Aquatics Requirements

for the

Harry Jerome Pool

Report to the City of North Vancouver

Prepared by the North Shore Aquatics Society

January 2018

EXECUTIVE SUMMARY

The Aquatic component includes:

- A multi-purpose 54 m, 8-lane tank with dual diving springboards and platforms up to 10 m
- Seating for up to 900 spectators
- a leisure pool to provide fun, instruction and hydrotherapy
- steam room, sauna and hot tub, and
- a design to incorporate natural daylight and views to the outdoors.

The large 50 metre tank is to meet FINA standards to host regional, provincial, national and international sporting events in its 50m Olympic size competition pool and dive platforms. With associated spectator seating, it is poised to act as a premier destination for competitive diving and swimming, synchronized swimming and water polo events. Its competitive capabilities are to be carefully balanced with the needs of recreational users – without compromising the unique needs of either group.

The Aquatic centre will be used for:

- swimming for fitness
- safety and fun
- aquatic training
- competition hosting

The Leisure Pool is a key component to the success of the aquatic centre that will provide.

- a lazy river,
- waterslide,
- beach entry (including wheel chair ramp),
- movable floor
- instructional - instructor area.

The Leisure Pool will be used for:

- Toddler and young children instruction
- Senior warm water activities
- Hydrotherapy for rehabilitation and paraswimmers
- Introduction to aquatic sports for novices (under 10 years old)
- Fun aquatics park for the public

Amenities to support both recreational activities and user groups will include:

- Open spaces for instruction, dryland training and gathering areas (e.g. swimming lessons)
- Multi-purpose rooms to compliment aquatic activities, stakeholder groups and public recreation.
- Off-deck storage rooms

ACKNOWLEDGEMENTS

The North Shore Aquatics Society is comprised of members of the public and community groups and would like to acknowledge the contributions to this report made by the following groups and individuals.

Organization	Contribution
COWI Bridge North America	Keith Kirkwood, Pool sketches
Chena Swim Club	Patrick Paradis, Interview
Cruisers Aquatics (swimming)	Curtis Platson, Interview
SwimFaster	Juan Gomez, Interview
Masters' swimmers	Khosro Mansuri, Interview
Synchro BC	RaeAnne Rose, Jennifer Keith, Interview
Cruisers Aquatics (synchro)	Jennifer Joy Anderson, Interview
Masters Synchro	Dr. Lucy Turnham, Interview
Pacific Storm Water Polo	Nikola Maric, John Stockdale, Interview
Cruisers Aquatics (water polo)	Jim Sykora, Interview
North Shore Titans Water Polo	Constantine McQuade, Interview
iDive	Igor Kopecky, Interview
North Shore Dolphins	Kostyantyn Karibyan, Interview
Aquacize	Sandra Starett, Interview
Public	Tom Walker, Interview
Seniors	Annwen Loverin, Interview
Underwater Hockey	Robert Maisey, Interview
Hydrotherapy	North Shore Sports Medicine, information provided

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1.0 INTRODUCTION

The North Shore Aquatics Society (NSAS) is a not-for-profit society registered under the *Societies Act* (British Columbia). Its goal is to promote aquatics programs and facilities on the North Shore. The NSAS provided the City of North Vancouver with oral and written submissions in the May 2017 public hearing at which council voted in favour of building an aquatic facility with a 50 m pool. The NSAS applauds the City of North Vancouver for its visionary decision. At the request of the City of North Vancouver staff, the NSAS continues to provide input and information on the aquatic facility to be built within the Harry Jerome Replacement Project.

In December 2017, the City of North Vancouver asked the NSAS to make suggestions regarding components that should be included in the design of the New Harry Jerome 50 m aquatic facility. The NSAS undertook new consultations with various user groups in order to update a list of design requirements it had originally prepared for the City of North Vancouver in 2011. This newly updated NSAS pool design report (***Aquatics Design Requirements Report 2018***) is based on input from a wider base of aquatic users than had been included in the 2011 report, and now includes the results of consultations with recreational users, professional hydro therapists, senior citizens, aquatic sports clubs, Provincial Sporting Organizations (PSOs) and aquatic instructors.

The NSAS *Aquatics Design Requirements Report 2018* includes results of these consultations and its research on other facilities, summarizes the aquatic needs and priorities to help the designer maximize common needs and efficiencies of use, and proposes a pool design vision using collected information, which will provide a functional pool for the Community at large. The goal of the *Aquatics Design Requirements Report 2018* is to help the City of North Vancouver's selected designer create a functional aquatic community facility at Harry Jerome that can:

- increase the scope of aquatic programs that can be offered,
- address the need of all ages of aquatic users including those with mobility challenges – from toddlers to citizens in their later stages of life
- meet the requirements of the Citizens of the city of North Vancouver,
- host a reasonable amount of aquatic events, and
- help generate economic benefits for the local community.

