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*Safety Review of the City of Winnipeg  
Aquatic Services  
Final Report  
February 2013*

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Audit Department

## MANDATE OF THE CITY AUDITOR

The City Auditor is a statutory officer appointed by City Council under *The City of Winnipeg Charter*. The City Auditor reports to Council through the Audit Committee (Executive Policy Committee) and is independent of the City's Public Service. The City Auditor conducts examinations of the operations of the City and its affiliated bodies to assist Council in its governance role of ensuring the Public Service's accountability for the quality of stewardship over public funds and for the achievement of value for money in City operations. Once an audit report has been communicated to Council, it becomes a public document.

## AUDIT BACKGROUND

A safety review of the City of Winnipeg's Aquatics Programs was included in the City Auditor/Chief Performance Officer's 2011-2014 Audit Plan. The Audit Department issued a Request for Proposal (RFP) to identify experienced and capable proponents to conduct the review. The RFPs were evaluated based on the experience of the proponent, the proposed project approach/methodology and a fixed-price quote. In December 2011, a contract was awarded to the Lifesaving Society Ontario (Lifesaving Society), which submitted the proposal determined to be the most advantageous to the City.

The work performed under the contract consisted of a safety review, which included, among other things:

- reviewing the safety processes and practices of both the Aquatics Branch and the Building Services Branch.
- outlining the observations through the use of Lifesaving Society checklists on the extent to which reported service safety results are complete, relevant, accurate, balanced and meaningful.
- identifying opportunities for revenue generation, cost savings and improved management practices and controls where opportunities exist, and where opportunities do not reduce the effectiveness of existing or potential safety processes and practices.
- inspecting records management including the condition, quality and accessibility of policies and procedures, inspections results, safety performance metrics, and other safety documentation.

The Lifesaving Society evaluated the overall operation of aquatics through on-site inspections conducted in each of the thirteen City of Winnipeg indoor aquatic facilities, between January 30 and February 3, 2012. The Lifesaving Society identified a series of recommendations for improvement.

The scope of the review did not include an assessment of the structural integrity of the facilities. The Lifesaving Society's review was limited to assessing safe operating procedures and practices of the indoor aquatics facilities.

### **City Auditor Summary**

The Audit Department reviewed the report provided by the Lifesaving Society and agreed in principle with the recommendations presented. The safety audit would identify what steps might be taken to minimize the risk of drowning or serious water-related injuries. The Lifesaving Society's audit categorized findings according to their perceived impact on safety. Priority Concerns are the highest risk findings and represent, in their

opinion, major safety risks to the public and merit immediate action. The Priority Recommendations are divided into two sub-categories:

1. Findings that are in contravention to a relevant Province of Manitoba statute, and
2. Findings that are in contravention of the Lifesaving Society's position on what constitutes reasonable safe practices.

Primary Recommendations are findings that should receive focused attention by facility management. These findings are not considered to have as high a risk exposure as the Priority Recommendations. Primary Recommendations can result from being in contravention to a relevant Province of Manitoba statute, but for the City of Winnipeg, all findings resulted from being in contravention of the Lifesaving Society's position on what constitutes reasonable safe practices.

The Audit Department requested the Aquatics Branch Management of the Community Service Department and the Building Services Branch Management of the Planning, Property & Development Department provide management responses to the recommendations.

## ACKNOWLEDGEMENT

The City of Winnipeg's Audit Department would like to acknowledge the assistance of staff from the Aquatics Branch, Community Services Department and Building Services Division, Public Works Department who were involved in this project, for their assistance in providing time, information, expertise, co-operation and resources throughout the duration of the project. In addition, we would like to acknowledge the Lifesaving Society, which was engaged to conduct the review.

<b>Members of the Audit Team</b>
Bryan Mansky, MBA, CMA, CIA Deputy City Auditor



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Brian Whiteside, CA•CIA  
City Auditor

February 2013

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Date

## RECOMMENDATIONS AND MANAGEMENT RESPONSE

### Summary Findings

The Lifesaving Society has completed an aquatic safety audit of all of the City's thirteen indoor aquatic facilities between January 30 and February 3, 2012. The Society's aquatic safety audit presents eleven Priority Recommendations, four primary findings related to General Emergency and Operating Procedures and forty-seven Primary Recommendations. The recommendations are categorized between areas of non-compliance with an applicable Government of Manitoba Regulation and areas that are not consistent with what the Lifesaving Society believes are reasonable safe practices. It is important to note that in the case of the latter there may be no applicable Manitoba Regulation governing the subject matter, or the Lifesaving Society recommended practice exceeds the requirements of the Manitoba Regulation.

