



# Health Protection

Environmental Health Services

## Pool Safety Plan

## Guide for Pool Operators

Ubi Ufm201&



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#### **Disclaimer**

The contents of this document are intended to be used as a guide to create a Pool Safety Plan as required by the Pool Regulation (BC Reg.296/2010). This document should be used in conjunction with other reference materials such as the Pool Regulation, the BC Guidelines for Swimming Pool Operations and the BC Guidelines for Swimming Pool Design and other information, some of which is provided in the Appendices. The guide is designed for commercial pools and public pools.

This document cannot address every situation that may occur in a pool facility. Whether an issue is addressed in the pool safety plan or not it is necessary to comply with the Pool Regulations and always operate the pool facility in a safe manner. Failure to do so may result in legal actions.

**Note:** When there is a discrepancy between the Pool Regulation and any other document the Pool Regulation shall prevail.

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## Background

The Pool Regulation (BC Reg. 296/2010) requires all pool operators to create clearly written, detailed pool safety plans. Additional information has been included in the Appendices of this document which can help you write your pool safety plan and may be used as a future resource for you.

Web links are provided to the Pool Regulation, BC Guidelines for Swimming Pool Design and BC Guidelines for Pool Operation in the Appendix 1.

### What is a Pool Safety Plan?

- It is a written plan specific to each facility / pool that provides information and describes actions to protect the health and safety of pool users.
- It is intended to provide clear, written procedures for:
  - Staff training
  - Ongoing maintenance and upkeep of the facility
  - Reducing the chance of harmful events
  - Helping respond to events and/or incidents that may affect health and safety of pool patrons and staff

### What do I need to do as a Pool Operator?

- Write a pool safety plan that is specific to my facility.
  - It is a good idea to involve maintenance technicians and pool staff to help create these plans, as they are familiar with how the pool runs on a day to day basis.
- Train my staff in accordance with this written plan.
- Review and update the plan at least annually and make required changes as needed.
- Have the pool safety plan reviewed by my Environmental Health Officer.

**Remember:** You may already have a lot of this information in place for your pool. The pool safety plan simply helps you to bring it all together in a single location.

Make the plan easy to use by keeping it in a binder with tabs for each section.

**Section 1 – Pool Characteristics**

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**Section 1 – Pool Characteristics**

The intent of this section is to provide easy access to specific details of each pool in your facility.

Check all boxes that apply to your facility and fill in the missing information. If you do not have an up to date data sheet, you may need to do calculations.

1.1 Pool Administration / Information	
Facility Name:	
Facility Address:	
Pool Safety Plan Prepared by:	Date:
Last Reviewed / Updated by: <i>(Required to be done at least once a year)</i>	Date:

Pool data sheets, engineered plans and/or pool drawings should be included if available. (Your Environmental Health Officer may be able to provide some of these documents)
Location of Pool Data Sheets: <i>(It is recommended that a laminated copy be posted in the filter room)</i>
Location of Engineered Plans and/or Pool Drawings:
Additional Information <i>(if required)</i>

**Staff Trained in Pool Safety Plan** *(Update as required)*

By initialing below I acknowledge that I have reviewed the pool safety plan and understand the sections relevant to my duties.

Staff Name	Title	GYWJcb Relevant to 8 uties	Initials



1.2 Pool Details <i>(Provide details for each pool in the facility)</i>			
<b>Pool Name or Description</b> <i>(e.g. main pool, hot tub)</i>	Pool 1: Name _____ Facility/Premises# _____	Pool 2: <input type="checkbox"/> N/A Name _____ Facility/Premises# _____	Pool 3: <input type="checkbox"/> N/A Name _____ Facility/Premises# _____
	Date Constructed: _____	Date Constructed: _____	Date Constructed: _____
<b>Pool Type</b>	Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/>	Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/>	Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/>
	<b>Commercial pool:</b> Less than 170m <sup>2</sup> (1830 ft <sup>2</sup> ) and at least 61cm (2ft) deep. Owned/operated by educational, recreational, business enterprise or strata. <b>Public pool:</b> At least 61 cm (2ft) deep, available for swimming, recreational bathing or physiotherapy and is not a commercial pool.		
	Choose one of the following: Public Pool <input type="checkbox"/> Commercial Pool <input type="checkbox"/> Hot Tub <input type="checkbox"/> Spray Pool (Recirculating) <input type="checkbox"/> Spray Pool (Non-recirculating) <input type="checkbox"/> Wading Pool (< 61 cm depth) <input type="checkbox"/>	Choose one of the following: Public Pool <input type="checkbox"/> Commercial Pool <input type="checkbox"/> Hot Tub <input type="checkbox"/> Spray Pool (Recirculating) <input type="checkbox"/> Spray Pool (Non-recirculating) <input type="checkbox"/> Wading Pool (< 61 cm depth) <input type="checkbox"/>	Choose one of the following: Public Pool <input type="checkbox"/> Commercial Pool <input type="checkbox"/> Hot Tub <input type="checkbox"/> Spray Pool (Recirculating) <input type="checkbox"/> Spray Pool (Non-recirculating) <input type="checkbox"/> Wading Pool (< 61 cm depth) <input type="checkbox"/>
<b>Months of Operation</b>	12 months <input type="checkbox"/> or List months of operation: _____ to _____	12 months <input type="checkbox"/> or List months of operation: _____ to _____	12 months <input type="checkbox"/> or List months of operation: _____ to _____
<b>Bather Load</b> <i>(refer to Appendix 2)</i>			
<b>Area of Pool</b>			
<b>Volume</b>			
<b>Depth</b>	Minimum _____ Maximum _____	Minimum _____ Maximum _____	Minimum _____ Maximum _____
<b>Flow Rate</b> <i>Refer to Appendix 3 for Data Sheet Flow Rate Location</i> <i>Refer to Appendix 4 for typical flow meter locations</i>	Correct flow meter readings confirm flow through the main drain will not create a suction hazard and is adequate for the correct turnover rate. The flow rate can be found on the pool data sheet. <ul style="list-style-type: none"> <li>▪ All pools should have at least one flow meter.</li> <li>▪ Hot tubs should have at least two flow meters.</li> <li>▪ Pools with water features may have additional flow meters.</li> </ul>		
	Pool recirculation: _____	Pool recirculation: _____	Pool recirculation: _____
	Water features: _____ or	Water features: _____ or	Water features: _____ or
	Hot tub recirculation: _____	Hot tub recirculation: _____	Hot tub recirculation: _____
	Hot tub hydro air: _____	Hot tub hydro air: _____	Hot tub hydro air: _____

<b>1.3 List of Equipment and Amenities</b>			<i>Items listed should be discussed in the Operation, Maintenance and/or Prevention sections in further detail.</i>		
<b>Pool 1</b>		<b>Pool 2</b>		<b>Pool 3</b>	
Choose all that apply (✓):		Choose all that apply (✓):		Choose all that apply (✓):	
Diving Board(s)	<input type="checkbox"/>	Diving Board(s)	<input type="checkbox"/>	Diving Board(s)	<input type="checkbox"/>
Starting Blocks	<input type="checkbox"/>	Starting Blocks	<input type="checkbox"/>	Starting Blocks	<input type="checkbox"/>
Slides over 10 ft. height	<input type="checkbox"/>	Slides over 10 ft. height	<input type="checkbox"/>	Slides over 10 ft. height	<input type="checkbox"/>
Slides under 10 ft. height	<input type="checkbox"/>	Slides under 10 ft. height	<input type="checkbox"/>	Slides under 10 ft. height	<input type="checkbox"/>
Portable Stairs	<input type="checkbox"/>	Portable Stairs	<input type="checkbox"/>	Portable Stairs	<input type="checkbox"/>
Ladder(s) # _____	<input type="checkbox"/>	Ladder(s) # _____	<input type="checkbox"/>	Ladder(s) # _____	<input type="checkbox"/>
Rope Swing(s)	<input type="checkbox"/>	Rope Swing(s)	<input type="checkbox"/>	Rope Swing(s)	<input type="checkbox"/>
Climbing Wall	<input type="checkbox"/>	Climbing Wall	<input type="checkbox"/>	Climbing Wall	<input type="checkbox"/>
Chair Lift	<input type="checkbox"/>	Chair Lift	<input type="checkbox"/>	Chair Lift	<input type="checkbox"/>
Ramp Entry	<input type="checkbox"/>	Ramp Entry	<input type="checkbox"/>	Ramp Entry	<input type="checkbox"/>
Sauna	<input type="checkbox"/>	Sauna	<input type="checkbox"/>	Sauna	<input type="checkbox"/>
Steam Room	<input type="checkbox"/>	Steam Room	<input type="checkbox"/>	Steam Room	<input type="checkbox"/>
Inflatable Play Equipment	<input type="checkbox"/>	Inflatable Play Equipment	<input type="checkbox"/>	Inflatable Play Equipment	<input type="checkbox"/>
Spectator Seating	<input type="checkbox"/>	Spectator Seating	<input type="checkbox"/>	Spectator Seating	<input type="checkbox"/>
Underwater Lighting	<input type="checkbox"/>	Underwater Lighting	<input type="checkbox"/>	Underwater Lighting	<input type="checkbox"/>
Underwater Platforms	<input type="checkbox"/>	Underwater Platforms	<input type="checkbox"/>	Underwater Platforms	<input type="checkbox"/>
Bulkhead	<input type="checkbox"/>	Bulkhead	<input type="checkbox"/>	Bulkhead	<input type="checkbox"/>
Other Features (list):		Other Features (list):		Other Features (list):	
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>

This page may be used to record additional information and/or details that are specific to your pool.

