



THE WATERPARK CAPITAL OF THE WORLD

POOL INSPECTIONS IN THE WISCONSIN DELLS

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A BRIEF HISTORY



WISCONSIN DELLS AT A GLANCE



NOAHS ARK

- Largest concentration of waterparks in the world.
- Wilderness – indoor and outdoor combined is 500,000 sq. ft., equal to 12 football fields and is the largest combined waterpark in the nation.

WISCONSIN DELLS AT A GLANCE

- At 125,000 square feet, the African-themed Kalahari Water Park Resort is the 3rd largest indoor water park in the United States.



KALAHARI

- 1st largest – Kalahari – Pocono Mountains - Pennsylvania
- 2nd largest – Kalahari – Sandusky, Ohio

WISCONSIN DELLS AT A GLANCE

- Approx. 400 licensed pools in Lake Delton/Wisconsin Dells
- Approx. 8 square miles
- Population based on 2013 census
 - Lake Delton: 2,934
 - Wisconsin Dells: 2,707
- Annually – 4 million!!!!



INSPECTIONS ARE BROKEN DOWN

- Each basin is licensed separately based on type of basin or activity.
- Easier to look at each individual system

WILDERNESS- LAKE WILDERNESS- OUTDOOR- ACTIVITY ISLAND POOL	Water Attraction (RWI)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- ACTIVITY VOLLEYBALL POOL	Water Attraction (RWI)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- LAP ACTIVITY BASKETBALL POOL	Water Attraction (RWI)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- LAP POOL	Public Pool (RPP)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- LIL' CHUTES	Water Attraction with up to 2 Slides/Waterslides (RWT)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- RAFTER'S RAGE	Water Attraction with up to 2 Slides/Waterslides (RWT)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- REMODELED WHIRLPOOL	Public Pool (RPP)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- WADING	Public Pool (RPP)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- LAKE WILDERNESS- OUTDOOR- WHIRLPOOL	Public Pool (RPP)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- NEW FRONTIER- OUTDOOR- BEAR FOOT SPLASHPAD	Water Attraction (RWI)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- NEW FRONTIER- OUTDOOR- GOLD RUSH TUBE AND BODY SLIDE	Water Attraction with up to 2 Slides/Waterslides (RWT)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- NEW FRONTIER- OUTDOOR- MUSHROOM WADING POOL	Public Pool (RPP)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- NEW FRONTIER- OUTDOOR- PROSPECTOR'S CREEK	Water Attraction (RWI)	511 E ADAMS ST	LAKE DELTON
WILDERNESS- NEW FRONTIER- OUTDOOR- TIMBER RATLER FALLS	Water Attraction with up to 2 Slides/Waterslides (RWT)	511 E ADAMS ST	LAKE DELTON

HOW DO WE LICENSE?

There is no black and white structure for licensing.

Basin Vs. Purpose



WILDERNESS

BASIC POOLS - RPP

A structure used for swimming, wading, diving, water recreation or therapy.

Swimming pools, wading pools, whirlpools



WATER ATTRACTION - RWI

RWI – provides patron recreational activity other than conventional swimming.

Leisure rivers, vanishing edge pools, wave pools, plunge pools



WILDERNESS

WATER ATTRACTION WITH UP TO 2 SLIDES - RWT

RWT – any of the previously listed types are converted to an RWT with the addition of a slide.

Children's slides are exempt from licensing.

- Less than 4 ft. in height and drops into less than 24 inches of water.

There is a charge for each additional slide over 2.



EXEMPT FEATURES

- 1.) Splash pad that does not have a recirculation system.
- 2.) Basin that does not have a recirculation system that are also filled and drained between each use.
- 3.) Home-style whirlpools that have a recirculation system, commonly found on deck of rental home, do not comply and are NOT allowed to be used by the general public
- 4.) Float tanks





4 BASIC INSPECTION COMPONENTS

- 1.) Physical
- 2.) Staffing
- 3.) Chemical
- 4.) Paperwork

PHYSICAL COMPONENTS



MOUNT OLYMPUS

- Annual inspection by regulatory authority
 - Designed and constructed in accordance with recognized safe practices – SPS
- Free of abrasives, splinters, sharp edges and corners, protruding studs, bolts, screws, and other hazardous projections
- Padding or other means to minimize injury due to patron impact
- All hazardous parts are enclosed, barricaded, or otherwise arranged to prevent injury

PHYSICAL COMPONENTS



MOUNT OLYMPUS

- POOL BASIN FREE OF CRACKS OR OTHER DEFECTS.
- POOL AREAS AND APPURTENANCES SHALL BE MAINTAINED IN GOOD REPAIR.
- POOL EQUIPMENT SHALL BE MAINTAINED IN GOOD REPAIR.
- DAILY INSPECTION BEFORE USE BY PATRONS.