The Lifesaving Society considers the City of Winnipeg to be operating within the range of safe practice if the aquatic safety audit identifies no Priority Concerns, and only Primary Recommendations, which in the opinion of the Society represents a low risk to public safety. It is the Lifesaving Society's opinion that at the time of the audit, the City of Winnipeg was operating below the range of Safe Practice.

Community Services and Planning, Property & Development Management reviewed and agreed to these recommendations as it was viewed as an opportunity to further enhance aquatic facility safety.

### Priority Recommendations

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The Society's aquatic safety audit revealed eleven findings that warrant Priority Concern status. These priority recommendations include six findings of non-compliance with an applicable Government of Manitoba regulation (recommendations 1 – 6) and five findings that are not consistent with the Lifesaving Society's position on what constitutes reasonable safe practices (recommendations 7 – 11). The Lifesaving Society alerts aquatic facility operators to Priority Concerns at the time of facility inspections. **Table 1** (page 9) identifies the facilities with the Priority Concern recommendations.

#### Non-Compliance with an Applicable Government of Manitoba Regulation

##### ***Recommendation 1 – Install additional "No Diving" signage around the pool deck.***

Regulation requires that a sign be installed that says "NO Diving" or a universal symbol be installed not less than 10 cm in height at intervals of no more than 8 m. This signage will educate bathers of the danger of diving into shallow water and prevent injury. Additional signage is required to meet the requirements of regulation. (Manitoba Regulation 132/97 section 20 (1))

*The non-compliant facilities include: Margaret Grant, North Centennial.*

##### **Management Response**

Community Services Management and Planning, Property & Development Management agree with this recommendation.

Margaret Grant Pool - Temporary signage is posted; permanent signage will be posted during winter 2013 shut down.

North Centennial Recreation & Leisure Pool - Temporary signage is posted; Community Services and Planning, Property & Development will review and provide long term solution by September 30, 2012.

**Recommendation 2 – Ensure that all emergency safety equipment is operational and that tests and inspections occur on a regular basis.**

During inspections of the spas it was determined that Emergency Stop buttons and shut off switches would not deactivate the filter pump. All mechanical equipment used in the operation of a public spa or pool must be capable of being deactivated. Once operational, the emergency stop button needs to be inspected and tested at least once within each 30 day operating period.

*The non-compliant facilities include: Bonivital, Eldon Ross.*

**Management Response**

Planning, Property & Development Management agrees with this recommendation and has taken corrective action. A preventive Work Order has being set up in our Asset Management System (MAXIMO) to generate work orders every 30 days to check this safety equipment.

**Recommendation 3 – Deactivate all equalizers.**

Regulation requires that all equalizers be deactivated to prevent entrapment of bathers. In accordance with Regulation, equalizer fittings must be inspected to ensure they are not functional and do not present an entrapment risk for swimmers.

*The non-compliant facilities include: Bonivital, Berne Wolf.*

**Management Response**

Planning, Property & Development Management agrees with this recommendation and has taken corrective action.

**Recommendation 4 – Cap or plug the vacuum line.**

The vacuum line must be capped as single suction sources are not permitted in the pool tank. Alternative methods of vacuuming the pool tank should be investigated so that this hazard may be removed (e.g. Vacuum pump/line on the deck, automatic vacuum (Dolphin)).

*The non-compliant facilities include: Eldon Ross, Pan Am.*

**Management Response**

Planning, Property & Development Management agrees with this recommendation and has taken corrective action.

**Recommendation 5 – Secure swimming pool outlets (main drains).**

All outlets should be checked on a monthly basis and if not secure, the facility should be closed until they are repaired. Outlets are a suction source for the filter and pose an entrapment hazard

for bathers. It is important to ensure these are inspected and checks are logged on a monthly basis. If they become loose, the swimming pool should be closed until they are repaired.