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## Section 2 – Procedures in the Event of a Serious Injury, Emergency or Incident

The intent of this section is to:

- Develop written procedures so that you and your staff know how to efficiently and safely handle injuries, emergencies or incidents in your facility.
- Describe the equipment that is required and the emergency procedures for staff to follow for each type of situation.
- Describe preventative measures to reduce the risk of emergencies occurring.

**Remember:** Staff must be trained in the implementation of the emergency response procedures.

You should post a site plan, diagram or outline of the entire facility in a visible area and by the phone. The site plan should include the locations of:

- Alarms
- Phones
- Exits
- Specialized Emergency Equipment
- The best emergency vehicle access location

*Keep a copy in the Pool Safety Plan*

### 2.1 Emergency Response Phone Numbers

It is very important to have easy access to emergency response numbers and to keep the list current.

<b>Emergency Number</b> _____ <i>Usually 911</i>
--

Use the following templates to create Emergency Contact Lists for your facility.

Emergency contact people should include: police, ambulance, fire, etc. as listed below.

<b>Emergency Contact List</b>		
<i>(Post next to the telephone or in another visible location if no telephone available)</i>		
<b>First Responders</b>		
Ambulance	911 or	( )
Fire Department		( )
Police		( )
<b>Building Contacts Trained in First Aid / Emergency Response / CPR</b>		
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
	( )	Cell phone ( )
<b>Additional Contact Information</b>		
Local Hospital	( )	
Poison Control	( )	
Public Health Department	( )	
Pool Company	( )	
Gas Company	( )	
	( )	
	( )	

Above list reviewed and updated by:

Print Name \_\_\_\_\_

Print Date (yyyy/mm/dd) \_\_\_\_\_

## 2.2 Emergency Response Procedures

It is important to remember that:

- Emergency response procedures should be easy to follow.
- Incidents should be recorded in the daily log book.
  - Major incidents should be recorded on an Incident Report form. Sample forms are provided in Appendix 6. These forms may be changed to meet your facility needs.

### **Facilities with 9 emergency Dhone at Dool'Gide:**

Provide an emergency phone script. Include the facility address and all details required to assist in locating the pool site.

Post in view of the emergency phone.

Complete the emergency phone script as provided on the following page or write your own script.

**Example of emergency phone script**

1. Dial **911** and specify police, ambulance or fire.
2. State **Who You Are** along with the address and the phone number you are calling from:
  - Hello, I'm \_\_\_\_\_ at \_\_\_\_\_  
*(name)* *(facility)*
  - The address is \_\_\_\_\_  
*(facility street address)*
  - The swimming pool phone number is \_\_\_\_\_  
*(facility phone number)*
3. **State the nature** of the situation. If there is a fire advise of chemical storage room location \_\_\_\_\_
4. **Tell** them the best way to come to the facility: *(Provide directions i.e. front entrance through the parking lot)*
5. **Send someone** \_\_\_\_\_ *(i.e. front desk staff)* to meet and direct emergency personnel to scene.
6. Ask what their estimated time of arrival is.



**Facilities with No Emergency Phone at Pool Side:**

Provide a procedure with the location of nearest telephone or individual(s) on duty with a phone, cell phone, satellite phone, or emergency radio

*(e.g. concierge, manager, front desk, strata member, etc.).*

Provide other systems/alternate methods of alerting emergency responders as applicable. *(e.g. location of alarms/horns/intercom devices etc.)*

**Write a procedure for facilities with no emergency phone in the box below.**

**Remember to post procedure in a visible location at the pool.**

**Facility Emergency Response**

The following table provides examples of various types of injuries and/or events that may occur at your facility. Emergency response plans can help you identify practices to reduce risk of emergencies occurring.

As a pool operator, make sure you advise patrons that have been injured to see their doctor, even if they are feeling well. For example, a head injury could be serious.

**Note:** This list does not cover all possible incidents therefore you may need to change it to meet your facility needs.

Type of Incident	
<b>Medical Emergencies</b>	
<b>Near Drowning / Drowning</b>	<p><b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span>  <i>(insert procedure)</i></p>
	<p><b>Prevention</b> <i>(may include)</i></p> <ul style="list-style-type: none"> <li>- Signage posted</li> <li>- Staff Training</li> <li>- Pool Monitoring</li> <li>- Ensure all pool changes are approved</li> <li>- Access points secure <i>(refer to B.C. Guidelines for Swimming Pool Design)</i></li> <li>- Depth markings visible</li> <li>- Water Quality</li> <li>- Other _____</li> </ul>
<p><b>Major Incidents</b></p> <ul style="list-style-type: none"> <li>• Chest pain</li> <li>• Spinal and/or head injury</li> <li>• Broken bones or sprains</li> <li>• Seizures</li> <li>• Allergic reactions</li> </ul>	<p><b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span>  <i>(insert procedure)</i></p>
	<p><b>Prevention</b> <i>(may include)</i></p> <ul style="list-style-type: none"> <li>- Signage posted and enforcement</li> <li>- Staff Training</li> <li>- Other _____</li> </ul>

<b>Minor Incidents / First Aid</b>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <i>(may include)</i> <ul style="list-style-type: none"> <li>- Signage posted</li> <li>- Patron education</li> <li>- First aid kit well stocked</li> <li>- No glass on deck</li> <li>- Other _____</li> </ul>	
<b>Heat-Related Incidents</b>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <i>(may include)</i> <ul style="list-style-type: none"> <li>- Hot Tub Max 40°C</li> <li>- Signage posted</li> <li>- Tempering valves and taps on showers</li> <li>- Clock to monitor time spent in hot tub</li> <li>- Access to tempered water to cool down</li> <li>- Staff monitoring of hot tub, sauna, steam room areas</li> <li>- Provide shaded area at outdoor pools</li> <li>- Other _____</li> </ul>	
<b>Illness Prevention</b>		
<b>Fecal/Vomit/Blood Body Fluid Incidents</b> <i>(Refer to Appendix 1 for link to US CDC Protocol)</i>  <i>(Refer to Appendix 12 for Health Authority sample protocols)</i>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <i>(may include)</i> <ul style="list-style-type: none"> <li>- Signage posted</li> <li>- Patron education</li> <li>- Develop procedures for different types of incidents</li> <li>- Other _____</li> </ul>	

<p><b>Disease Outbreaks</b>  <i>(e.g. rashes, eye or ear infection, athlete’s foot, fungal infections)</i>                      Advise the health department if there are 2 or more complaints of the same nature.</p>	<p><b>Facility Procedure</b>  <i>(insert procedure)</i></p> <p style="text-align: right;">Additional sheet attached <input type="checkbox"/></p>
	<p><b>Prevention</b> <i>(may include)</i></p> <ul style="list-style-type: none"> <li>- Signage posted and enforced</li> <li>- Exclude patrons as per required signage <i>(i.e. if patrons are obviously ill; have diarrhea and/or communicable diseases)</i></li> <li>- Minimize dirt from entering pool <i>(i.e. no shoes on pool deck, no dirt draining from planters)</i></li> <li>- At hand sinks / showers ensure soap is provided</li> <li>- Follow pool safety plan cleaning procedures</li> <li>- Balance pool chemistry</li> <li>- Prevent animals from entering pool enclosure</li> <li>- Other _____</li> </ul>
<p><b>Patron Related Emergencies</b></p>	
<p><b>Entrapped Person</b></p>	<p><b>Facility Procedure</b>  <i>(insert procedure)</i></p> <p style="text-align: right;">Additional sheet attached <input type="checkbox"/></p>
	<p><b>Prevention</b> <i>(may include)</i></p> <ul style="list-style-type: none"> <li>- Physical inspection <i>(i.e. no gaps between 3.5 – 9 inches, no catch points)</i></li> <li>- Signage</li> <li>- Patron education</li> <li>- Develop procedures <i>(i.e. provide scissors in first aid kit)</i></li> <li>- Other _____</li> </ul>
<p><b>Suction Hazards</b></p>	<p><b>Facility Procedure</b>  <i>(insert procedure)</i></p> <p style="text-align: right;">Additional sheet attached <input type="checkbox"/></p>
	<p><b>Prevention</b> <i>(may include)</i></p> <ul style="list-style-type: none"> <li>- Flow through main drain not to exceed 1½ ft/sec <i>(flow meters regularly checked)</i></li> <li>- Inspection of main drain, skimmers</li> <li>- Develop procedures for shutting down pumps</li> <li>- Main drain replaced “like for like” <i>(Pool Reg. 10(2)(k) – pool water must not pass through any drain grate at a speed greater than 46 cm per second when the pool is operating at the design flow rate)</i></li> <li>- Equalizer lines disabled</li> <li>- Other _____</li> </ul>