The NSAS used the following process to prepare the NSAS *Aquatics Design Requirements Report 2018*:

- Interviews with 16 different aquatics users and subject matter experts such as:
    - Aquatic sports clubs
    - PSOs
    - Aquatic Instructors
    - Senior citizen organizations
    - Recreational swimmers
    - Recreational swimming programmers

- Examination of recently constructed aquatic facilities to determine what design elements should be adopted.

The NSAS appreciates the opportunity to participate in a co-operative approach with the City of North Vancouver planners, the North Vancouver Recreation and Culture Commission (NVRCC), and the selected designer of the Harry Jerome Aquatic facility. We look forward to sharing our findings at the scheduled meetings described in our invitation to present this NSAS *Aquatics Design Requirements Report 2018* and discuss the list of aquatics design requirements for the Harry Jerome Aquatic Facility the NSAS proposes herein.

2.0 METHODOLOGY

The NSAS reviewed the RFP that describes the intent of the proposed 50 metre pool and designed a series of questions to conduct interviews with aquatics groups and those interested in aquatics to identify facility requirements that would meet the specifications in the RFP and their needs. Our intent was to assist the City of North Vancouver planners and pool designers to obtain the most current information possible, to reduce the time needed to obtain feedback from user groups, and to document the information for the City's use in planning and discussing the pool requirements.

Since early December 2017, the NSAS conducted interviews with 16 different individuals and groups regarding facility requirements that would enable the 50 metre pool to operate at maximum efficiency. The NSAS interviewed subject matter experts in swimming, synchronized swimming, diving, water polo, aquacize, underwater hockey, hydrotherapy, seniors and the public. The interviews were 1 ½ - 2 hours in duration, each covering the same questions, as indicated in Appendix C. The NSAS documented the interview results and shared drafts with each interviewee to ensure the notes accurately captured what was said (Appendix C).

The interviewees provided a biography of their background in their subject area to demonstrate their knowledge and expertise; some had 30 to 60 years of experience. The purpose of these interviews was to determine any special requirements and similar needs for the pool design. The focus was on design elements of the pool and its facilities that would help these groups reach their long term goals.

Key Terms

Bulkhead – an upright partition used to divide the pool into different configurations.

Bubble apparatus – used to agitate the deep end of the pool to reduce the pressure when a diver enters the pool from the platform.

Spray hoses – used to ripple the surface of the pool during a dive meet so the surface is visible to the diver.

Hydrolift – apparatus to lower a person with and injury or disability into either the main pool or the leisure pool

3.0 RESULTS

Appendix C provides a summary of the information collected from each subject matter expert. The Pool Design discussed in Section 3.1 below offers options to be considered by the City planners and NVRCC in the final design. The NSAS`s design vision is described in more detail in Section 3.2.

3.1 SUMMARY OF AQUATIC FACILITY REQUIREMENTS

The following list takes into consideration user requests and provides aquatic requirements that would make the 50 metre pool and leisure centre "*a welcoming, vibrant place, whose success will be defined by the positive impact on the lives of those who use it. It will foster individual and community wellness by providing opportunities to participate in a variety of formal and informal activities.*"[1]

3.1.1 Main tank

- 54 m pool
- 20.4 m wide
- 8 Lanes, 2.5 m wide (each); 0.2 m on either pool edge
- 2 movable bulkheads (2 m width)
    - Allow multiple users/multiple tanks
    - Multiple bulkhead locations - 12.5 m, 25 m, 30 m (see diagram in Appendix A)
    - More program flexibility
- Rest ledge at 1.3 m depth at deep end; 10 cm to 15 cm wide (4`` to 6``)

Water Depth

- 5 m at deep end (diving tank)
- 1.8 m at shallow end (or whatever municipal safety codes require for diving off starting blocks
- Movable floor
    - needed only if a movable floor is not installed in Leisure Pool
    - Movable floor allows for multiple users
    - Infants and toddler lessons when floor raised to give a very shallow pool.
- Deep water sports and swimming with floor lowered to 2 m depth

Deck space

Option A (Retractable Seating on pool deck)

- 4 m wide, down one side of the pool and approx. 12 to 15 m wide on the opposite side of the pool
- 9 m wide at shallow end and 6 m wide at deep end
- accommodate retracting or portable spectator seating for 500 to 800 spectators
- When not in use for spectators be a fitness area for public
- Dryland training area for organizations

Option B (Off-deck seating overlooking pool; over guard area, multi-purpose use, change rooms)

[1] "DRAFT VISION AND GUIDING PRINCIPLES" (January 2018) prepared by the City of North Vancouver.