*The non-compliant facility: North Centennial.*

***Management Response***

Planning, Property & Development Management agrees with this recommendation and has taken corrective action. A preventive Work Order has being set up in our Asset Management System (MAXIMO) to generate work orders every 30 days to check the main drains at all pools.

***Recommendation 6 – Install or repair the heat barrier.***

A sauna heater barrier is required preventing access to the heat source for the sauna. This prevents accidental scalding of bathers when in the sauna. Steps should be taken to repair or install an effective barrier.

*The non-compliant facility: St. James Assiniboia.*

***Management Response***

Planning, Property & Development Management agrees with this recommendation and has taken corrective action.

## Lifesaving Society Recommended Safe Practice

These recommendations are identified as areas that are not consistent with what the Lifesaving Society believes are reasonable safe practice. In these instances, there may be no applicable Manitoba Regulation governing the area or the Lifesaving Society recommended practice exceeds the requirements of the Manitoba Regulation.

### **Recommendation 7 – Conduct a comprehensive review of lighting requirements for all pools and adjacent areas.**

All areas of the pool, deck and adjacent areas are required to be illuminated by a minimum of 200 Lux of lighting, including evening hours of operation. At the time of the pool inspections, lighting levels varied significantly throughout the facility (140-240 lux). Lighting levels must be maintained at this level so that lifeguards and instructors have sufficient light to monitor all areas of the swimming pool.

*Multiple facilities were noted as being non-compliant with this recommendation; refer to Table 1 for a listing.*

#### **Management Response**

Planning, Property & Development Management agrees with this recommendation. A comprehensive review of lighting requirements for all pools and adjacent areas will be undertaken and a submission for capital funding will be submitted.

### **Recommendation 8 – Install a 150 mm diameter black disc on the pool bottom.**

The black disc on the bottom of the pool should be located on a white background. If the pool bottom is painted a colour other than white, the area surrounding the black disc should be white. This is an important tool for staff to use to determine water clarity on an ongoing basis in order to determine if a swimming pool should remain operational.

*Multiple facilities were noted as being non-compliant with this recommendation; refer to Table 1 for a listing.*

#### **Management Response**

Community Services Management and Planning, Property & Development Management agree with this recommendation. In discussions with Manitoba Provincial Environmental Health Officers, the City was advised that the regulation does not require a permanent black disc to be attached to the bottom of the pool as they rely on their own secchi disk (black disc) that they use if they wish to measure the turbidity of the water. The City was further advised that although this is not a requirement it would be a good idea to install a 15 cm disc at the bottom of the pool as a reference point for the guarding staff the next time there is a shutdown and drain the tank. Currently, the main drain cover is used as a test for water clarity. The City will implement this recommendation and install the disc on the bottom of the tanks during the next rounds of shut downs.

### **Recommendation 9 – Conduct a review of all facility scanning and rotation charts to ensure that they are effective tools to advise staff of the areas of responsibility and coverage.**

While all the facilities had scanning and staff rotation charts posted, there is a significant difference in how these charts have been developed and used by staff to enhance supervision

standards at each site. Many of the drawings had limited information about where lifeguards should be located and what they should be able to see from that position. In some cases lifeguards were inappropriately positioned. All of the scanning and rotation charts should be reviewed to ensure they consider the following:

- pool schematic drawings should be created in scale with the facility design
- separate charts should be created where lifeguard numbers increase and/or where different parts of the pool areas are open or closed for public use or where glare relocates due to changing light conditions
- all facility charts should be similar in design so there is more consistency and better understanding for staff who may work at multiple sites
- staff positions and rotation directions should be clear on the charts
- scanning zones should be clearly marked and appropriate overlap areas should be noted
- colours should be used where possible to better define intensive & extensive scanning areas
- all staff should be clear on what they must see from specific positions and what they should do if conditions change and they are not able to see all areas of their intensive scanning zone, including the pool bottom
- all charts should be reviewed as part of a facility orientation process and during staff training

*The non-compliant facilities include: St. James Assiniboia, St. James Civic Centre.*

### **Management Response**

Community Services Management agrees with this recommendation. Guard scanning and rotation charts are currently in place at all sites. Management does note that this is a Lifesaving Society recommended safe practice. Manitoba Regulation 132/97 is silent on the topic of guard scanning and rotation charts.