<b>Hostile Derson</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <i>(may include)</i> <ul style="list-style-type: none"> <li>- Staff training <i>(i.e. to recognize and handle people influenced by drugs and/or alcohol)</i></li> <li>- No drinking, no alcohol or drugs</li> <li>- Other _____</li> </ul>
<b>Missing Derson</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <i>(may include)</i> <ul style="list-style-type: none"> <li>- Parents supervise children</li> <li>- Patron education</li> <li>- Other _____</li> </ul>
<b>Facility Emergencies</b>	
<b>Gas @ak</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Know where and how to shut off gas at the meter</li> <li>- Maintenance <i>(i.e. leak prevention; check for corrosion)</i></li> <li>- Monitoring systems as required <i>(i.e. propane, natural gas, chlorine, ozone)</i></li> <li>- Staff training</li> <li>- Other _____</li> </ul>
<b>Chemical Gpill</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Staff training and personal protective equipment (PPE)</li> <li>- Knowledge of chemicals and chemical interactions</li> <li>- Proper storage</li> <li>- Material Safety Data Sheets (MSDS)</li> <li>- Other _____</li> </ul>

<b>Fire</b> <i>Include:</i> <ul style="list-style-type: none"> <li>- Evacuation plan</li> <li>- Site plan including the location of alarms, exits, specialized equipment, etc.</li> <li>- Chemical room door clearly marked, inform fire dept. of chemical storage</li> </ul>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Staff training</li> <li>- Fire alarms and extinguishers</li> <li>- Exit sign clearly marked</li> <li>- Maintenance / inspection checklist</li> <li>- Other _____</li> </ul>
<b>Power : ailure</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Staff training</li> <li>- Emergency lighting tested and functioning</li> <li>- Emergency generator</li> <li>- Other _____</li> </ul>
<b>Sewer back l p</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Staff training</li> <li>- Other _____</li> </ul>
<b>Electrical Discharge</b>	<b>Facility Procedure</b> <span style="float: right;">Additional sheet attached <input type="checkbox"/></span> <i>(insert procedure)</i>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Monthly ground fault circuit interruptor checks of underwater lights</li> <li>- Ground wires in good condition</li> <li>- Other _____</li> </ul>

<b>Air Euality</b> <i>(Plan for the worst case scenarios for chemical spills and mixtures of chemicals)</i>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <ul style="list-style-type: none"> <li>- Staff education</li> <li>- Maintain pool chemistry</li> <li>- Clean and maintain ventilation system</li> <li>- Monitor warning signs <i>(i.e. log air quality complaints)</i></li> <li>- Other _____</li> </ul>	
<b>Natural Disasters</b>		
<b>Lightning</b>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <i>(Insert procedures for your facility)</i> <ul style="list-style-type: none"> <li>- Be proactive <i>(i.e. check weather forecast)</i></li> <li>- Close outdoor pool in thunderstorm</li> <li>- Other _____</li> </ul>	
<b>Flood, 9arthquake, Cther</b>	<b>Facility Procedure</b> <i>(insert procedure)</i>	Additional sheet attached <input type="checkbox"/>
	<b>Prevention</b> <i>(Insert procedures for your facility)</i> <ul style="list-style-type: none"> <li>- Staff Training</li> <li>- Other _____</li> </ul>	

### 2.3 Emergency Equipment

All pool facilities are required to have various types of emergency, safety and first aid equipment to help respond to injuries and/or incidents.

Staff should know where all emergency equipment is located and be appropriately trained to use it. Emergency equipment must be routinely checked as per manufacturer’s specifications.

Fill in the following table to record all emergency equipment and its location.

Emergency Equipment <i>(Check all that apply)</i>	Location
<input type="checkbox"/> A non-conductive reaching pole/hook at least 3.5 meters in length mounted at poolside. *	
<input type="checkbox"/> A throwing ring, attached to a line of at least 6 mm in diameter and having a length of at least half the width of the pool plus 3 meters mounted at poolside. *	
<input type="checkbox"/> Minimum of a #2 first aid kit or as per WorkSafe BC. * <i>(See Appendix 8 for contents of First Aid Kit)</i>	
<input type="checkbox"/> A spine board (with at least 3 straps and a head securing device) **	
<input type="checkbox"/> Oxygen equipment (400 litres or greater) with regulator and protective carrying case and a spare oxygen tank **  <input type="checkbox"/> Full set of airways **	
<input type="checkbox"/> Automated External Defibrillator (A.E.D.) **	
<input type="checkbox"/> Personal protective equipment including pocket mask and gloves.	
<input type="checkbox"/> Eye wash stations.	
<input type="checkbox"/> Other _____	

\* Required under regulation.

\*\* Lifeguards, assistants or other personnel must be trained in their use.



## 2.4 Evacuation Procedures

A good evacuation procedure is important for all pool facilities. It is important to consider extreme weather conditions when writing the evacuation plan.

For example, include procedures required if you need to evacuate the building when you have:

- patrons in bathing suits in the middle of winter
- special needs patrons
- different age groups (*i.e. preschool children or elderly*)
- it is also important to know:
  - escape routes, routes to nearest hospital, etc.
  - know the meeting area / Muster station

Staff should be familiar with evacuation procedures. Evacuation procedures should be practiced and dates should be recorded.

<b>Evacuation Procedure</b>	<i>Write clear procedures for evacuating your facility (include where to go, how to keep warm if your facility is open in the winter, etc.)</i>

## 2.5 Facility Signage

The Pool Regulation requires specific signs to be posted in visible locations. Signs can help prevent health risks, injuries, and accidents. Consider the needs of your facility to determine which additional warnings or instructions are required. Pool signs may be available from your Environmental Health Officer.

It is important to know the signs posted in your facility and to keep them in good condition.

The following table provides a checklist for required and recommended signs for pools and hot tubs.

<b>Required Signage</b> <i>(Pool Regulation / Guidelines)</i>	Check all that apply ✓
Pool Rules <i>(Refer to Appendix 11)</i> <i>(must be posted in a prominent position within the pool enclosure)</i>	<input type="checkbox"/>
Hot Tub Rules <i>(Refer Appendix 11)</i> <i>(must be in easy view of all users of the hot tub)</i>	<input type="checkbox"/>
No Lifeguard on Duty – children must be supervised by an adult <i>(must be posted at each entrance to the pool)</i>	<input type="checkbox"/>
Location of Phone	<input type="checkbox"/>
Location of First Aid Kit	<input type="checkbox"/>
Location of Exits	<input type="checkbox"/>
Emergency Numbers and Facility Address Posted by the Phone	<input type="checkbox"/>
No Animals Allowed Except Guide Animals	<input type="checkbox"/>
<b>Recommended Signs</b>	
Bather Load	<input type="checkbox"/>
Diving Area Rules	<input type="checkbox"/>
Pool Slide Rules	<input type="checkbox"/>
Emergency Procedures for Patrons	<input type="checkbox"/>
Chemical Storage Room <i>(sign on the door)</i>	<input type="checkbox"/>
Do Not Drink Pool Water	<input type="checkbox"/>
<b>Other Signs</b>	
	<input type="checkbox"/>
	<input type="checkbox"/>

This page may be used to record additional information and/or details that are specific to your pool.

**Section 3 – Index**

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## Section 3 – Pool Operation and Maintenance

The intent of this section is to:

- Provide written operating and maintenance procedures to ensure the health and safety of pool patrons and staff.
- Provide information regarding the equipment and supplies needed and how to handle them correctly and safely.

### 3.1 Operating Permit

Every pool that is being operated must have a valid operating permit issued under the Pool Regulation. You are required to post the permit in a prominent place on the premises. It is a good idea to keep a copy of the permit in your pool safety plan binder.

### 3.2 When to Close the Pool to Swimmers

All staff should know when to close a pool. The safety of the swimmers must always be considered when making this decision. When in doubt, close the pool (keep **'POOL CLOSED'** signs handy), assess the situation, seek guidance from other professionals if needed to correct the problem. Only reopen the pool when you know it is safe to do so or you have had it inspected and cleared by your local health officer or other professional.

The following are some of the conditions that require pool closure. Add additional items to meet the needs of your facility.

- In the presence of vomitus or feces (*refer to Appendix 12*).
- When minimum sanitizer level cannot be maintained.
- When water is too cloudy to see the pattern of the main drain.
- When the recirculation system is not working.
- When there is a power outage.
- When superchlorinating or shocking (free chlorine more than 10 ppm).
- When any hazardous situation exists that could negatively impact the health and safety of swimmers.
- When adding chemicals directly to the pool.
- Other \_\_\_\_\_

### 3.3 Pool and Hot Tub Water Chemistry

It is important to check your pool chemistry on a regular basis to maintain pool water parameters within the acceptable ranges. This will help:

- Promote adequate disinfection and good water clarity.
- Keep pool chemistry balanced.
- Reduce corrosion and scaling (*i.e. this lowers long term costs*).