- 4 m wide down one side of the pool and approx. 9 m wide on the opposite side of the pool
- 9 m wide at shallow end and 6 m wide at deep end
- Retractable seating
- Fitness area
- Dryland training

Diving

- Twin 1 m diving boards
    - Synchronized diving events and training
    - High usage component for Public
- Twin 3 m diving boards
    - Synchronized diving events and training
    - High usage component for Public
- 1 m, 3 m, 5 m, 7.5 m and 10 m platforms
    - Synchronized diving events and training
    - High usage component for Public (jumping only from 10 m platform - no diving without experienced coach); could affix removable slide for leisure activities
    - Bubble and spray system for diving
        - Install provision for system
        - Users would fundraise to contribute to system installation
    - Large deck in diving area plus two deck showers

Miscellaneous

- Underwater lines – lengthwise and widthwise
- Multi-zone announcing /media system (with additional sound controls on deck) and underwater speakers
- Provisions for Electronic timing system with starting blocks at both ends of pool
- Provisions for Giant viewing screen (e.g. Jumbotron/timing clock; User groups would contribute to costs of purchase)
- Electricity available on pool deck
- Rooms for storage (one environmentally controlled storage room for electronic equipment)
- Good ventilation
- Multi-purpose room with direct access to pool deck
    - Media presentations
    - Instruction
    - Food prep (includes cabinets, sink, fridge, counter and microwave)
    - Meetings
    - Fitness & dryland training
- Stair entry at both ends of pool (paraswimmers)

3.1.2 Leisure Area

(See Section 3.2.3 for greater detail)

- Therapeutic/lane pool (lazy river); max 4 to 5 feet deep
- Hinged movable floor in leisure pool to accommodate different heights (toddlers – seniors)

- Walk in/ beach entry on one side
- Two hot-tubs (adult-only, family)
- Catering to therapeutic rehab and senior citizens
- Waterslide and lazy river

3.2.3 Facility Goals

The NSAS has articulated a number of goals that the 50 m pool and five leisure options would address. The key ones include:

- Enabling multiple users at all times
- Expansion of user group programs (deep water activities), membership numbers and event hosting for most disciplines, up to the National level (currently not possible); and, although not discussed in detail in this report, expansion of Rec Commission programs and new offerings
- Encouraging program offerings in warm water (particularly if a movable floor is installed that can deal with varying heights)
- Increasing Seniors programs in warm water
- Offering opportunities for therapeutic activities in both warm and cool water due to greater accessibility (wheelchair ramp, stairs and hydrolift into the main pool, zero entry to leisure pool)
- Encouraging event hosting and viewing which draw in volunteers, revenues and new opportunities for the City of North Vancouver
- Offering deep water programs currently not available in North Vancouver
- Providing instruction areas in multi-purpose rooms
- Including spectator seating for at least 700 in viewing area off-deck, with lifeguard control centre, multi-purpose room and change rooms access on-deck; or, on retractable benches on-deck
- Permanent 50 seating capacity on-deck to allow parent viewing of children's activities

3.2 POOL DESIGN VISION

3.2.1 Pool General

Our vision for this pool is one where multiple aquatic activities can be provided to the citizens of North Vancouver, including all ages – our kids to our grandparents, present to future. This will not be just a pool to swim in, but a facility which promotes social interactions. To accomplish this, we need to envision a pool which serves multiple groups and types of aquatic activities. This will be a community pool which will cater to the recreational users for health, fitness or just plain fun, to the high-performance athlete who would like to represent North Vancouver or even Canada both nationally and internationally.

To be able to encompass such a wide spectrum of activities and abilities, this pool must be designed to maximize efficiencies and flexibility while ensuring the citizens of North Vancouver have a practical pool which will encourage participation in various aquatic activities.

- A 54 m pool with two movable bulkheads would enable this vision. Multiple bulkhead positions will provide a variety of aquatic zones of various sizes. Provisions to run lane lines both lengthwise and widthwise add the ability to set up swim lanes both across the pool as well as lengthwise.
- Diving spring boards at the deep end accompanied by diving platforms are both used by public and competitive divers. Synchro diving is a growing trend, so dual 1 m and 3 m spring boards are becoming more in demand.
- A diving tower consisting of a 1 m, 3 m, 5 m, 7.5 m and 10 m platforms would also be of benefit for both the recreational public as well as competitive divers.
- Pool access must be able to accommodate all ages and abilities. At least one entry, preferably 2 or more) should utilize a stairway access with safety bars (example at Delbrook Pool). Provisions for persons with disabilities and wheel chair access are required. This should not be limited to just the pool, but change rooms and pool deck access.
- As this will be a shared space with Silver Harbour Seniors` Centre, if possible, a private access to the seniors centre should be considered.
- Office space and multi-purpose rooms and storage space built directly off the pool deck. Office space could be rented to user groups.
- Spectator viewing area to seat 40-60 people, but expandable to 700 - 800 people
- As with any vision, we must also be able to accommodate potential future improvements (user groups have indicated their willingness to contribute to pool enhancements). Provision to allow the future installation of timing and score board need to be incorporated. Underwater floor anchors for attachment of hockey walls for underwater hockey, future installation of underwater agitation air bubble system, and starting blocks at both ends of the pool with associated wiring, and underwater speakers, are just some of the future enhancements which need to be incorporated into the design.

