall operate a recreational bathing place whose approval, license or permit has been suspended.

8:26-2.9 Modification and waiver of standard

(a) Any person or authorized agent, confronted with practical difficulties in carrying out the strict compliance with any rule in this chapter, may apply to the health authority in writing for a modification thereof. Only a modification that will not constitute a definite hazard to life or property will be considered. The decision of the health authority, including the particulars of the application, shall be entered upon the records of the health authority and a copy thereof sent to the applicant.

(b) The health authority may waive temporarily any rule to allow for experimentation and a demonstration of new and innovative approaches relating to the operation, construction, and maintenance of a recreational bathing place. Only waivers that will not constitute a definite hazard to life or property will be considered.

SUBCHAPTER 3. SWIMMING POOLS

8:26-3.1 General layout and design

(a) The location of all proposed pools shall be such that a safe and adequate water supply and sanitary disposal facilities will be available.

(b) The layout of the pool facility shall be such that bathers leaving the dressing rooms will have access to toilets and then shower facilities. Exits and entrances to the pool enclosure should be located at the shallow end of the pool. Exits and entrances to the pool which are located at the deep end shall be separated from the pool by a minimum of six feet of decking or by a physical barrier.

8:26-3.2 Construction materials

(a) Swimming pools and all appurtenances thereto shall be constructed of materials which are: nontoxic, which are impervious and enduring, can withstand the design stresses, and which will provide a watertight structure with a smooth and easily cleaned surface without cracks or joints, excluding structural joints, or to which a smooth, easily cleaned surface finish can be applied or attached.

(b) Sand or earth shall not be permitted as an interior finish in a swimming pool.

(c) The surfaces within a swimming pool intended to provide footing for bathers shall be designed to provide a slip-resisting surface. The roughness or irregularity of such surfaces shall not cause injury or discomfort to the bather during normal use.

(d) The color, pattern or finish of the pool interior shall not obscure the existence or presence of objects or surfaces within the pool.

(e) All construction materials shall be in conformance with the regulations set forth in the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

8:26-3.3 Dimensional design

(a) No specific limits are required for the shape of swimming pools except that consideration shall be given to shape from the standpoint of safety and circulation of the swimming pool water. There shall be no protrusions, extensions, means of entanglement, or other obstructions in the swimming area of the pool which can cause the entrapment or injury of the bather.

(b) The pool capacity shall be based on the following criteria:

1. Pools with deck areas less than the water area:

i. Fifteen square feet (1.4 square meters) of shallow, instructional and/or wading areas for each bather.

ii. Twenty square feet (1.9 square meters) of deep area (not counting that area figured as diving area) for each bather.

iii. Three hundred square feet (27.9 square meters) of diving area per diving board for each bather.

2. Pools with deck areas at least equal to the water area:

i. Twelve square feet (1.1 square meters) of shallow, instructional and/or wading areas for each bather.

ii. Fifteen square feet (1.4 square meters) of deep area (not counting that area figured as diving area) for each bather.

iii. Three hundred square feet (27.9 square meters) of diving area per diving board for each bather.

3. Pools with deck areas at least equal to twice the water area:

i. Eight square feet (.7 square meters) of shallow, instructional and/or wading areas for each bather.

ii. Ten square feet (.9 square meters) of deep area (not counting that area figured as diving area) for each bather.

iii. Three hundred square feet (27.9 square meters) of diving area per diving board for each bather.

	Shallow Instructional or Wading Areas	Deep Area (not including the diving area)	Diving Area (per each diving board)
Pools With Deck Area Less Than Water Area	15 square feet per bather	20 square feet per bather	300 square feet per bather
Pools With Deck Area At Least Equal to Water Surface Area	12 square feet per bather	15 square feet per bather	300 square feet per bather
Pools With Deck Area At Least Twice The Water Surface Area	8 square feet per bather	10 square feet per bather	300 square feet per bather

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(b) Where water depths are 24 inches (60 centimeters) or less at the pool wall, such areas shall be considered as providing their own natural mode for entry/exit.

(c) Below the water level, there shall be a clearance of not more than 6 inches nor less than 3 inches between any ladder tread edge, measured from the pool wall side of the tread, and the pool wall.

(d) Recessed treads shall have a minimum tread of 5 inches and a minimum width of 12 inches. Recessed treads shall drain into the pool to prevent the accumulation of dirt thereon and shall be slip-resistant.

8:26-3.12 Enclosure

(a) Pools shall meet the fencing and enclosure requirements of the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

NOTE: A 10 foot high fence for public swimming pools is recommended.