It is your responsibility as the pool operator to test pool chemistry as required by the Pool Regulation. The table below provides the minimum testing frequencies for each pool chemical.

Remember your pool may need more frequent testing depending on the bather load, temperature, type of use and type of pool.

Record your chemistry tests in a recording log and keep this as a reference. Sample recording logs are provided in Appendix 9.

It is important to use an approved test kit to check chemistry.

Name of test kit used: \_\_\_\_\_

#### Pool Water Chemistry Requirements

Parameters requiring testing	Minimum Testing Frequency	Test results required	
		Water temp ≤ 30°C	Water Temp >30°C
pH	2 x / day	Within range of 7.2 – 7.8	
Combined Chlorine	2 x / day	Less than 1 ppm	
Alkalinity	1 x / week	Within range of 80 – 120 ppm	
Cyanuric Acid <sup>1</sup>	1 x / week	Less than 80 ppm	
<b>Disinfectant <sup>2</sup></b>		<b>Water temp ≤ 30°C</b>	<b>Water Temp &gt;30°C</b>
Free Available Chlorine or	2 x / day	0.5 ppm or greater	1.5 ppm or greater
Chlorine Cyanurate (stabilized chlorine) or	2 x / day	1.0 ppm or greater	2.0 ppm or greater
Bromine	2 x / day	1.5 ppm or greater	2.5 ppm or greater

<sup>1</sup> Check only if a stabilizer is used.

<sup>2</sup> Depending upon the product used, one of the listed disinfectant levels must be checked. Although the testing procedures are the same, required levels of disinfectant are higher if stabilized chlorine is used.

### 3.4 Pool and Hot Tub Test Kit and Reagents

- Have step by step written instructions on how to use the pool test kit used. Keep a copy of your instructions in your pool safety plan and one in your test kit. Water often damages instructions.
- All reagents have a limited shelf life and you need to know what the shelf life is. Complete the shelf life table below. *(Refer to Appendix 7)*.
- Write the correct “expiry date” on each bottle *(i.e. add 6 months to the date of purchase)*.
- Store your reagents according to the manufacturer’s directions. Do not switch the reagent caps. Store in a cool, dark place, avoiding temperature fluctuations.
- Make sure your color comparator and vials are in good condition with no discoloration or cracks.

#### Reagent Shelf Life *(Refer to Appendix 7)*

Name of Reagent	Shelf Life <i>(Months)</i>

**3.5 Pool and Hot Tub Water Chemical Adjustment**

Chemicals must be used according to label instructions and in compliance with WorkSafeBC. Knowing your pool volume will help determine how much of each chemical to use. Post the pool volume where the chemicals are stored so that it is handy for calculations.

If an outside company maintains the pool describe when the company should be called to trouble shoot and who should call. This is particularly important on weekends and holidays.

Additional sheet attached  N/A  Maintained by pool company

If maintained by onsite staff, provide step by step written instructions on how to adjust pool chemistry from start up:

Additional sheet attached  N/A  Maintained by pool company

If chemistry is adjusted by a staff member provide product specific procedures for troubleshooting the problems below:



*(Attach additional sheets as required)*

<b>Troubleshooting Problem</b>	<b>Product</b>	<b>General Procedures</b> <i>(e.g. describe dilutions and rates of application or use product label information and customize to your pool)</i>
Disinfectant too high (pool volume, chemical name and quantity used)		
Disinfectant too low (pool volume, chemical name and quantity used)		
Combined chlorine too high		
pH too high		
pH too low		
Alkalinity too high		
Alkalinity too low		
Cyanuric acid too high		
Cyanuric acid too low		
Cloudy Water		
Other _____		

### 3.6 Safe Handling of Chemicals used in Water Chemistry

Provide step by step written procedures for the safe handling of chemicals and storage. Describe how to safely add chemicals directly to the pool. If you are a small facility with few chemicals on site then only basic information may be needed. The greater the volume of chemicals used, the more detailed this section needs to be.

*(Refer to Appendix 1)*

**Always read and follow label directions**

Use a highlighter to make the important items easier to find on the Material Safety Data Sheet (MSDS).

Chemicals used in water chemistry	Essenital information / precautions
E.g. Sodium hypochlorite	<i>(i.e. Corrosive, causes severe eye injury, skin burns, respiratory burns. Use protective gear to handle, do not mix with muriatic acid, chlorinator tank requires containment.)</i>

### 3.7 Maintenance of Mechanical Equipment

Record in daily log or \_\_\_\_\_ when maintenance has been done.

Installation and operating manuals are located \_\_\_\_\_.

Use the following table as a guide to make your own facility Mechanical Maintenance schedule. The list provides examples of equipment that may be found in your facility and is not intended to be a complete list.

Equipment	What Needs to be Checked	Maintenance Frequency	Date Checked
<b>Filters</b> Model # / Type: _____	<ul style="list-style-type: none"> <li>▪ Filter media functioning: No grease building up in sand</li> </ul>	<ul style="list-style-type: none"> <li>▪ Replace sand every 2 years</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Backwash gauges</li> </ul>		
<b>Chemical Feeder</b> Model # / Type: _____	<ul style="list-style-type: none"> <li>▪ (i.e. tubing)</li> <li>▪ (i.e. build up of minerals, clogging)</li> </ul>		
<b>Ozone</b> Model # / Type: _____			
<b>Pumps</b> Model # / Type: _____	<ul style="list-style-type: none"> <li>▪ (i.e. hair and lint strainer)</li> <li>▪ Cavitation, unusual noise</li> <li>▪ Leaks _____</li> </ul>		
<b>Water Heater</b> Model # / Type: _____	<ul style="list-style-type: none"> <li>▪ (i.e. scaling/corrosion)</li> </ul>		
<b>Ventilation</b> Model # / Type: _____	<ul style="list-style-type: none"> <li>▪ (i.e. vents dirty, etc.)</li> </ul>		
<b>Ultraviolet</b> Model # / Type: <i>Ultraviolet Light Tube</i> _____			
Model # / Type: _____			
Model # / Type: _____			

### 3.8 General Pool Maintenance

Write a detailed maintenance schedule specific to your facility. This can be done by describing the daily and long term tasks associated with a job description or it can be done by outlining the tasks that need to be done in the facility as a whole, as below  
*(Refer to Appendix 10):*

Daily Task List

Weekly Task List

Monthly Task List

Yearly Task List

<b>Operation and Maintenance Responsibilities Related to : acility</b>			
<b>Duties</b> <i>(e.g. Clean deck; test pool chemistry; monitor and repair equipment as needed, etc.)</i>	<b>Person, Job Title or Company</b> <i>(e.g. Joe Smith; Building Engineer; housekeeping; ACME Pool Company, etc.)</i>	<b>Backup Person, Job Title or Company</b>	<b>Training Required for Job Duties</b> <i>(Refer to Appendix 5 for examples)</i>

**3.9 Pool Cleaning Schedule**

Area	Chemical, Cleaner or Other Products Used	How to Handle Safely <i>(refer to MSDS)</i> List all the critical information including personal protective equipment	Cleaning Frequency	Person or Position Responsible
<b>Floors</b>				
Change Room				
Showers/Washrooms				
Halls				
Pool Deck				
Floor/Deck Drains				
Other:				
<b>Surfaces</b>				
Benches/Lockers, etc.				
Shower Walls				
Toilet Bowls				
Sinks/Mirrors				
Other:				
<b>Pool Basin</b>				
Tiles at water mark				
Skimmer baskets				
Vacuuming				
Other:				
<b>Supplies</b>				
Toilet paper/towels				
Soap				
Other:				
<b>Other Areas</b>				

**More complex pools will require more complex cleaning procedures.  
Always read and follow label directions.**

Material Safety Data Sheets (MSDS) Location \_\_\_\_\_

### 3.10 Pool Construction, Repair, Renovation or Alteration

The Pool Regulation defines “construction” as including the design, installation, repair, renovation and alteration of a pool. It also states that a person must not construct a pool unless the person holds a construction permit and complies with the terms and conditions of that construction permit.

#### **Remember**

Always contact your local Health Authority *prior to* making any changes or repairs to your pool or hot tub.

In some cases your health officer may waive the requirement for a construction permit if repairs or alterations are:

- Performed for emergency purposes.
- So minor that they do not pose a risk to the public.
  - Some examples would be replacing small areas of floor or deck tiles (i.e. less than 10m<sup>2</sup>, replacing pool fixtures such as flow meters, replacing chlorination systems, replacing or repairing boilers or heaters, installing new or replacement UV or ozone units.