Community Services Management agrees with this recommendation and took immediate corrective action at the two identified facilities. Further, Community Services Management is currently conducting a review of all facility scanning and rotation charts to ensure that they are effective tools to remind staff of the areas of responsibility and scanning zones.

### **Recommendation 10 – Ensure that there is a door locking mechanism in operation on the change room doors.**

Regulation requires that access to the pool must be restricted when the pool is unsupervised. This will prevent unsupervised bathers from gaining access to the swimming pool and reduce the likelihood of a drowning from occurring. Steps should be taken to ensure all doors accessing the pool deck (including change room doors) are secured when no supervision is provided.

*Multiple facilities were noted as being non-compliant with this recommendation; refer to Table 1 for a listing.*

### **Management Response**

Planning, Property & Development Management agrees with the recommendation, although the facilities are compliant with current Manitoba Regulation 132/97 – 2(2). Management will review the requirements and request funding in the 2014 Operating Budget.



**Recommendation 11 – Restrict access from the viewing gallery to the pool deck.**

A gate or door should be installed to prevent the public from gaining access to the pool deck when no supervision is provided.

*The non-compliant facility: Seven Oaks.*

**Management Response**

Planning, Property & Development Management agrees with the recommendation, although the facility is compliant with Manitoba Regulation 132/97 – 2(2). A lock will be installed on the existing door and locked when there is no Guard on the deck.

**Table 1**

PRIORITY RECOMMENDATIONS														
Rec. #		Margaret Grant	Bonivital	Cindy Klassen	Eldon Ross	Elmwood Kildonan	Bernie Wolf	North Centennial	Pan Am	Seven Oaks	Sherbrook	St. James Assiniboia	St. James Civic Centre	Transcona
<u>Non-compliance with an Applicable Government of Manitoba Regulation</u>														
1	Install additional "No Diving" signage around the pool deck.	x						x						
2	Ensure that all emergency safety equipment is operational and that tests and inspections occur on a regular basis.		x		x									
3	Deactivate all equalizers.		x				x							
4	Cap or plug the vacuum line.				x				x					
5	Secure swimming pool outlets (main drains).							x						
6	Install or repair the heat barrier.											x		
<u>Lifesaving Society Recommended Safe Practice</u>														
7	Conduct a comprehensive review of lighting requirements for all pools and adjacent areas.			x		x		x		x			x	
8	Install a 150 mm diameter black disc on the pool bottom.	x	x	x		x		x	x	x	x	x	x	x
9	Conduct a review of all facility scanning and rotation charts to ensure that they are effective tools to advise staff of the areas of responsibility and coverage.											x	x	
10	Ensure that there is a door locking mechanism in operation on the change room doors.			x	x	x			x		x	x		
11	Restrict access from the viewing gallery to the pool deck.									x				

## Primary Emergency and Operating Procedures Recommendations

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The Society's aquatic safety audit identified four primary findings related to Emergency and Operating Procedures. All of these recommendations (recommendations 12 – 15) are Lifesaving Society recommended safe practices. *These recommendations are not facility specific.*

### ***Recommendation 12 - Implement the Lifesaving Society's admission standard.***

The Society's drowning research shows that unattended youth are at a high risk of drowning during non-instructional swim settings. The Society recommends that all pools adopt a policy that children under 10 years of age not be admitted to public recreational swimming unaccompanied, unless they are able to pass the facility swimming test. The policy would include:

- Children under 10 years of age who are unable to pass the facility swim test must be accompanied by a parent or guardian who is at least 12 years of age and responsible for their direct supervision, with a maximum of two children for each parent or guardian.
- Children under six years of age may not be admitted to the swimming pool unless they are accompanied by a parent or guardian who is responsible for their direct supervision, with a maximum of two children for each parent or guardian.

For non-swimmers between six and nine years of age:

- The ratio of non-swimmers to parent or guardians may be a maximum of eight bathers to one parent/guardian (8:1) if lifejackets are worn by all non-swimmers in their charge.
- Parent/guardians are responsible for the children in their care while in the facility and must directly supervise the children at all times.
- Ratios of instructors/lifeguards to bathers must also be maintained as per Regulation 565/90.