PHYSICAL COMPONENTS



MOUNT OLYMPUS

- All waterslides are inspected every 5 years by a Wisconsin Certified Engineer.
- Facility required to provide to inspector during annual inspection.
- Inspector reviews and verifies corrections have been made.
- Waterslide = 100gpm

PHYSICAL COMPONENTS



NOAHS ARK

- Scorpions Tail - Example
- Rely on the design of engineers to ensure patron safety
- Clear fiberglass design to allow for patron viewing
- A ladder that is attached throughout entire slide to rescue if necessary
- Additional features required
 - Escape pod

PHYSICAL - SAFETY FEATURES

- Drinking fountain within 300 feet of paved walkway
- First aid kit within enclosure
- Emergency phone within enclosure
- Signage
- Shepard's crook



STAFFING

- Pool operator
- Certified water attraction operator
- Responsible supervisor
- Lifeguards
- Attendants



STAFFING

- Pool operator
 - Each pool shall be under the supervision of at least one operator, except that contiguous multiple pools operated under the same owner may be supervised by one operator.
- Certified Water Attraction Operator
 - For water attractions and water attraction complexes
 - Not required for basic pools and spas



STAFFING

- Lifeguards
 - U.S. Department of State's J-1 Visa Program
 - 4,000-5,000 in Wisconsin Dells
 - Approx. 15,000 workers needed in the Wisconsin Dells during the summer
- Challenges:
 - Communication
 - Training new staff every year
 - Cultural



STAFFING

- Responsible Supervisor
 - At least one available in person or by phone
- Attendants
 - Instruct patron down a flume
 - Rove large obstructions



CHEMICAL

- The Dells boasts more than 20 indoor and outdoor waterparks
 - Totals more than 16 million gallons of water



With all this water, operators have to be actively monitoring their facilities constantly to retain the correct chemical concentration.

CHEMICAL

- Most operators in Wisconsin Dells are checking their pools twice daily.
 - Large waterparks – four times daily
 - Above requirement
 - Draining whirlpools weekly
- Electronic monitoring systems
 - Chlorine/bromine – once per day
 - pH – once per day
 - Combined chlorine – twice per week
 - Alkalinity – once per week
 - Cyanuric acid – once per week (if stabilizer)



CHEMICALS



- Ensure injectors are connected, plugged in and working properly
- Chemicals are labeled and stored in a manner conducive to public health and safety
- Monitoring devices are maintained
- Test kits are approved by the Department

CHEMICALS – FOLLOW THE PIPING



- Water comes in through skimmer and main drain
 - If surge tank, only one pipe
 - Check ratio
- Flows into pump
 - Spare baskets
- Flows into filter
 - Check pressure
 - Filter media
 - Flowmeter after filter = good
- Back into pool
 - Verify CL and acid are connected

CHEMICALS

- 2015-2016 – Salt generated systems
 - Uses electrolysis in the presence of dissolved salts (NaCl) to produce hypochlorous acid (HClO) and sodium hypochlorite (NaClO).
 - Became very popular in the Wisconsin Dells 2015-2016.
 - Caused operators to unplug liquid chlorine system
- **Salt Generated Systems are considered an alternative method. Therefore, a chlorine backup must be connected and functional at all times.



PAPERWORK

- VGBA
 - The Virginia Graeme Baker Pool and Spa Safety Act – 2008
 - The granddaughter of former Secretary of State James Baker III died in an accident in June 2002 when the suction from a spa drain entrapped her under water.
 - Requires all pool/spa drain covers to be VGBA compliant
 - Several new requirements for Wisconsin - 2017



- ❖ DSPS Pool Completion Statement
- ❖ DSPS Conditional Approval
- ❖ Engineers Report
- ❖ Invoice
- ❖ Manufacturer's guarantee



PAPERWORK

- Fecal Incident Report
- Monthly Swimming Pool Report
- Lifeguard Staffing Plan
- Certifications
- Death Injury Illness Report
 - Submitted to State within 24 hours after EMS is called.



PAPERWORK – NEW CDC GUIDELINES

- Fecal Incident Form

DEPARTMENT OF HEALTH SERVICES
Division of Public Health
F-00018 (1/09)

STATE OF WISCONSIN
Bureau of Environmental and Occupational Health
DHS 172, Wisconsin Administrative Code

SWIMMING POOL AND WATER ATTRACTION FECAL INCIDENT RESPONSE REPORT

DHS 172.31 Fecal accident response. (1) In responding to a fecal accident, the operator shall consider guidelines for fecal accidents in pools used for swimming published by the federal centers for disease control and prevention.

Note: Centers for Disease Control guidelines for responding to fecal accidents and blood and vomit spills may be viewed at:
http://www.cdc.gov/healthyswimming/pdf/Fecal_Incident_Response_Recommendations_for_Pool_Staff.pdf

(2) The operator shall document each fecal contamination as follows:

- (a) The date and time of the event and the free available chlorine and pH level at the time of the event and after the event, before re-opening the pool to the public.
- (b) Whether the stool is formed or loose.
- (c) The procedures followed in responding to the fecal contamination.
- (d) The number of patrons in the pool and the length of time between the occurrence, detection, and resolution of the incident.