A construction permit will usually be required for:

- New pool construction
- Major renovations including resurfacing the pool basin
- Replacement of main drains and/or their covers, sumps, pumps, filters, chlorinators, etc. that are not “like for like”.
- Installation of slides, play equipment and other pool features including railings, ladders or stairs.
- Replacement of pool deck and/or changeroom floor surfaces (i.e. over 10m<sup>2</sup>).

Construction permits must be applied for by using the appropriate form provided by your local health officer and completed by a P.Eng. or P.Architect. The form must be accompanied by any plans and/or specifications for the construction and a completed Pool Data Sheet that includes all updates.

This page may be used to record additional information and/or details that are specific to your pool.



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4.2      Training ..... 43

4.3      Lifeguard to Patron Ratios ..... 43

4.4      Lifeguard Procedures ..... 44

## Section 4 – Lifeguarding

Lifeguarding needs are different for every facility. You need to provide details specific to your facility and expand upon this section of the pool safety plan as necessary.

The intent of this section is to:

- Describe the training required for Lifeguards in your facility.
- Describe the opportunities for in-service and other training for staff.
- Provide staffing levels and schedules for all times that the facility is in use.
- Develop written lifeguarding procedures for your facility.

### 4.1 Qualifications

The onus is now on the public pool operator to hire lifeguards that are appropriately trained for their position and nature of responsibilities. This will help ensure the safety of pool patrons.

- **Lifeguard Qualifications**
  - At least 16 years of age
  - Familiar with the pool safety plan
  - Responsible for the conduct and safety of pool patrons
  - Performs no other duty than pool surveillance
- **Assistant Qualifications**
  - At least 16 years of age
  - Familiar with the pool safety plan

#### Lifeguarding Information

Name	Age	Phone #	Training	Notes

### 4.2 Training

Training can include but is not limited to, regular in-services, specialized training such as scuba and other training through agencies such as Royal Lifesaving Society, Red Cross or YMCA.

#### Training and In-service Registry

Staff Name	Phone #	Type of Training / In-service Completed	Date

### 4.3 Lifeguard to Patron Ratios

Minimum staffing levels in accordance with the Pool Regulation must be maintained at all times. A public pool operator must ensure that, when the pool is open to the public, pool supervision is provided by at least one lifeguard and one assistant.

The lifeguard to patron ratio is to be determined jointly by facility management and senior aquatic staff, based upon the design of the facility, patron activity, patron age group and various other factors.

You must ensure that, when the pool is open to the public, pool supervision is provided by the number of lifeguards and assistants as required in your pool safety plan. The number of lifeguards and other employees on duty must be adequate to ensure supervision of all pool patrons.

#### Describe the Lifeguard to Patron Ratios for Your Facility

Number of Swimmers	Number of Lifeguards	Number of Assistants	Notes

**4.4 Lifeguard Procedures**

- **Communication**
  - Describe any communication protocols between staff, use of public address systems, use of whistles, use of radios, hand signals, etc.
  
- **Positions and Rotations**
  - Describe any procedures for lifeguarding such as, what areas to check.
  - Provide guidelines for use and supervision of play equipment (*refer to the prevention protocols in Section 2.2 Itemized Incident Response*).
  - Describe any restrictions related to age and adult supervision required.

**Describe Lifeguard Procedures for Your Facility**

Lifeguard Procedures	Notes

This page may be used to record additional information and/or details that are specific to your pool.

**Appendices - Index**

The following Appendices are provided as a resource to help write your pool safety plan. The Appendices can also be used for future reference.

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**Web Links: General Resources** *(Please note this is not an exhaustive list)*

Web Link	
<b>Pool Regulation</b>	
	<a href="http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/296_2010">http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/296_2010</a>
<b>BC Pool Guidelines:</b>	
▪ B.C. Guidelines for Swimming Pool Design	<a href="http://www.health.gov.bc.ca/protect/pdf/bc-pool-design-guidelines.pdf">http://www.health.gov.bc.ca/protect/pdf/bc-pool-design-guidelines.pdf</a>
▪ B.C. Guidelines for Swimming Pool Operations	<a href="http://www.health.gov.bc.ca/protect/pdf/bc-pool-operations-guidelines.pdf">http://www.health.gov.bc.ca/protect/pdf/bc-pool-operations-guidelines.pdf</a>
<b>BC Ministry of Health</b>	
▪ Recreational Water	<a href="http://www.health.gov.bc.ca/protect/ehp_recreational_water_quality.html">http://www.health.gov.bc.ca/protect/ehp_recreational_water_quality.html</a>
<b>Pool Courses</b>	
▪ Fraser Health	<a href="http://www.fraserhealth.ca">www.fraserhealth.ca</a>
▪ Vancouver Coastal Health	<a href="http://www.vch.ca">www.vch.ca</a>
▪ Resident Managers Training Institute Certified Swimming Pool Operators Certificate Course	<a href="http://www.rmti.ca/cspo">http://www.rmti.ca/cspo</a>
▪ Lowry School for Pool and Spa Chemistry	<a href="http://www.lowryschools.com">http://www.lowryschools.com</a>
▪ Recreational Facilities Association of BC	<a href="http://www.rfabc.com">http://www.rfabc.com</a>
▪ BC Lifesaving Society	<a href="http://www.lifesaving.bc.ca">www.lifesaving.bc.ca</a>
▪ ALT International	<a href="http://www.leisurerecgroup.com">http://www.leisurerecgroup.com</a>
<b>BC Ministry of Health - BC Health Link Files</b>	
▪ #39: Safety Tips for Swimmers	<a href="http://www.healthlinkbc.ca/healthfiles/hfile39.stm">http://www.healthlinkbc.ca/healthfiles/hfile39.stm</a>
▪ #27b: Hot Tubs: Safe Water Quality	<a href="http://www.healthlinkbc.ca/healthfiles/hfile27b.stm">http://www.healthlinkbc.ca/healthfiles/hfile27b.stm</a>
▪ #27a: Hot Tubs: Health & Safety Tips	<a href="http://www.healthlinkbc.ca/healthfiles/hfile27a.stm">http://www.healthlinkbc.ca/healthfiles/hfile27a.stm</a>

Web Link
<p><b>WorkSafe BC Resources</b></p> <ul style="list-style-type: none"><li>▪ PoolSafe BC <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/poolsafebc.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/poolsafebc.pdf</a></li><li>▪ Emergency Response <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/emergency_response_guide.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/emergency_response_guide.pdf</a></li><li>▪ Staff Safety <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/take_care.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/take_care.pdf</a></li><li>▪ Chlorine Gas <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/chlorine.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/chlorine.pdf</a></li><li>▪ Confined Space <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk80.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk80.pdf</a></li><li>▪ WHIMIS <a href="http://www.worksafebc.com/publications/health_and_safety/whmis/assets/pdf/whmis_basics.pdf">http://www.worksafebc.com/publications/health_and_safety/whmis/assets/pdf/whmis_basics.pdf</a></li><li>▪ Lockdown <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/lockout.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/lockout.pdf</a></li><li>▪ Working Alone <a href="http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/BK131.pdf">http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/BK131.pdf</a></li></ul> <p><b>US Center for Disease Control (CDC)</b></p> <ul style="list-style-type: none"><li>▪ Fecal Incident Response <a href="http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf">http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf</a></li></ul> <p><b>National Swimming Pool Foundation (USA)</b></p> <ul style="list-style-type: none"><li>▪ General References <a href="http://www.nspf.org/en/resources.aspx">http://www.nspf.org/en/resources.aspx</a></li></ul>



### **Bather Load Calculations**

The bather load for your pool can be found on your Pool Data Sheet and may also be noted on your Pool Permit. If you are not able to find your pool data sheet, then you can calculate the bather load for your pool using the information below.

#### **Imperial: Maximum bathing load = (D/27) + (S/10)**

Where D = area of swimming pool in sq ft where the water depth is more than 5 ft

Where S = area of swimming pool in sq ft where the water depth is less than 5 ft.

Pool depths of less than 2 ft shall not be considered in the calculations.

#### **Metric: Maximum bathing load = (D/2.5) + (S/0.93)**

Where D = area of swimming pool in sq m where the water depth is more than 1.5 m

Where S = area of swimming pool in sq m where the water depth is less than 1.5 m.

Pool depths of less than 60 cm shall not be considered in the calculations.