8:26-3.13 Electrical, illumination and ventilation requirements

(a) All electrical wiring, illumination and ventilation shall be in conformance with the regulations set forth in the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

(b) Illumination shall be such that a black disk 6 inches (15.2 centimeters) in diameter, superimposed upon a white field placed at the bottom of the deepest end of the pool shall be clearly visible from the pool sidewalk, at all distances up to 10 yards, measured in a horizontal distance from the project of the disk onto the pool surface when the pool is in use.

8:26-3.14 Diving stands, boards, slides and floats

(a) Diving stands, boards, slides and floats shall be constructed in accordance with the the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

(b) For indoor pools, at least 16 feet of headroom above the highest board must be provided.

(c) Water depth and distance based on board height shall be as follows:

1. Minimum water depth and distances for diving boards for all public pools based on board height shall equal or exceed the minimum requirements of the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

2. Diving equipment for use by the general public shall not be more than 10 feet (3 meters) above the water level.

(d) Foot contact surfaces of diving equipment shall be slip-resistant.

8:26-3.15 Recirculation system

(a) The recirculation system equipment shall be of adequate size to turn over the entire pool water capacity at least once every 8 hours. Water clarity shall be maintained. (Clarity is a function of proper filtration and maintenance of proper chemical operational parameters.) When standing at the pool's edge at the deep end, the deepest portion of the pool floor shall be clearly visible.

(b) A pump and motor shall be provided for circulation of the pool water. Performance of all pumps shall meet or exceed the conditions of flow required for filtering and cleaning (if applicable) the filters against the "total dynamic head" developed by the complete system.

1. Pumps shall be selected to perform the functions for which they were designed by the manufacturer. Pumps and motors must be accessible for inspection and service.

2. When the pump is below the water level of the pool, valves shall be installed on permanently connected suction and discharge lines, located in an accessible place outside the walls of the pool, where they will be readily and easily accessible for maintenance and removal.

3. The design and construction of the pump and component parts shall provide safe operation that is not hazardous to the operator or maintenance personnel.

4. All motors shall have thermal or current overload protection, either built in, or in the line starter, to provide locked rotor and running protection.

5. The motor frame shall contain adequate provisions for proper grounding as specified in New Jersey Uniform Construction Code, N.J.A.C. 5:23.

(c) Protection of potable water supply shall comply with the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

1. Physical connections between potable water systems and pool circulation systems shall not be permitted.

2. Potable water for make-up purposes shall be added by way of an over- the-rim spout properly shielded which does not create a safety hazard. The open end of the spout shall have no sharp edges and protrude no more than 2 inches ~~(5.1~~ centimeters) beyond the edge of the pool.

NOTE: It is recommended that the spout be located adjacent to the ladder.

3. An alternate method of adding make-up water may be employed, with the approval of the health authority.

(d) Hair and lint catchers shall be provided with all pressure filter systems, and shall contain a removable strainer upstream of the circulation pump(s) to remove solids, debris, hair, lint, etc. Water entering the pump shall pass through the removable strainer.

(e) Inlets and outlets shall be constructed in the following manner:

1. Pool inlet(s) and outlet(s) for circulated water shall be located to produce uniform circulation of water and to facilitate the maintenance of a uniform disinfectant residual throughout the entire pool. Inlet(s) from the circulation system shall be designed so as not to constitute a hazard to the bather.

i. Where skimmers are used, the inlet(s) shall be located so as to help bring floating particles within range of the skimmers.

2. All pools shall be provided with a main drain in the lowest point of the pool floor. The spacing of the main drains for pool pump suction shall not be greater than 20 feet on centers nor more than 15 feet from each side wall.

3. The main drain pumps shall be covered with suitable protective covers or grates. Outlet drain covers and grates shall be installed in such a way that they cannot be removed without the use of tools. The total velocity through grate openings shall not exceed 2 feet per second.

4. The grate opening shall not exceed 1/2 inch and be designed to prevent physical entrapment of fingers, toes, etc.

5. The system shall provide at least 1 antivortex outlet drain.

6. In depths 4 feet 6 inches (1.37 meters) or less, the antivortex drain shall not provide a tripping or stubbing hazard to the feet.

7. Where only one main drain is provided, it shall be of the antivortex design, and velocity shall not exceed 6 feet per second.

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8. Facilities shall include a scale suitable for weighing chlorine cylinders. Changing cylinder(s) shall be accomplished only after weighing proves contents of cylinder to be exhausted. NOTE: Care must be taken to prevent water suck-back into cylinder when empty by closing the cylinder valve.