The Lifesaving Society recommends operators include this standard in their facility policy and procedures manual, and staff handbooks. All staff should review this standard and its application at least once a year during staff training sessions. Lifeguards should be reminded what to look for, and of procedures to deal with unaccompanied non-swimmers. Owner/operators should educate the public through signage, flyers, department brochures, etc.

Owner/operators should ensure procedures are in place to evaluate bathers as they enter the facility. For example, during swim start-ups, off-duty lifeguards could be positioned in cashier or deck areas to ensure all bathers meet the requirements. Patrons should be encouraged to use the "buddy system," where bathers always swim with a buddy regardless of swimming ability.

### ***Management Response***

Community Services Management disagrees with this recommendation. However, national admission standards will be reviewed to ensure the City of Winnipeg standard meets current needs and trends. Any recommended changes to the City of Winnipeg's admission standards will be implemented by June 30, 2013.

### ***Recommendation 13 – Station lifeguards in lifeguard chairs.***

It was apparent that lifeguard chairs were not used at some locations. While lifeguards do not have to be stationed in these stands at all times, there are benefits of having lifeguards scan

their intensive and extensive zones from raised platforms, particularly when the pool has heavy bather loads. Staff should be reminded of the benefits of chair use and positioned in them as a part of their normal rotation.

***Management Response***

Community Services Management agrees with this recommendation and will continue to review at both the Training Aquatic Supervisors (TAS) and In-Charge Training sessions.

***Recommendation 14 – Verify all photocopied staff certifications.***

Supervisory staff produced photocopies of specified staff certifications. However these copies were not verified with the supervisor's signature. All photocopied records of staff certifications must be signed by supervisory staff verifying that they are accurate records.

***Management Response***

Community Services Management agrees with this recommendation.

Instructor/Guard hour selection occurs four times per year, prior to the beginning of an instructional session. At these hour selection meetings, trained Instructor/Guard 3's review and verify all staff qualifications and confirm attendance at re-certification programs for qualifications that may expire during a session. In addition, all staff qualifications are tracked on an Excel spreadsheet on the I Drive and are reviewed bi-weekly at the Pool Supervisors Meeting. The verification process of photocopies was reviewed with the Instructor/Guards responsible for qualifications on March 20<sup>th</sup> and is on-going.

***Recommendation 15 – Ensure that all staff responsible for the safety supervision of swimmers, are effectively scanning the areas of the pool within their intensive and extensive scanning zone.***

The Supervision, Evaluation and Enhancement Audits conducted at all facilities detected a wide variance in the scanning practices and levels of vigilance of lifeguarding staff. While many staff demonstrated excellent scanning skills, it was evident that other staff members were not effectively observing their intensive scanning areas on a continuous basis.

Regular training sessions should be conducted for all aquatic staff highlighting scanning techniques and establishing scanning standards. Lifeguard scanning practices should be monitored on a random and regular basis at all facilities and staff should be advised of their levels of performance.

If it is determined that a staff member is not effectively scanning, immediate action should be taken to re-train and monitor the scanning performance of that staff member.

***Management Response***

Community Services Management agrees with this recommendation. Aquatic Emergency Response (AER) training protocols and manual page 5-7 focus on appropriate lifeguard balance (placement); scanning; techniques and patterns. This is one of the first topics covered in National Lifeguard Service (NLS) and AER and we recognize it is fundamental to pool supervision.

## Primary Recommendations

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The Society's aquatic safety audit presents forty-seven Primary Recommendations. These Primary Recommendations are all based on the Lifesaving Society's position of what constitutes reasonable safe practices. **Table 2** (pages 13 & 14) identifies the facilities with the Primary Recommendations. Primary Recommendations should receive focused attention by facility management.

It is important to note that in some areas there is no applicable Manitoba Regulation governing the subject matter. In other cases where a Manitoba Regulation does apply to the area identified in the recommendation, the City was in compliance with the applicable legislation but the Lifesaving Society recommended practice exceeds the requirements of the Manitoba Regulation. Community Services and Planning, Property & Development Management reviewed and agreed to these recommendations to further enhance aquatic facility safety.