**Note: Bather load for hot tubs may be determined at a rate of 30 cm (1 ft) of seating per person.**

**Data Sheet: Flow Rate Location**

<b>POOL DATA SHEET</b> (Metric units may be used; all units of measurement must be shown clearly)					
NAME OF POOL:			Address of Pool (Civic):		
Lap Pool/ Hot Tub/ Wading Pool/ Others:					
Indoor:		Outdoor:		City or Town:	
Owners (Legal Corporate) : Name: Phone and email: Address:			Designer: Name: Phone and email: Address:		
			Prof. Eng.	Arch.	
Pool Area: sq.ft		Deck Area: sq.ft		Water Depth (ft.) : Min. Max.	
Maximum Bathing Load:		Shallow (S)		Deep (D) Total:	
Pool Volume (USGPM) :			Pool Basin Colour:		
Turnover (hours) :			Design recirculation flow rate (USGPM / min.)		
Re-circulating Pump - Make & Model:			Flow	24 USGPM at	ft. TDH
Hydro-Air Pump – Make & Model:			Flow	100 USGPM at	ft. TDH
Other Pumps (Spray Feature, Waterslide Pumps etc...) – Make & Model:			Flow	USGPM at	ft. TDH
			Flow	USGPM at	ft. TDH
			Flow	USGPM at	ft. TDH
<b>FILTERS:</b> Sand D.E. Pressure Vacuum Gravity NSF Approved: Yes / No					
Filter Make and Model:			Number of filters:		Number of elements:
Surface area (ea. Filter): sq. ft.			Total area (all filters): sq. ft.		
Surface area (ea. Element): sq. ft.			Total area (all elements): sq. ft.		
Rate of Filtration (USPM / ft. <sup>2</sup> ): (≤15 USGPM / sq. ft.)			Rate of Backwash (USPM / ft. <sup>2</sup> ):		
Total Filter Capacity (Rate of filtration x total area) USGPM					

**For Reference Only:  
Example Calculation**

Jet Suction Velocity

$$\frac{(24 + 100) \times .385}{2 \times 42} = 0.56 \text{ cps}$$

Recirculation Flow = 24 IGPM

Hydro Air Flow = 100 IGPM

Note: 1 IGM = 1.2 US GPM  
(most flow meters are US GA)

Flow rate found here

**Pool Data Sheet – Page 2**

<b>GAUGES:</b>	Pressure	Vacuum	Thermometers	Nos.
Flow Indicator:	Make & Model:		Range (USGPM) :	to
Backwash Pump - Make & Model:			Flow :	USGPM at ft. TDH
Backwash rate per filter (USGPM)				
<b>DISINFECTION:</b>	Hypochlorite		Chlorine Gas	Other:
Make and Model:			Capacity (lbs. / 24 hr.)	
Point of Injection: Filter Influent / Filter Effluent				
Maximum dosing rate (ppm):				
<b>FEEDERS:</b>	Chemical	Slurry	Chemicals used:	
Make and Model:			Make & Model:	
Capacity:			Capacity:	
Injection point:			Injection point:	
<b>POOL INLETS:</b>	Type:	Size:	Total No.	at ft. spacing
Depth below water level (in.) <small>(must be deeper than 24" or nearest pool floor if water depth is ≤ 24"; floor inlets must be used if pool sidewalls are more than 44' apart)</small>				
<b>MAIN DRAIN:</b> (minimum 2 drains per pools)	Make and Model:		No.	
Flow from Re-circulating Pump (USGPM)			Flow from Hydro-Air Pump (USGPM)	
Size of free opening sq. in. (total of all drains)			Velocity through grate opening ft. / sec.	
<b>DRAIN FOR HYDRO-AIR PUMPS</b> (for Whirlpool, if separate from main drain):				
Make and Model:		No.		
Size of free opening sq. in.			Velocity through grate opening ft. / sec.	
<b>Expand and List all drains if more than one pump draws from more than two drains in spaces that follow, use additional page if req.</b>				
<b>DRAIN:</b>	Make and Model:		No.	
Size of free opening sq. in.			Velocity through grate opening ft. / sec.	
Size of free opening sq. in.			Velocity through grate opening ft. / sec.	

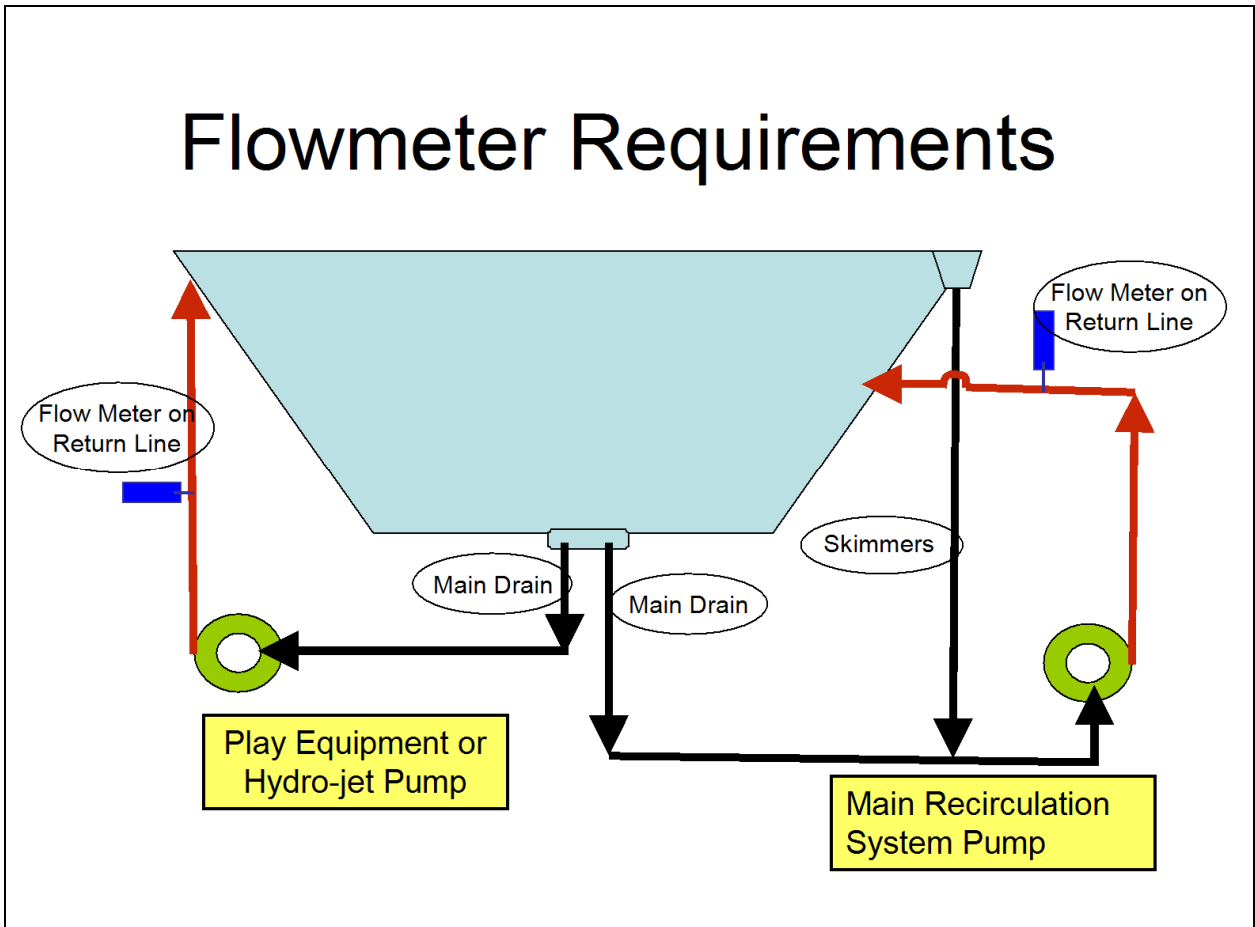
Data Sheet: Flow Rate Location - Sample 2