3.2.2 Pool Depth

Water depth is a significant limitation in many pools. Different aquatic users require different water depths as demonstrated below (also see Appendix C):

- Generally, a water depth of 1.8 to 2.0 m is a minimum depth for diving off a starting block, playing water polo or underwater hockey.
- 2.0 to 3.0 m is required for synchronized swimming.
- 3.5 to 4.5 m is the minimum for diving depending on the height of the diving platform (10m tower requires a minimum depth of 4.5 m)
- Recreational swimmers prefer water 1.2 m or deeper depending on their ability and fitness.
- For instructional purposes, water depth can vary from 0.8 m to 2.0 m.
- Aquacize groups prefer a water depth of 1.1 to 1.3 m for shallow water aquacize to 2.0 m for deep water aquacize.

The pool must be able to meet all these groups and, more specifically, must be able to accommodate multiple groups simultaneously. This can be achieved through two options:

1. An adjustable pool floor located at the shallow end of the pool would enable the pool to accommodate all the depth requirements and could even provide a large beach style pool entry when required. There is an additional cost associated with the addition of an adjustable bottom which must be considered, as well as its associated operating maintenance.

2. An adjustable pool floor in the Leisure pool area (see Section 3.2.3) could accommodate users who require shallow water, allowing the main pool depth to potentially have a starting depth of 1.8 m.

Either option would work within our vision for the pool.

3.2.3 Leisure pool

In our vision of a multipurpose community focussed aquatic facility, the design of the Leisure Swim area is extremely important and must compliment the main pool. The leisure area must satisfy 3 main goals.

1. A fun attraction for residents, both young and old
2. A pool area where aquatic users who prefer warmer water can participate
3. An instructional area to teach younger users and seniors (aquacize), whether recreational or aquatic sports.

To accomplish these goals, the leisure area needs to be designed as multi-purpose and most likely consisting of several leisure zones.

- Leisure Zone One:
    - A beach entry that would gradually slope down to approx. 1.0 m
    - One side of the entry area would require safety provisions, such as safety bars to enable users with disabilities or seniors to have safe access to the pool.
    - Aquatic features such as water buckets, water-falls, slides or wave action to provide a fun setting for the very young.

- An in-pool lounge area would also be a nice feature for seniors and people with disabilities.

- Leisure Zone Two:
    - A rectangular leisure tank, with a water depth of 1.0 to 1.5 m, to allow instruction of younger swimmers both in swimming techniques, as well as entry level into aquatic sports where the warmer water would be appealing
    - A tank of approx. 15 m by 12 m would meet this requirement. This would also be the area where recreational aquatic volleyball or basketball could be played (equipment should be removable)
    - The exit for a water slide feature could also be in the area as the required water depth would be available.
    - This would allow for the main pool to have a deeper shallow end and provide a pool area for the user who likes the warmer water

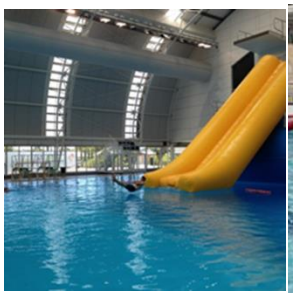
An alternative option could be a movable bottom for Leisure Zone Two. Although this would be an additional expense, the NSAS anticipates it would probably be less expensive than a movable bottom in the main pool.

Deep-water activities, such as deep water aquacize, novice water polo, and introduction to synchronized swimming could now be held in the leisure pool's warmer water. This area could also host Rec Commission lessons for young children who prefer warmer water. It would have a major appeal to many user groups and would eliminate any requirement for a movable floor in the main pool.

- Leisure Zone Three:
    - A lazy river has become a very popular feature in recreational aquatic facilities. This could be next to one of the leisure tanks, probably the deeper tank or a flowing river between the two tank areas.
    - Water slide that exits into leisure pool

- Leisure Zone Four:
    - A pair of hot tubs, one for families/aqua-therapy and one for adults-only. Adults-only hot tub could be located at the deep end as it could also be used during diving meets.