9. Valve protection caps and valve outlet caps shall be in place at all times except when the cylinder is connected for use. Cylinders must not be dropped and shall be protected from falling objects. Cylinders should be used on a first-in, first-out basis. New, approved washers shall be used each time a cylinder is connected.

(d) Chemical feeders installation and use shall conform to the following:

1. When using chemical feeders, they shall be installed downstream from the filter and heater.

2. If the chemical feeder is equipped with its own pump, it shall be installed so it introduces the gas or solution downstream from the heater and, if possible, at a position lower than the heater outlet fitting.

3. Chemical feed pumps shall be wired so they cannot operate unless the filter pump is running. If the chemical feeder has an independent timer, the chemical feed pump timers shall be interlocked.

(e) Electrolytic chlorine generators, when used for producing chlorine for disinfection, shall conform to the following:

1. Electrolytic chlorine generators shall be able to insure adequate feed to meet the chlorine residual specified in N.J.A.C. 8:26-7.9

2. A sodium-chloride test kit shall be provided to monitor the salt concentration of the pool water.

(f) Bromination, when used for disinfection, shall conform to the following:

1. A bromine test kit shall be provided to monitor the bromine concentration of the pool water.

2. Brominator equipment rooms shall be constructed and ventilated as required in N.J.A.C. 8:26-3.20(c).

(g) Slurry feeders for the addition of pre-coat material, pH adjustment, coagulants and corrosion control chemicals may be used, provided they are approved by the National Sanitation Foundation or its equivalent.

(h) Other disinfecting materials or methods may be accepted by the health authority when they have been adequately demonstrated to provide a satisfactory residual effect which is easily measured and equally as effective in conditions of use as the chlorine concentration specified in N.J.A.C. 8:26-7.9 and not dangerous to public health, not creating objectionable physiological effects, and not imparting toxic properties to the water. (See N.J.A.C. 8:26-7.)

(i) Combustible chemicals shall be stored away from water, cleaning solutions, and organic materials which may cause fire or explosion. "No Smoking" signs shall be posted in areas where these chemicals are stored.

SUBCHAPTER 4. HOT TUBS AND SPAS

8:26-4.1 General provisions

(a) Hot tubs, spas, whirlpools and hydrotherapy pools shall be constructed, maintained, and operated in accordance with the applicable provisions found within this Subchapter and as indicated in N.J.A.C. 8:26-3.

8:26-4.2 General construction and design

(a) The maximum water depth of the hot tub or spa shall be 4 feet (1.22 meters) measured from the water line. Exceptions may be made for pools designed for special purpose, such as, instruction, treatment and therapy.

(b) The maximum depth of any seat or sitting bench in the spa shall be 2 feet (61 centimeters) measured from the water line.

(c) Hot tubs and spas shall be provided with a suitable handhold around their perimeter in areas where the water depth exceeds 3 feet 6 inches (1.07 meters). Handholds shall be provided no further apart than 4 feet (1.22 meters) and may consist of any one or a combination of the following:

1. Coping, ledges, radiused flanges, or decks along the immediate top edge of the pool providing a suitable slip-resistant handhold located not over 12 inches (30 centimeters) above the water line.

2. Ladders, steps or seat ledges.

3. A railing placed at or not over 12 inches (30 centimeters) above the water line fastened to the wall.

(d) The slope of the hot tub or spa floor shall not exceed 1 foot (30 centimeters) of fall in 12 feet (3.6 meters).

(e) There shall be no protrusions, extensions, means of entanglement of other obstructions which can cause entrapment or injury to the bather.

(f) Steps, ladders or recessed treads shall be provided where pool depths are greater than 24 inches (61 centimeters).

(g) Hot tubs and spas shall be equipped with at least one handrail (or ladder equivalent) for each 50 feet (15.2 meters) of perimeter, or portion thereof, to designate the point of entry and exit.

(h) The design and construction of hot tub and spa steps (including recessed steps) when required, shall conform to the following:

1. Step treads shall have a minimum unobstructed tread depth of 10 inches (25 centimeters) for a minimum width of 12 inches (30 centimeters).

2. Riser heights shall not be less than 7 inches (18 centimeters), nor greater than 12 inches (30 centimeters). When the bottom tread serves as a bench or seat, the bottom riser may be a maximum of 14 inches (35 centimeters).

3. The first and the last risers need not be uniform but must comply with riser height requirements as noted in 2. above. The first (top) riser is measured from the finished deck.

4. Intermediate risers, those between the first and last risers, shall be uniform in height.

5. Step treads shall have slip-resistant tread surfaces.

6. Each set of steps shall be provided with at least one handrail to fully serve all treads and risers.

7. Seats or benches may be provided as part of the steps.

(i) Handrails shall be anchored in such a way that they can only be removed with tools.