SWIMMING POOL DATA SHEET	
NAME of POOL _____	Address _____
City or Town _____	Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/>
OWNER _____	DESIGNER _____
or _____	_____
OPERATOR _____	Address _____
Address _____	Prof. Eng. <input type="checkbox"/> Arch <input type="checkbox"/>
1. POOL AREA: _____ sq. ft. deck _____ sq. ft.	Water Depth: Min. _____ ft. Max. _____ ft.
2. MAXIMUM BATHING LOAD Shallow (S) _____ Deep (D) _____ Total _____	
3. POOL VOLUME _____ l. Gals.	Pool basin colour _____
4. TURNOVER _____ hrs. at design flow rate of _____ l. gpm.	
5. RECIRCULATING PUMP: Make & Model _____ Flow _____ l. gpm at _____ ft. TDH	
6. FILTERS: Sand <input type="checkbox"/> Diatomite <input type="checkbox"/> Pressure <input type="checkbox"/> Vacuum <input type="checkbox"/> Gravity <input type="checkbox"/> ; NSF approved, Yes <input type="checkbox"/> No <input type="checkbox"/>	
Make & Model _____ No. of filters _____ No. of elements _____	
Surface area (each filter) _____ sq. ft. Total area (all filters) _____ sq. ft.	
Surface area (each element) _____ sq. ft. Total area (all elements) _____ sq. ft.	
Rate of Filtration _____ l. gpm/sq. ft. Rate of Backwash _____ l. gpm/sq. ft.	
Total Filter Capacity (Rate of filtration x total area) _____ l. gpm	
7. GAUGES: Pressure <input type="checkbox"/> Vacuum <input type="checkbox"/> Thermometers <input type="checkbox"/> Nos. _____	
Flow indicator: Make & Model _____ Range _____ to _____ l. gpm.	
8. BACKWASH PUMP: Make & Model _____ Flow _____ l.gpm at _____ ft. TDH	
Backwash rate per filter _____ l. gpm.	
9. DISINFECTION: Hypochlorite <input type="checkbox"/> Chlorine Gas <input type="checkbox"/> Other _____	
Make & Model _____ Capacity _____ lbs/24 hr.	
Point of Injection: Filter infl. <input type="checkbox"/> Filter effl. <input type="checkbox"/>	
Max. dosing rate _____ ppm.	
10. FEEDERS: Chemical <input type="checkbox"/> Slurry <input type="checkbox"/> Chemicals used _____	
Make & Model _____ Make & Model _____	
Capacity _____ Capacity _____	
Injection point _____ Injection point _____	
11. POOL INLETS: Type _____ Size _____ Total No. _____ at _____ ft. spacing;	
Depth below W/L _____ in.	
12. MAIN DRAIN: Make & Model _____ No. _____	
Size of free opening _____ sq. in. Vel. through grate opening _____ ft./sec.	
13. OVERFLOW: Gutter <input type="checkbox"/> Rollout <input type="checkbox"/> Deck level <input type="checkbox"/> Other <input type="checkbox"/>	
No. drains _____ at _____ ft. spacing; size _____ in.	
Skimmers: Make & Model _____ NSF Approved: Yes <input type="checkbox"/> No <input type="checkbox"/>	
No. of skimmers _____ at _____ sq. ft./skimmer.	
Max. overflow capacity _____ l. gpm. Normal flow through overflows _____ l. gpm.	
14. MAKE-UP WATER Source, Public <input type="checkbox"/> Private <input type="checkbox"/> Size of make-up line _____ in.	
Control: Manual <input type="checkbox"/> Automatic <input type="checkbox"/> Air Gapped, Yes <input type="checkbox"/> No <input type="checkbox"/>	
Backflow preventer Yes <input type="checkbox"/> No <input type="checkbox"/> Make & Model _____	
15. WATER PIPING: Copper <input type="checkbox"/> Galv. <input type="checkbox"/> Plastic <input type="checkbox"/> Other _____	
Max. Velocity: return piping (from pool) _____ ft./sec. Supply piping (to pool) _____ ft./sec.	
16. REMARKS: (for Health Dept. use)	The foregoing data is a true statement of facts pertaining to this pool as it is to be constructed.
	Signed _____
	(Design Engineer or Architect)
	Date _____

Flow rate found here

**Diagram: Flow Meter Location**

The location of flowmeters in a typical hot tub or pool with play equipment.



## Training Examples

Examples of staff training that you may require for your pool:

- New staff training regarding pool safety plan and orientation to facility.
- Pool course(s) (*refer to Appendix 1 for website links*):
  - Recreation Facilities Association of BC Level I and II
  - Health Authority Swimming Pool Training
  - Resident Managers Training Institute
  - Lowry School of Pool and Spa Chemistry
  - Advanced Lifeguard Training (ALT International)
  - National Swimming Pool Foundation courses
- Lifeguarding
- Swimming Instruction
- First Aid
- Specialization first aid equipment training
- WHIMS
- Injury prevention program (*i.e. back care*)
- WorkSafe BC training for new and young workers
- PoolSafe BC
- Violence in the Workplace

**Minor Accident Report**

Individual Information		
Name:	Age:	Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female
Address:		Phone Number: (     )
Date of Accident:	Time of Accident:	Pool Information (location, pool name, etc.)

Location of Accident	Describe Where and What Occurred
Shallow End	
Deep End	
Diving Boards	
Pool Deck / Sidewalk	
Change Rooms	
Outside Pool Grounds	
Open Lawn	
Fence	
Among Trees	
Wading Pool	
Paddling Pool	
Hot Tub	
Other (please specify)	

<b>Action Immediately Taken:</b> (Include equipment used)	_____
	_____
<b>Site and Nature of Injury:</b> (Include condition of subject and first aid)	_____
	_____
<b>Names and Addresses of other Witnesses:</b>	Involved: _____
	Witnesses: _____
	Other: _____
	_____
<b>Other Staff on Duty for that Activity or Time Period:</b>	Name: _____
	Name: _____
	Name: _____
	Name: _____
<b>Name and Position of Person Making Report:</b>	
Name: _____	Position: _____
Signature: _____	Date Signed: _____

Incident Reporting Form	
<b>Date:</b>	<b>Time:</b>
<b>Person filling out form:</b>	

Individuals involved <i>(attach another sheet if more space is needed)</i>		
Name	Contact #	Age
	(     )	
	(     )	
	(     )	

Description of what occurred <i>(attach another sheet if more space is needed)</i>

Actions taken <i>(attach another sheet if more space is needed)</i>

Follow up needed: <input type="checkbox"/> Yes <input type="checkbox"/> No

Follow up completed or incident resolved:(date)
<b>Notes:</b>

Manager or person in charge:	
<i>Print name</i>	<i>Signature</i>



## Reagent Shelf List

The tables below list the suggested reagent shelf life for common test kits in use. Please note that one test kit is not endorsed over another and information is simply provided as examples.

- **Taylor Test Kit Reagents**

Name of Reagent	Shelf life (months)
R-0001 DPD #1	6
R-0002 DPD #2	6
R-003 DPD#3	6
R-0008 Total Alkalinity	6
R-0012 Hardness	6
R-0007 Thiosulphate	12
R-0009 Sulphuric acid	12
R-0010 Calcium Buffer	12
R-0011L Calcium indicator Liquid	12
R-0013 Cyanuric Acid	12
R-0854 Total hardness	12
R-0870 DPD Powder	12
R-0871 DPD Titrating Reagent	12
R-0004 Phenol red	12

- **La Motte Test Kit Reagents**

The La Motte website has detailed information on how to determine the reagent shelf life.

[http://www.lamotte.com/support/reagent\\_refills\\_life.html](http://www.lamotte.com/support/reagent_refills_life.html)

## #2 First Aid Kit Contents

The following first aid kit items must be kept clean and dry and must be ready to take to the scene of an accident. A weatherproof container is recommended for all items except the blankets. Blankets should be readily available to the first aid attendant.

Quantity	Item
3	Blankets
24	14cm x 19cm wound cleaning towelettes, individually packaged
150	Sterile adhesive dressings, assorted sizes, individually packaged
12	10cm x 10cm sterile gauze dressings, individually packaged
4	10cm x 116.5cm sterile pressure dressings with crepe ties
10	20cm x 25cm sterile abdominal dressings, individually packaged
12	Cotton triangular bandages, minimum length of base 1.25m
2	2.5cm x 4.5m rolls of adhesive tape
2	5cm x 4.5m rolls of adhesive tape
6	7.5cm x 4.5m crepe roller bandages
1	500ml sterile 0.9% sodium chloride solution (saline) in unbreakable container
1	60ml of liquid antibacterial soap in unbreakable container
1	Universal scissors
1	11.5cm stainless steel sliver forceps
1	Penlight or flashlight with batteries
1	7.5cm x 4.5m esmarch gum rubber bandage
6	Pairs of medical gloves (preferably non-latex)
1	Portable oxygen therapy unit consisting of a cylinder (or cylinders) containing compressed oxygen, a pressure regulator, a pressure gauge, a flow meter and a non-rebreathing mask (may be kept in a separate container from the other supplies)
1	Oropharyngeal airway kit (may accompany the portable oxygen therapy unit)
1	Manually operated self-inflating bag-valve mask unit with an oxygen reservoir (may accompany the portable oxygen therapy unit)
6	Patient assessment charts
	First aid records and pen
1	Pocket mask with a one-way valve and oxygen inlet

**Pool Water Testing and Maintenance Log – Sample %**

Dates

Year

Name of Pool

Location

Date	Time	Initials	Free Chlorine	Total Chlorine	Combined Chlorine	pH	Total Alkalinity	Calcium Hardness	Cyanuric Acid	Flow Rate	Clarity	Temperature			Comments/Notes
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Note:** Bather load to be based on # of patrons in pool at time of testing.