- Leisure Zone Five:
    - The main pool could operate as a leisure facility during open public swim times.
    - Floatable leisure apparatus could be employed
    - The 10-m dive tower could be fixed with a removable slide (possibly replacing the need for a more complicated external water slide)




3.2.4 Deck Space

Deck space is a vital component of any pool, and our vision is to have a deck area which will serve a variety of purposes and activities. All pools have a deck surrounding the pool, but we need the deck to be more than just an access point to the pool. Deck space can be used for spectator viewing, an instructional area, dryland training, and staging areas for events, instruction and gathering areas for groups whether instructional or recreational.

In our vison of the pool deck area includes:

- One side of the pool would have a deck approx. 4 wide, down the length of the pool and a deck on the opposite side of the pool approx. 12 to 15 m wide. (This would depend on seating /view area location and design).
- The deck at the pool ends would require adequate space for officials and tables during events or gathering areas during lessons (possibly 6 m).

The wide deck area (12 to 15 m) would be able to accommodate

- Out of water instruction,
- Set up area for dry land training,
- Open space for swimmers and lessons to congregate.
- During aquatic events, this would be transformed into spectator and athlete seating areas using portable or retractable temporary seating for up to 700.

Alternative seating option (Smaller deck option)

- Deck width of 5-6 m
- Seating/viewing area raised above deck, usually on top of storage rooms, offices, lifeguard area or change rooms.
- Seating would also be temporary (retractable), so that the area could be used for other purposes such as a dry land training area, exercise area, food serving area and event meeting area.

The narrow deck side would:

- Accommodate possible score table, officials table or officials seating.
- Sufficient width for deck-side traffic.
- Allow space for dignitaries or other guests addressing the spectators/event participants
- A necessity is electrical power access to power timing equipment

Finally, some open shower facility on the pool deck located near the diving area would be a nice amenity.

3.2.5 Lifeguard/control room

A lifeguard control room is ideally located in the mid-pool area. This will be the heart of the pool and activities. This room would have viewing windows and be:

- The life guard head station,
- First aid treatment area,
- Pool media/announcing equipment and control panel. The media system should be multi-zoned which includes under water speakers.
- Possible staff lunch area and lockers
- Staff administrative area

3.2.6 Instructional/Multi-purpose room

This would be a room positioned directly off the pool deck where instructional classes, group meetings, officials meetings or even exercises could occur.

- This would be an environmentally controlled room with media equipment for viewing and speaking engagements
- The room would seat approx. 40 people with tables,
- Would have a dry, soft floor
- Have counter space, fridge, sink with water, and cupboards. This would allow the room to also serve as a food prep area, lunch room for staff and events, and a party room which could be rented out for birthday parties.

3.2.7 Storage areas

Aquatic organizations including the Recreation Commission all require secured storage areas. This area needs to be accessible from the pool deck, but storage of equipment would be off the pool deck. Lane lines, kick boards, lane ropes, mats, all require storage space and security. Most organizations would only require a chain linked cage approx. 1.2 by 1.4 m in dimensions. The storage area at the Coquitlam City Aquatic Center is a good example of this.

A dedicated storage area, for electronic equipment needs to be considered. This would be environmentally controlled and shared. This could also form part of a control office where score boards and other electrical equipment is operated from.

3.2.8 Diving Tower considerations

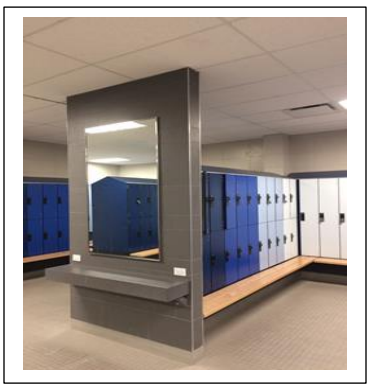
For Provincial and National diving events to occur, a 10 m tower with, 1, 3, 5, 7.5 and 10 m platforms is required along with dual 1 m and dual 3 m spring boards. It is understood that a full 10 m tower is an additional cost; but, if the pool ceiling height above the 10 m tower can be designed to accommodate FINA specifications (i.e. 14 m floor to ceiling), it should be given serious consideration. One suggestion would be a dome or curved, tapering roof line above the tower. Design of the diving area must also take into consideration the dimensions of the deck to allow proper sight lines for lifeguards, instructors, coaches and competition officials.

The iDive Club has indicated that the Vancouver Aquatic Centre, being scheduled to be replaced by a new facility in Connaught Park (2390 West 10th Avenue, Vancouver), will not include a 10 m tower. As the Vancouver Aquatic Center is now the only facility in the lower mainland with a regulation tower, Dive BC and the National Dive program will be looking for a new Dive Centre location. North Vancouver could be the ideal location.