1. The leading edge of handrails facilitating spa exit shall be located within 18 inches (45.7 centimeters) plus or minus 3 inches (7.6 centimeters), horizontally measured from the vertical plane of the bottom riser.

(j) The design and construction of spa ladders, when required, shall conform to the following:

1. Ladders shall be made entirely of corrosion-resistant materials.

2. Ladder treads shall have slip-resistant tread surfaces.

3. Ladder designs shall provide two handholds or handrails to fully serve all treads.

4. The maximum outside diameter of handrails shall be 1.9 inches (4.8 centimeters) and a minimum of 1 inch (2.5 centimeters).

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obtained from NSF, National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, Michigan 48106.)

5. A means shall be provided to permit release of air which enters the filter tank. This may be automatic or manual, as air must be expelled from the filter tank. Any filters and/or separation tanks incorporating an automatic internal air release as its principal means of air release shall have a means to provide a slow and safe release of pressure as a part of its design.

6. Filter backwash shall be disposed of in accordance with N.J.A.C. 8:26- 6.5.

8:26-4.9 Pumps and strainers

(a) A pump and motor shall be provided for circulation of the hot tub or spa water and sized to meet the requirements of N.J.A.C. 8:26-4.8(a).

(b) Pumps shall be designed to perform the functions for which they are intended. Units must be accessible for inspection and service. Replacement parts must fit with existing parts in the pump without the need for redrilling mounting holes or otherwise altering the replacement part of the pump.

(c) The design and construction of the pump and component parts shall provide safe operation.

(d) Where a mechanical seal is provided, components of the seal must be corrosion-resistant and capable of operating under conditions normally encountered in hot tub or spa operation.

(e) Proper direction of rotation for the pump shall be clearly indicated on the pump.

(f) Motors shall have as a minimum, an open drip-proof enclosure (as defined by National Electrical Manufacturers Association Standards), constructed electrically and mechanically so it will perform satisfactorily and safely under the conditions of load and environment normally encountered in the hot tub or spa installation.

1. Motors shall be capable of operating the pump under full load with a voltage variation of at least 10 percent from nameplate rating. If the maximum service factor of the motor is exceeded (at full voltage), the manufacturer shall indicate this on the pump curve.

2. All motors shall have thermal overload protection, or equivalent, either built in or in the line starter, to provide locked rotor and running protection.

3. The motor frame shall contain adequate provisions for proper grounding.

(g) Strainers shall be provided on all filter systems. Strainers shall be removable and shall be up stream from all circulation pumps to remove solids, debris, hair, lint, etc.

1. Water entering the pump shall pass through the strainer.

(h) Valves shall be located where they will be readily and easily accessible for maintenance and removal.

1. Multiport valves shall comply with the National Sanitation Foundation Standard covering multiport valves.

2. When the pump is below the overflow rim of the hot tub or spa, valves shall be installed on permanently connected suction and discharge lines and located in an accessible place outside the walls of the hot tub or spa.

8:26-4.10 Disinfectant and chemical feeders

(a) A means of disinfecting the hot tub or spa water shall be employed which provides a disinfecting residual in the hot tub or spa water. (Chlorine or chlorine compounds are most frequently used for this purpose but other bactericidal agents shall be acceptable if registered by the U.S. Environmental Protection Agency.)

(b) Adequate and appropriate procedures for continously introducing a disinfectant into the recirculation system for hot tubs or spas shall be used. The means of introducing approved disinfecting agents shall be sufficient to maintain the appropriate disinfectant residual as required in 8:26-7.13.

8:26-4.11 Air induction systems

(a) An air induction system, when provided, shall totally prevent water back- up.

NOTE: Water back-up can cause electrical shock hazards.

(b) Inducted air shall not introduce contaminants (such as deck water, dirt, etc.) into the hot tub or spa.

8:26-4.12 Overflow systems

(a) An overflow system shall be provided. The overflow system shall be designed and constructed so that the water level of the hot tub or spa is maintained at the operating level of the overflow device.

(b) When surface skimmers are used as the sole overflow system one surface skimmer shall be provided for each 100 square feet (9.3 square meters) or fraction thereof of the hot tub or spa surface area. When two or more skimmers are used in a hot tub or spa they shall be located to maintain effective skimming action over the entire surface area of the hot tub or spa.

8:26-4.13 Enclosure of hot tubs and spas

Hot tubs and spas shall meet the fencing and enclosure requirements for swimming pools found in the New Jersey Uniform Construction Code, N.J.A.C. 5:23.