**Table 2**

PRIMARY RECOMMENDATIONS															
Rec. #	<u>Lifesaving Society Recommended Safe Practice</u>	Management Agreement	Margaret Grant	Bonivital	Cindy Klassen	Eldon Ross	Elmwood Kildonan	Bernie Wolf	North Centennial	Pan Am	Seven Oaks	Sherbrook	St. James Asiniboia	St. James Civic Centre	Transcona
16	Install signage identifying the emergency telephone.	Implemented				X		X		X		X			X
17	Determine and post bather capacity on pool supervision charts in pool office <i>** facilities not identified **</i>	Agree													
18	Review positioning of lifeguard stations.	Agree											X	X	
19	Install shower signage.	Agree				X		X			X	X	X	X	X
20	Provide personal protective equipment for handling chemicals.	Implemented	X												X
21	Band the steps leading into the spa with a contrasting colour.	Implemented				X									
22	Install the admission sign.	Implemented	X		X			X	X						
23	Install medical condition signage.	Agree	X	X		X	X	X	X		X		X	X	X
24	Enhance the spa signage.	Implemented				X									
25	Ensure that two "General Pool Rule" signs are installed on the swimming pool deck.	Implemented								X					
26	Ensure all receptacles on the swimming pool deck are GFCI protected.	Implemented	X		X	X					X				
27	Investigate a mechanism to restrict access to the pool gutter.	Agree	X												
28	Restrict access underneath the tot dock.	Implemented		X	X		X				X			X	X
29	Ensure the equipment room is locked.	Implemented		X	X						X			X	
30	Repair buoyline.	Implemented						X							
31	Clarify swim test requirements.	Implemented									X				
32	Create a procedure to ensure accurate bather counts.	Agree									X				
33	Reorganize the equipment room.	Implemented											X		
34	Repair eyewash station.	Implemented	X												
35	Ensure all chemicals are stored in a safe manner.	Implemented		X		X		X							X
36	Modify sauna emergency button alarm system.	Agree		X			X								
37	Restrict access behind the portable steps.	Implemented		X											
38	Repair underwater lights.	Implemented		X											
39	Remove sharp edges on wall attachments.	Implemented				X									
40	Repair lip at entry to pool deck from filter room.	Implemented				X									

			Margaret Grant	Bonivital	Cindy Klassen	Eldon Ross	Elmwood Kildonan	Bernie Wolf	North Centennial	Pan Am	Seven Oaks	Sherbrook	St. James Asiniboia	St. James Civic Centre	Transcona
Rec. #	<u>Lifesaving Society Recommended Safe Practice</u>	Management Agreement													
41	Ensure all emergency exit doors are in proper repair and can be easily opened by patrons and staff in the event of an emergency.	Implemented					x					x			
42	Install stanchion post hole covers.	Implemented					x								
43	Remove visible material from pool bottom.	Implemented								x					
44	Repair fire door.	Implemented									x				
45	Repair ventilation grills and grouting along the length of the windows.	Implemented									x				
46	Install a locking pin in the fabricated platform entry barrier.	Agree									x				
47	Remove the water taps in the women's washroom.	Agree										x			
48	Lock the valve in the open position.	Agree										x			
49	Provide a cover for the underwater light fixture.	Agree										x			
50	Cover holes in pool wall.	Agree										x			
51	Remove cleaning, program, and chemical supplies from the pool gallery.	Agree										x			
52	Identify or remove drainage bump in shower area.	Agree											x		x
53	Identify the depression in the shower flooring.	Agree											x		
54	Identify the raised tank lip on the pool deck.	Agree											x		
55	Band the perimeter of the spa deck.	Agree											x		
56	Replace missing screw on pool outlet cover.	Implemented											x		
57	Repair drain cover at bottom of slide.	Agree													x
58	Reduce the sink water temperature.	Implemented			x					x		x			
59	Properly label emergency buttons in sauna.	Agree									x				x
60	Repair lifting deck tiles under lifeguard chair.	Agree	x												
61	Repair broken tiles in shower and change room area.	Agree													x
62	Repaint the pool walls.	Agree													x