3.2.9 Change rooms

Though not part of the pool specifically, change rooms are important and need to be designed to accommodate not only the pool users but the public as well. The change rooms should include:

- Sufficient gender specific change areas which can accommodate approx. 100 persons each (due to high congestion during lesson changes and events) (Ron Andrews open plan with a bench in the centre is a good example)
- Lockers which are located at heights that are accessible to all people, young and old without having to stand on benches and wheelchair accessible.
- Seating benches with sufficient standing and changing space
- Showers which can accommodate up to 20 persons
- Showers which include safety bars and hangers or hooks for towels
- Wall mounted hair dryers
- Sinks and mirrors
- Non-slip flooring
- Some family/universal change facilities



3.2.10 Provisions for future upgrades

It is understood that all user group requirements may not be affordable or available during the initial construction of a new facility. Some aquatic features may be very specialized for specific user groups and, as such, it would be expected that the cost of such features would be shared. These special aquatic features would include:

- Electronic timing system and score system
- Large Digital display board
- Pace clocks on pool walls
- Shot clocks on pool walls
- Electronic starting blocks at both ends of the pool.
- Underwater bubble machine or surface agitation system
- 2-3 spray jets at deep end
- Pool-side spring board mounts

Provisions to enable the installation of these systems should be included during the initial design of the Aquatic facility. Wiring and or wiring conduits, plumbing and piping, anchoring and design should include the locations of these future upgrades and additions

4.0 MEETING THE CITY`S GUIDING PRINCIPLES

In summary, the NSAS is recommending pool amenities for the 50 m pool that meet or exceed the six guiding principles for redevelopment of Harry Jerome. Some recommendations are reiterated below as they meet the criteria:

- Equity:
  - improving access for everyone, including those who may be recovering from injuries or seniors suffering from dementia, by including steps into the pool and zero-entry into the leisure area
  - multi-purpose and simultaneous multi-use (bulkheads to divide the pool and a five zone leisure area)
  - hosting events that occupy a portion of the pool invite future participation in healthy aquatic activities
  - suggesting change rooms that include large space for big events as well as including universal change rooms for privacy
  - advocating for shared multi-purpose rooms for teaching, officials meetings, food-prep and training space

- Inclusivity:
  - making all aquatic sports available to children, youth and Masters
  - utilizing a movable floor in the leisure pool to accommodate different heights will increase participation in seniors` aquacize and children`s programs
  - increasing access to unstructured leisure activities using five leisure zones, including colourful floating apparatus, and opening up the main pool to leisure activities (e.g. slide from tower)
  - recommending signage that helps people navigate from one area to another using directional arrows (like those used at Lions Gate Hospital)
  - suggesting open gathering places near the pool to socialize
  - recommending safety bars, non-slip tiles and pool access using stairs and hoists to accommodate those with mobility issues

- Safety and Security
  - recommending large change rooms with a large number of readily accessible lockers (enough for 100 participants) without standing on benches
  - suggesting clothing hooks to enable participants to hang up their clothes on deck
  - suggesting storage areas for user groups to lock up their equipment

- Wellness
  - increasing participation in aquatic sports at the recreational and competitive level lead to increased physical and social health due to a team environment which promotes positive social interaction and encouragement
  - utilizing social gathering places increases the sense of community and belonging
  - providing large and varied leisure zones increases the enjoyment, comfort and aesthetics of the pool area