SUBCHAPTER 5. WATERFRONT SAFETY

8:26-5.1 Exceptions

(a) This subchapter in its entirety applies to all public recreational bathing places, with the exception of private lake/river/bay or private community lake/river/bay associations and common interest communities that restrict the use of its recreational bathing places to the owners of the dwelling units thereof and their invited guests. Under this condition, said facilities shall be exempt from mandatory compliance with N.J.A.C. 8:26-5.2(b), (d), (f), (g) and (i); 5.5(b); 5.6(a); 5.7(a)1; 5.8(c)2, 4, 6 and 7; and 5.8(d). This exception does not apply to facilities utilizing ocean waters. For the purpose of the subchapter, invited guests may also include occupants or tenants of the dwelling units thereof which by affirmative designation by the lake/river/bay association or common interest community through language incorporation into the bathing place rules, association rules and bylaws, and lease agreements are granted such status and corresponding responsibilities normally associated with that of an invited guest.

(b) Private lake/river/bay or private community lake/river/bay associations and common interest communities that restrict the use of its recreational bathing places to the owners of the dwelling units and their invited guests which do not voluntarily comply with the specific sections referenced above shall post a sign which shall be prominently displayed at every entrance of the recreational bathing place stating:

- "No lifeguard on duty."
- "Persons under the age of 16 must be accompanied by an adult."
- "No swimming alone."

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1. Water depth of the pool at the bulkhead (at pool side) where starting blocks are located shall be at least four feet.

2. Only the "flat dive" also known as a "forward start" shall be used.

3. Signs shall be conspicuously placed to remind swimmers of the danger of using any other type of dive when diving into waters less than five feet deep.

4. Swimmers shall be under the direct supervision of the team swim coach; and

5. When the diving blocks cannot be removed, a safety policy must be established to assure that the diving blocks are not inadvertently used by an untrained swimmer or by the general public.

8:26-5.5 Wading pool supervision

(a) A responsible individual, knowledgeable and trained in a program developed by the designated adult supervisor, shall be present when the wading pool is in operation.

(b) A wading pool shall have a person currently certified in standard first aid and child and infant cardiopulmonary resuscitation (CPR) on the premises, available, and readily accessible when the wading pool is in use. If the trained and qualified personnel are not stationed at the wading pool, then the facility shall conspicuously post a sign indicating the location and method of access of the person(s) certified in standard first aid and CPR and shall effectively demonstrate to the health authority that said personnel are available, in reasonable proximity to the wading pool, and can be easily contacted to enable them to render the necessary and appropriate assistance in a timely manner.

8:26-5.6 Water slides

(a) Supervision of the the waterfront area of water slides shall be protected by a lifeguard as specified in N.J.A.C. 8:26-5.2 and as follows:

1. At least one person shall supervise the activities of the water slide. Additional supervision of the slide will be required based on the size and configuration of the slide and pool entry area.

(b) Water slides shall be used in accordance with the following:

1. Only feet first entries will be permitted on all water slides.

2. The landing area in front of the slide shall be prohibited for use by other individuals.

(c) Water slides shall not exit into the landing area more than 6 inches above the water surface, if the slide enters into less than 5 feet of water.

1. A slide shall not enter into less than 3 feet of water.

8:26-5.7 Hot tubs and spas

(a) Supervision of a hot tub or spa, when open for use, shall be provided by a designated adult supervisor, who is knowledgeable of these rules and shall be responsible for all phases of the operation, and as follows:

1. At least one person currently certified in standard first aid and cardiopulmonary resuscitation (CPR) shall be on the premises, available, and readily accessible when the hot tub or spa is in use. If the trained and qualified personnel are not stationed at the hot tub or spa, then the facility shall conspicuously post a sign indicating the location and method of access of the person(s) certified in standard first aid and CPR and shall effectively demonstrate to the health authority that said personnel are available, in reasonable proximity to the hot tub or spa, and can be easily contacted to enable them to render the necessary and appropriate assistance in a timely manner. These certifications shall be from an organization recognized by the New Jersey State Department of Health (see Appendix).

2. The maintenance and mechanical operation of a hot tub or spa shall be under the supervision of a certified pool operator (CPO). The CPO shall be available to respond to mechanical and maintenance problems if they occur or to detect the potential for such a problem before it occurs, however, it is not necessary for the CPO to be at hot tub or spa or on the premises at all times when the hot tub or spa is in operation. The property owner, a resident, a facility employee, or an employee of a contracted pool service firm are examples of individuals that can be used to fulfill this requirement, once the individual has successfully completed the CPO course and assumes responsibility for providing this function. The certification of a pool operator shall be from an organization acceptable to the New Jersey State Department of Health (see Appendix).