Please use one form for each incident. The operator shall maintain a copy of this report for at least two years and make it available upon request.

Establishment Name

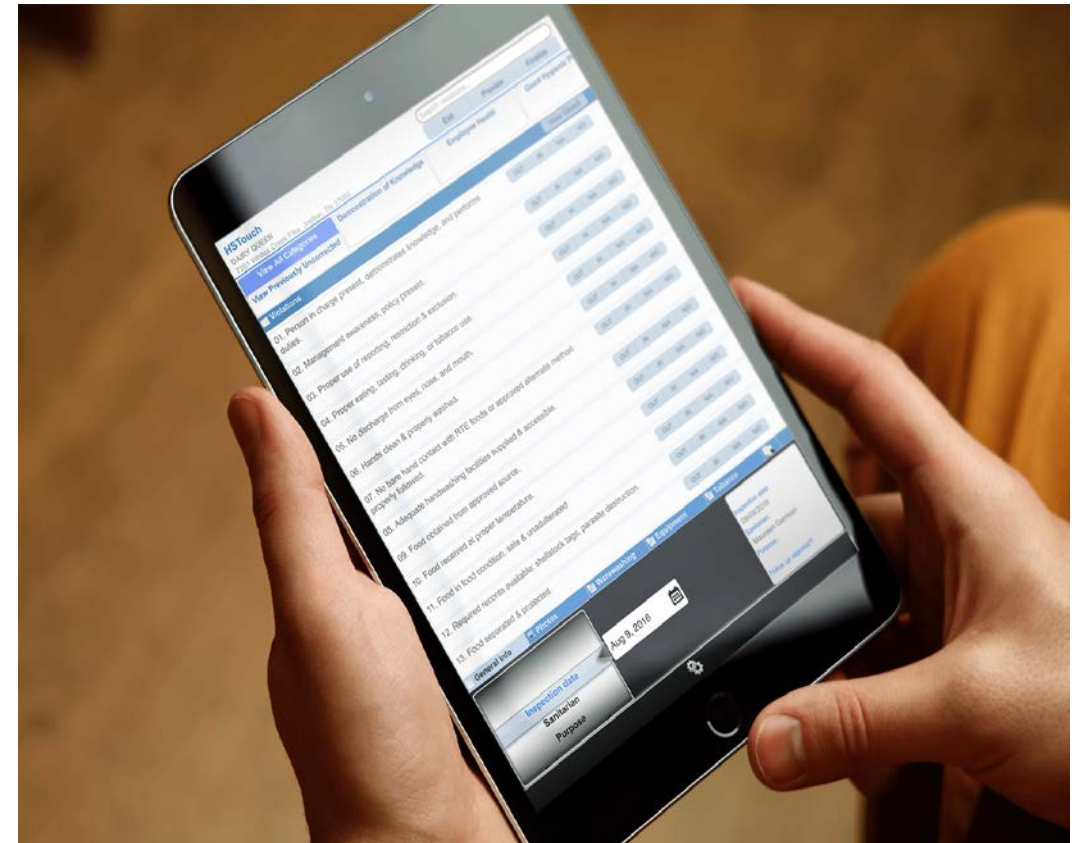
Facility ID No.



The cyanuric acid level must be lowered to below 15ppm before hyperchlorinating
***Current test kits being used do not test for less than 30ppm cyanuric acid

HEALTHSPACE

- An electronic inspection system.
- Keeps record of past inspections and violations at each facility.
- Allows for uploading important documents such as engineers inspection reports or variances.
- Can email reports directly to operators.



ADVANTAGES OF THE WISCONSIN DELLS POOL INSPECTION PROGRAM

- Competition keeps facilities at a higher standard.
 - Survival of the fittest
 - Self – regulating
 - The power of social media



- Waterparks take in millions of dollars in revenue = LOTS OF PROFIT
 - Resources are plentiful
 - Allows for violations to be quickly corrected



CONCLUSIONS

- 1.) Each inspection component brings unique challenges to the Department.
- 2.) The field is ever changing so staying up to date with current regulations is key.
- 3.) Have a motivated, energetic staff excited to educate and regulate!

5
- VBA 7/5
of photos 2/1/17
VA doc - 4/1/17
video for mission
7/1/17
11/1/17



September
2017

September
2017








References

- Wisdells.com
- Wiscnews.com
- Sauk County Health Department
 - Youtube.com
 - ATCP 76
 - Bankrate.com
 - Tripsavvy.com
 - Blue-white.com
 - Wikipedia.com
 - Poolsupplies.com
- Wildernessresort.com
- Nascoaquatics.com
- Dhs.Wisconsin.gov



QUESTIONS???

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