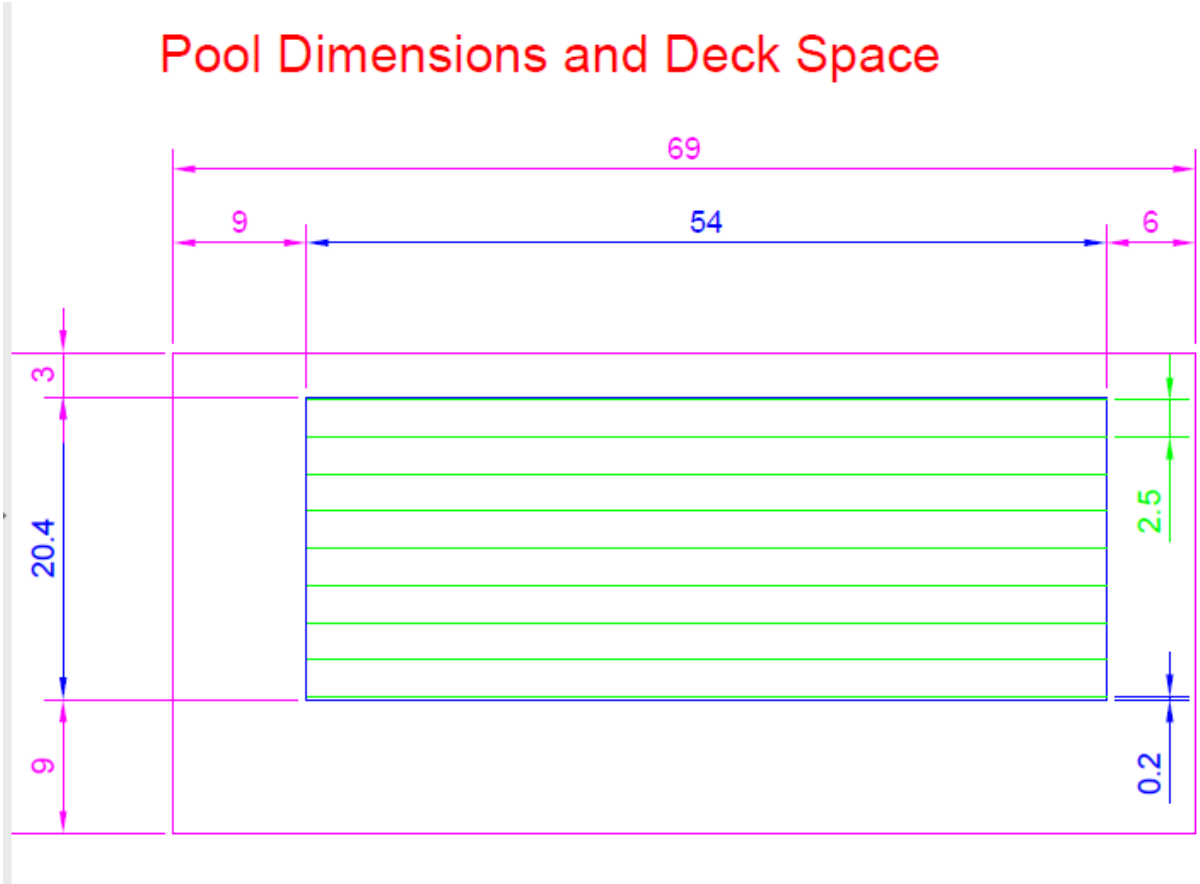
- Functional Adaptability
  - utilizing 2 bulkheads allows the pool to be divided into different configurations to maximize flexibility to offer aquatic sports, simultaneously with deep water aquacize, lane swimming, Rec Commission lessons, birthday parties, and general public access
  - keeping the pool available to multiple uses maximizes efficiency and optimizes programming

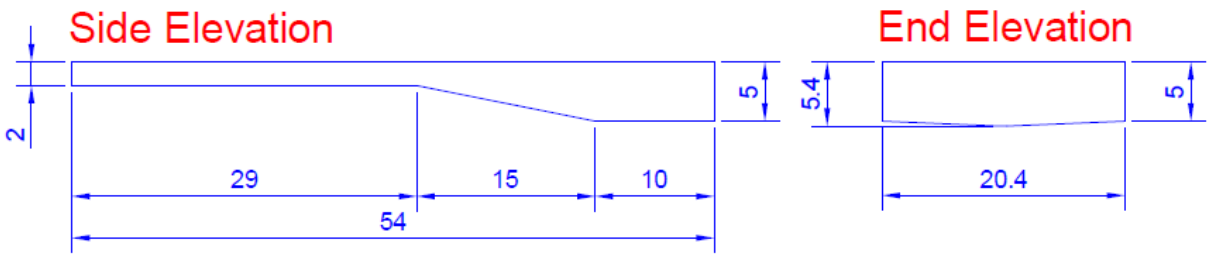
    - dividing the main pool into 3, 2 or 1 areas and providing five leisure zones allows shared use of the space
    - multi-purpose rooms can be used as classrooms for lifeguard training, workshops, and aquatic sports; they can also be used for officials meetings during events; if supplied with a fridge, microwave and sink they can also be used for food preparation during events
    - by including features that can be added to later, future improvements can be made (bubble apparatus, spray nozzles, timing systems). In particular, a large timing system that allows program advertising and scoring would greatly enhance the future use of the pool (e.g. Jumbotron).