(b) A precaution sign is to be mounted adjacent to the entrance to the hot tub or spa and shall state the following:

CAUTION

- Pregnant women, elderly persons, those suffering from heart disease, diabetes, high or low blood pressure, or those using prescription medications should not enter this hot tub or spa without prior medical consultation and permission from their doctor.
- Unsupervised use by children is prohibited.
- Do not use while under the influence of alcohol, anticoagulants, antihistamines, vasoconstrictors, vasodilators, stimulants, hypnotics, narcotics, or tranquilizers.
- Do not use alone.
- Shower before entering the pool.
- Observe a 15 minute time limit, then shower, cool down and, if you wish, return for another brief stay. Long exposures may result in nausea, dizziness, or fainting.

(c) Depth markings in spas shall be plainly and conspicuously posted and located as follows:

1. Spas shall have the maximum water depth clearly marked.

2. Depth markings shall be positioned within 18 inches (46 centimeters) of the water edge.

3. Depth markings shall be positioned to be read while standing on the deck facing the water.

4. There shall be a minimum of two depth markings per spa, regardless of spa size or shape.

5. Depth markings, shall be spaced at no more than 25 foot (7.6 meters) intervals and shall be uniformly located around the perimeter of the spa.

6. Depth markings in deck surfaces shall be slip-resistant.

(d) Emergency equipment shall be provided by means of a 24 unit first aid kit (see Appendix), available at all times the hot tub or spa is open for use and shall be fully restocked within 24 hours of use.

(e) A clock readable from the hot tub or spa shall be provided.

NOTE: A timer with an audible signal is recommended, in addition to (e) above.

8:26-5.8 Bathing beaches

NOTE: Bathing beaches operated at other than public expense along the seashore must comply with this subchapter N.J.A.C. 26:8.1 et seq. as well as N.J.R.S. 5.1-1 et seq. entitled "Seashore Bathing Establishments".

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tubs and spas and 6 hours for processing for bathing beaches. The sample shall be refrigerated immediately upon collection or kept in an ice chest and held at 45 degrees Fahrenheit (7.2 degrees centigrade) or less while being transported. Information documenting the sampling time, date and location of sample, sampler's identification, and desired analysis shall accompany the sample.

8:26-7.6 Microbiological water quality standards for swimming pools and wading pools

(a) Heterotropic plate (standard plate count):

1. Standard: The number of colony forming units (CFU) shall not exceed 200 colonies per one milliliter.

i. Method: The heterotrophic plate count test shall be conducted in accordance with procedures set forth in Method 907, heterotrophic plate count, as set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 16th Edition. Said text may be obtained from the American Public Health Association, 1015-18th Street N.W. Washington, D.C. 20036.

(b) Total coliform densities:

1. Standard: If the multiple-tube fermentation method is used, none of the 5 standard 10 milliliter portions shall show the presence of organisms of the coliform group at any time. None of the confirmed 5 portions shall show the presence of the coliform group.

i. Method: Total coliform tests shall be conducted in accordance with procedures set forth in Method 908, a multiple-tube fermentation technique for members of the coliform group, as set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 16th Edition.

2. Standard: If the membrane filtration technique is used, the number of coliform organisms shall be less than 1 colony per 100 milliliter sample.

i. Method: Total coliform test shall be conducted in accordance with the procedures set forth in Method 909A, a membrane filter technique for members of the coliform group as set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 16th Edition.

8:26-7.7 Samples not meeting standards

(a) The certified laboratory having determined that a sample(s) does not meet the microbiological standards established in N.J.A.C 8:26-7.6, 7.12, 7.19, shall notify the swimming pool, hot tub, spa, or bathing beach operator by telephone on the same day and have the swimming pool, wading pool, hot tub, spa, or bathing beach, resampled. The verbal communication must be subsequently confirmed by a written report within 5 days.

(b) The swimming pool, wading pool, hot tub, spa, or bathing beach operator upon verbal notification of an unsatisfactory sample result shall notify the health authority immediately.

(c) The health authority or its authorized agent shall then require the swimming pool, wading pool, hot tub, spa, or bathing beach operator to have additional sample(s) taken and analyzed.

8:26-7.8 Chemical and physical water quality analyses for swimming pools and wading pools

(a) The pool shall be monitored for disinfectant level and pH at a 2 hour frequency throughout operating hours and in conjunction with each microbial sample. These results shall be recorded on the sample slip and become part of the permanent microbial test record.