## Pool Water Testing Maintenance Log - Page 2

## Recommended Parameters for Swimming Pool and Hot Tub Water Chemistry Parameters:

Parameters	Minimum	Maximum	Test Frequency
Free Chlorine (<30°C)	0.5 ppm	5.0 ppm	Min. 2x/day
Chlorine Cyanurate (<30°C)	1.0 ppm	5.0 ppm	Min. 2x/day
Bromine (<30°C)	1.5 ppm	5.0 ppm	Min. 2x/day
Combined Chlorine	< 1.0 ppm	< 1.0 ppm	Min. 2x/day
pH	7.2	7.8	Min. 2x/day
Total Alkalinity	80 ppm	120 ppm	At least weekly
Calcium Hardness	180 ppm	220 ppm	Weekly
Cyanuric Acid (outdoor pools only)	30 ppm	50 ppm	At least weekly

## Notes:

--



### Pool Record Sheet – Sample &

<b>Name of Pool:</b>		<b>Operator:</b>	
<b>Week of:</b>		<b>Year:</b>	<b>Emergency Phone Number:</b>

Day	pH (7.2 – 7.8)	Chlorine Residual * (<30°) Min 0.5 ppm unstabilized Min 1.0 ppm stabilized		Combined Chlorine (<1.0 ppm)	Alkalinity (80–120 ppm)	Calcium Hardness (180-220 ppm)	Cyanuric Acid (<80 ppm)	Temperature Pool - Max 37°C Hot Tub-Max 40 °C	Flow Rate USGPM	Filter Backwashed minutes	Hair Strainer Cleaned Yes/No	Basin Vacuumed Yes/No	Water Clear Yes/No	Initial
		Free (ppm)	Total (ppm)											
Monday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Tuesday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Wednesday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Thursday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Friday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Saturday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	
Sunday	am							am			Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	
	pm							pm			No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	

Chemical Record		
Date	Chemical Added / Product Name	Amount Added (show units)

Date	Comments (include accidents, equipment failures, shutdowns, repairs, ground fault tests, closures, etc.)

\* Upper target for chlorine residual should be 5.0 ppm. Pool should be closed when chlorine > 10.0 ppm  
 \* For pool temperatures >30°C Chlorine Residual: Min 1.5 ppm unstabilized; Min 2.0 ppm stabilized



## POOL WATER PARAMETERS

Disinfectant	Type of Residual	Temperature (Minimal ppm level)	
		≤ 30°C	> 30°C
Chlorine (Unstabilized) **	F A C	0.5 ppm	1.5 ppm
Chlorine cyanurate (i.e. pucks) **	F A C	1.0 ppm	2.0 ppm
Bromine **	Bromine	1.5 ppm	2.5 ppm

Parameter		Required Range	Ideal Range
Free Available Chlorine (FAC) **		(see above)	Minimum: (see above) Maximum: 5ppm
Combined Chlorine (CAC) **		< 1.0ppm	0 ppm
Cyanuric Acid *		< 80 ppm	30 - 50 ppm
pH **		7.2 - 7.8	7.2 - 7.8
Total Alkalinity (TA) *		80 – 120 ppm	80 – 120 ppm
Calcium Hardness (CH)		N/A	180 – 220 ppm
TDS		N/A	200 – 800 ppm
Temperature	Swimming Pool	≤ 37°C (98°F)	≤ 37°C (98°F)
	Hot Tub	≤ 40°C (104°F)	≤ 40°C (104°F)

### Adjustment Summary

Parameter	To Increase	To Decrease
T A	Add Sodium Bicarbonate	Add Muriatic Acid
C H	Add Calcium Chloride	Dilute with soft water
pH	Add Sodium Carbonate (Soda Ash)	Add Muriatic Acid or Sodium Bisulphate

\* Pool Regulation requires at least weekly testing

\*\* Pool Regulations requires at least twice a day testing

## General Maintenance Checklist

The following are some of the items that should be included in your schedule (*add items as required*):

<input type="checkbox"/>	Pool basin
<input type="checkbox"/>	<input type="checkbox"/> Checked for entrapment hazard ( <i>gap between 3.5 and 9"</i> )
<input type="checkbox"/>	<input type="checkbox"/> Check water intakes for possible suction hazards
<input type="checkbox"/>	<input type="checkbox"/> Check for any safety hazard such as sharp projections
<input type="checkbox"/>	<input type="checkbox"/> Main drain is secure and in good repair
<input type="checkbox"/>	<input type="checkbox"/> Checked for signs of deterioration ( <i>missing tiles, cracks etc.</i> )
<input type="checkbox"/>	<input type="checkbox"/> Skimmer basket cleaned
<input type="checkbox"/>	Handrails, ladders, deck equipment secure
<input type="checkbox"/>	Water level is correct for removal of floating debris
<input type="checkbox"/>	Depth markings clearly visible
<input type="checkbox"/>	Steps are clearly marked in a contrasting color
<input type="checkbox"/>	Floors are in good condition with non slip surfaces, free of pooled water, free of ice in freezing conditions
<input type="checkbox"/>	Adequate fencing, doors, gates, alarms to prevent unauthorized entry
<input type="checkbox"/>	Drinking water fountain is operational
<input type="checkbox"/>	First aid kit well stocked
<input type="checkbox"/>	Rescue equipment in good condition and easily accessible
<input type="checkbox"/>	Signage is in place
<input type="checkbox"/>	Permit posted
<input type="checkbox"/>	Shower temperature is below 49°C
<input type="checkbox"/>	Ground fault circuit interrupter for underwater lights functioning
<input type="checkbox"/>	Backflow prevention devices are functional ( <i>i.e. air gap, reduced pressure backflow assembly, hose bib vacuum breaker, annual testing or reduced backflow assembly</i> )
<input type="checkbox"/>	Clock working and in place
<input type="checkbox"/>	Adequate lighting for pool area
<input type="checkbox"/>	Pool temperature mto 37°C
<input type="checkbox"/>	Hot tub ≤ to 40°C
<input type="checkbox"/>	Flow meters working properly
<input type="checkbox"/>	Drains secured, not broken
<input type="checkbox"/>	Floating weirs

**Pool Sign Sample**

## Health & Safety Rules

**Before entering our pool YOU MUST:**

- Ensure that you are not ill, including diarrhea, vomiting, open sores, bandages, head colds, discharging ears or noses, or infected eyes
- Take a cleansing shower
- Wear clean and appropriate bathing clothes

**When in our pool YOU MUST NOT:**

- Contaminate or foul the pool (e.g. urinate / defecate)
- Run, fight, or engage in any activities that may cause an injury
- Dive into the pool in water less than 2 metres deep
- Bring glass into the pool area
- Use or be under the influence of alcohol or other intoxicants

**Supervision of CHILDREN:**

- All children less than 7 years of age must be closely supervised (within arm's reach at all times) by a responsible person who is at least 16 years of age
- A maximum of 3 children less than 7 years of age can be supervised by one responsible person who is at least 16 years of age

**Please REPORT to the pool manager or lifeguard:**

- Any injury suffered while in the pool enclosure
- Any contamination or fouling (e.g. urination or defecation) of the pool
- Pool Manager Contact: \_\_\_\_\_  
Phone Number: \_\_\_\_\_



Health Protection |

Ensuring Healthy People and Healthy Environments

Printshop #256708

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## Hot Tub Sign Sample

### Health & Safety Rules

#### Before entering our hot tub YOU SHOULD:

- Consult with your doctor if you:
  - Are elderly
  - Have heart disease, diabetes or high or low blood pressure
  - Are taking medication for cardiovascular or nerve disorders
  - Are pregnant

#### When in our hot tub YOU MUST:

- Always enter and leave the hot tub slowly and cautiously
- Keep long hair out of water, away from all underwater fittings, especially suction fitting

#### When in our hot tub YOU MUST NOT:

- Dive into the water
- Stay in hot tub for more than 10 minutes at one time  
Once finished you should:
  - Shower to cool down
  - Then, if you wish, return for another brief stay
  - Long exposure may result in nausea, dizziness or fainting
- Totally immerse your body
- Use when under the influence of alcohol or other intoxicants

#### Supervision of Children:

- Keep young children under 7 years of age, especially infants, out of hot tubs
  - Young children's small bodies overheat too fast
- Children must be constantly supervised
  - Unsupervised use by children is not allowed
- Water temperature - Must not be hotter than 40°C (104°F)

#### Please REPORT to the pool manager or lifeguard:

- Any injury suffered while in the pool enclosure
- Any contamination or fouling (e.g. urination or defecation) of the pool
- Pool Manager Contact: \_\_\_\_\_  
Phone Number: \_\_\_\_\_



Printshop #256709

Health Protection |

Ensuring Healthy People and Healthy Environments

August 2011 - Hot Tub Version

## Health and Safety Rules

# HEALTH AND SAFETY RULES

The following are prohibited:

- entering the pool with an illness, including open sores, bandages, head colds, discharging ears or noses or infected eyes
- entering the pool without taking a cleansing shower
- running, fighting or engaging in any conduct likely to cause injury in the pool enclosure
- contaminating or fouling the pool
- failing to report to management an injury suffered while in the pool enclosure
- failing to report to management the contamination or fouling of the pool
- failing to supervise children for whom one is responsible while in the pool enclosure
- diving

## **Fecal / Vomit / Body Fluid Response Protocol**

Insert procedures specific to your facility and/or your local health department.

**You may also refer to the US Center for Disease Control (CDC) website to help you create your facility response protocol.**

Weblink: <http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf>

**Note: Clean up Protocol for Tot Pools and Baby Vomit**

Vomiting in the very young may not be a sign of illness and therefore may not need to follow the standard clean up protocol for vomit. In such cases the infant's parents should be interviewed to determine if the incident was part of a pattern of illness. If it appears the infant was ill, then standard vomit protocol should be followed.