(b) When testing for free chlorine, combined chlorine, and pH, the following test methodologies shall be used:

1. Free and combined chlorine residual: Method 408D, DPD ferrous titrimetric method or Method 408E, DPD colorimetric (using a color comparator), as set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 16th Edition.

(c) When testing for pH, Method 423, electrometric, as set forth in "Standard Methods for the Examination of Water and Wastewater," or phenol red indicator shall be used.

(d) If color comparators are used for measuring disinfectant residuals or pH using the methods specified above, they shall be available at the pool during periods of pool use for inspections.

(e) A bound log shall be maintained by the swimming pool operator on the premises which shall contain the time and date of the chemical tests performed, results of those tests and initials of the person who performed the necessary testing. The log shall also contain such information as bather load, water clarity, water temperature, and weather conditions as applicable. This log shall be available at all times for review by the health authority.

8:26-7.9 Chemical water quality standards for swimming pools and wading pools

(a) Free chlorine, combined chlorine, bromine and pH values shall be continuously maintained within the following ranges:

	Minimum	Ideal	Maximum Indoor Pools	Maximum Outdoor Pools
Free chlorine residual parts per million (ppm)	1.0	1.0-1.5	3.0	4.0
Combined chlorine (ppm)	None	None	0.2*	0.2*
Bromine (ppm)	2.0	2.0-4.0	4.0	4.0
pH	7.2	7.4-7.6	7.8	7.8

*Remedial action shall be taken if combined chlorine exceeds 0.2 as it will result in reduced chlorine efficacy.

(b) If pool water disinfectants other than those in (a) above are used, residuals of equivalent disinfecting strength shall be maintained.

(c) If stabilized chlorines are used as pool water disinfectants, the cyanuric acid levels shall be maintained within the following ranges:

	Minimum	Ideal	Maximum
Cyanuric Acid (ppm)	10	30-50	100

1. Stabilized chlorines shall be prohibited in indoor pools.

8:26-7.10 Physical water quality standards for swimming pools and wading pools

(a) The pool operator shall monitor the water clarity of each pool daily.

(b) When in use, the pool water shall be sufficiently clear to permit a black disk 6 inches (15.2 centimeters) in diameter, superimposed upon a white field placed at the bottom of the deepest end of the pool to be clearly visible from the pool sidewalk, at all distances up to 10 yards, measured in a horizontal distance from the projection of the disk onto the pool surface.

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(b) One sample shall be taken for the first 300 linear feet of beach front. Oceans under the cooperative coastal monitoring program are not included.

1. Additional samples shall be required as follows:

i. 300 linear feet to 500 linear feet - - - 2 samples.

ii. In excess of 500 linear feet - - - 3 samples.

8:26-7.18 Technique of sampling

(a) Technique of sampling shall be as specified in N.J.A.C. 8:26-7.4(d) and also include the following; in the case of natural bathing waters:

1. Water samples shall be taken in an area with a stabilized water depth between the sampler's lower thighs and chest with an optimum depth being at the sampler's waist.

2. At the desired depth facing away from the shoreline and in an area of the bathing zone not in close proximity to bathers, sample container shall be placed, with lid or stopper still attached, approximately eight to 12 inches below the water surface. With arms extended in front, the container shall be held near its base and downward at a 45 degree angle, the cap removed and the container filled in one slow sweeping motion (downward or horizontally, not upward) with the mouth of the container ahead of the sampler's hand and the container recapped while it is still submerged. The cap shall remain submerged during the sample collection and care shall be taken not to touch the inner surfaces of the cap. The only exception to this procedure would be in the event that samples need to be taken during cold water conditions that require the use of reach assist poles to obtain the samples. In this situation, the cap may be removed prior to submersion as long as the container is pointed downward upon entry into the water. If a head space in the container is needed, the sampler, once on the beach, can carefully pour out a small amount of the sample and recap.

(b) No sampling shall be performed when such oceanographic or meterological conditions exist that present an imminent health and safety hazard.

8:26-7.19 Microbiological water quality standards for bathing beaches

(a) Microbiological water quality standards for bathing beaches shall be determined on the basis of fecal coliform densities, sanitary survey results, and/or epidemiological evidence.

(b) Fecal coliform count standards shall be as follows:

1. If the multiple-tube fermentation method is used, the arithmetic average of a set of samples at any particular time shall not exceed 200 fecal coliform per 100 milliliters.

2. If the membrane filtration method is used, the number of colony forming units shall not exceed 200 fecal coliform organisms per 100 milliliters.

(c) The following methods shall be used in accordance with procedures set forth in, "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 16th Edition.

1. 909C Fecal Coliform Membrane Filter Procedure.

2. 908C-1 Fecal Coliform MPN Procedure (E.C. medium)

3. 908C-2 Fecal Coliform MPN Procedure (A-1 medium).

(d) All analyses shall be conducted in accordance with the standards set forth in N.J.A.C. 7:18 and in accordance with the methodologies set forth in N.J.A.C. 7:18-2.5(b).

8:26-7.20 Chemical water quality standards for natural waters

(a) Chemical water quality standards for natural waters shall be monitored by the bathing beach operator and judged on the following basis:

1. Chemicals used to control aquatic vegetation shall not be capable of creating toxic reactions, or skin or membrane irritations to bathers when the bathing place is in operation and shall be applied in accordance with N.J.A.C. 8:26-6.11(a).

8:26-7.21 Physical water quality standards for natural waters

(a) Physical water quality standards for natural waters shall be monitored by the bathing beach operator and judged on the following basis:

1. Visual observations and/or physical determinations shall be made to demonstrate the water to be free of deposits, aquatic vegetation, growths, oils, greases, or other substances having the potential to cause a health or safety hazard.

SUBCHAPTER 8. ENFORCEMENT PROCEDURES

8:26-8.1 Legal authority

All public swimming pools, wading pools, hot tubs, spas, or bathing beaches shall be operated in compliance with the provisions of this Chapter and Title 26, Revised Statutes of New Jersey.

8:26-8.2 Inspection of public swimming pools, hot tubs, spas or bathing beaches

(a) The health authority shall inspect every swimming pool, wading pool, hot tub, spa, or bathing beach as often as the health authority deems necessary.

(b) The person operating a swimming pool, wading pool, hot tub, spa, or bathing beach shall permit access to all parts of the establishment.

8:26-8.3 Report of inspections

(a) Whenever an inspection of a swimming pool, hot tub, spa, or bathing beach is made, the finding(s) shall be recorded on an inspection report form approved by the State Department of Health.

(b) The inspection report form shall identify in a narrative form any violations of this Chapter and shall be cross referenced to the section of the Chapter being violated.

(c) The health authority, upon anticipating a closure of a bathing beach shall immediately notify via telephonic communication the State Department of Environmental Protection, State Department of Health, and adjacent local health authorities of the intended action.

8:26-8.4 Public availability of inspection records

Records of inspections of swimming pools, hot tubs, spas, or bathing beaches shall be made available to the public upon request.

8:26-8.5 Criteria for closure of public recreational bathing facilities

(a) The approval, license or permit of any person to operate a swimming pool, hot tub, spa or bathing beach may be suspended at any time, when in the opinion of the health authority or its authorized agent, such action is necessary to abate a present or threatened menace to public health.

(b) The health authority shall order the owner or operator of a swimming pool, hot tub, spa, or bathing beach to physically sequester the bathing area and to prohibit any bathing until the violation is abated.

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APPENDIX

The following organizations are currently recognized by the New Jersey State Department of Health to certify the personnel and/or program required in Subchapter 5 of these regulations.

First Aid Certification

American Red Cross

CPR Certification

American Red Cross
American Heart Association

Lifesaving/Lifeguarding Certification

Swimming Pools and Lake Bathing

American Red Cross	- Advanced lifesaving certificate Lifeguarding certificate
Boy Scouts of America	- BSA lifeguard certificate
YMCA	- Advanced lifesaving certificate Lifeguarding certificate
National Pool and Waterpark Lifeguard Training	- Pool guard certificate Deep water guard certificate

Ocean and Tidal Waters
United States Lifesaving Association
Office of Certification
Mid-Atlantic Region
P.O. Box 1
Avon, NJ 07717

Certified Pool Operators Certification

YMCA

National Swimming Pool Foundation
10803 Gulfdale
Suite 300
San Antonio, Texas 78216

24 UNIT FIRST AID KIT CONTENTS

2 Units	-	1 inch Adhesive Compress
2 Units	-	2 inch Bandage Compress
2 Units	-	3 inch Bandage Compress
2 Units	-	4 inch Bandage Compress
1 Unit	-	3 inches by 3 inches Plain Gauze Pads
2 Units	-	Gauze Roller Bandage
1 Unit	-	Eye Dressing Packet
4 Units	-	Plain Absorbent Gauze - 1/2 square yard
3 Units	-	Plain Absorbent Gauze
4 Units	-	Triangular Bandages
1 Unit	-	Adhesive Tape - Scissors - Tweezers