- Sustainability
    - creating a hive of activity where people can enjoy watching an event, or their children, while gathering with others
    - hosting events offers opportunities for improving the local economy as people visit local stores and eateries or stay overnight
    - expanding local business opportunities such as hydrotherapists who work with people recovering from injuries or suffering from arthritis
    - offering opportunities for cross training activities, such as triathalons
    - inspiring youth to become involved when they see other youth participating in aquatic sports which encourage a healthy lifestyle

APPENDIX A: POOL DESIGN SKETCHES

Overall Pool and Deck Space:

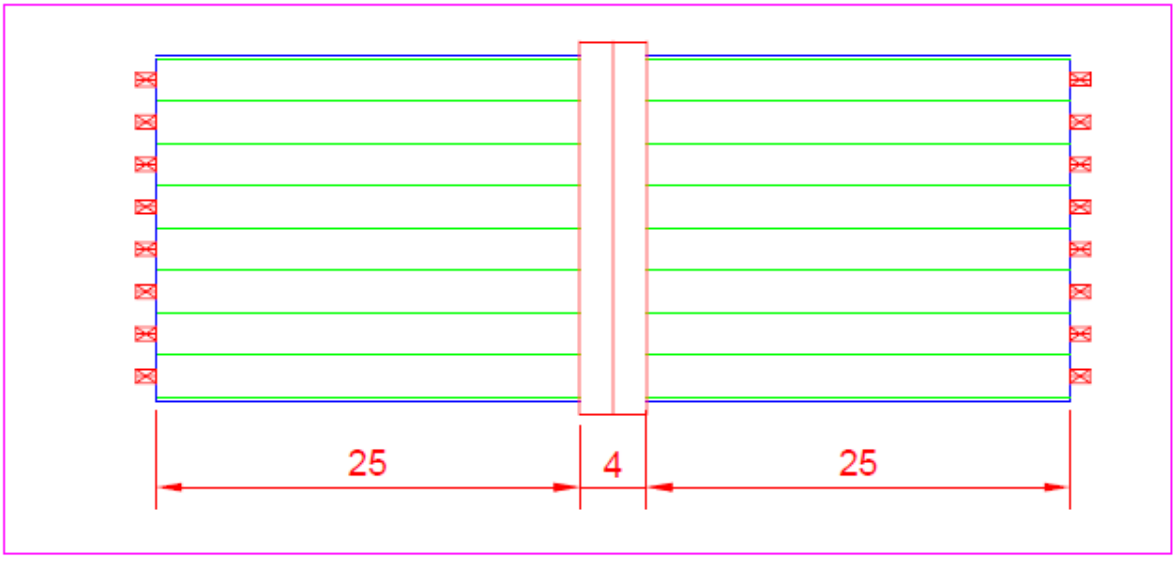




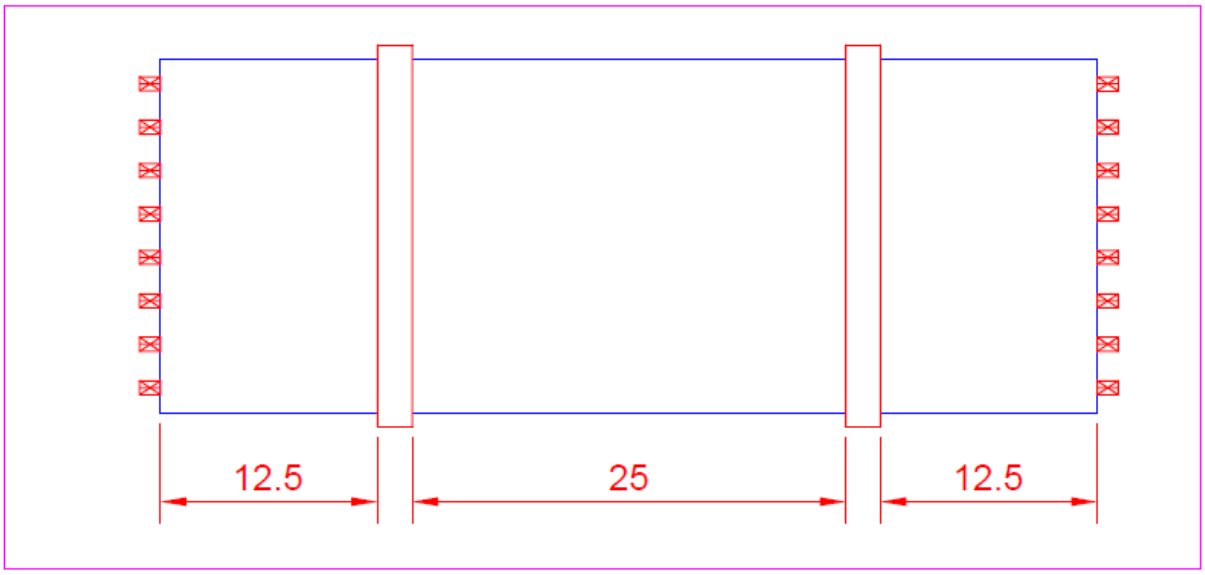
Bulkhead configurations:

Swimming (Long Course)

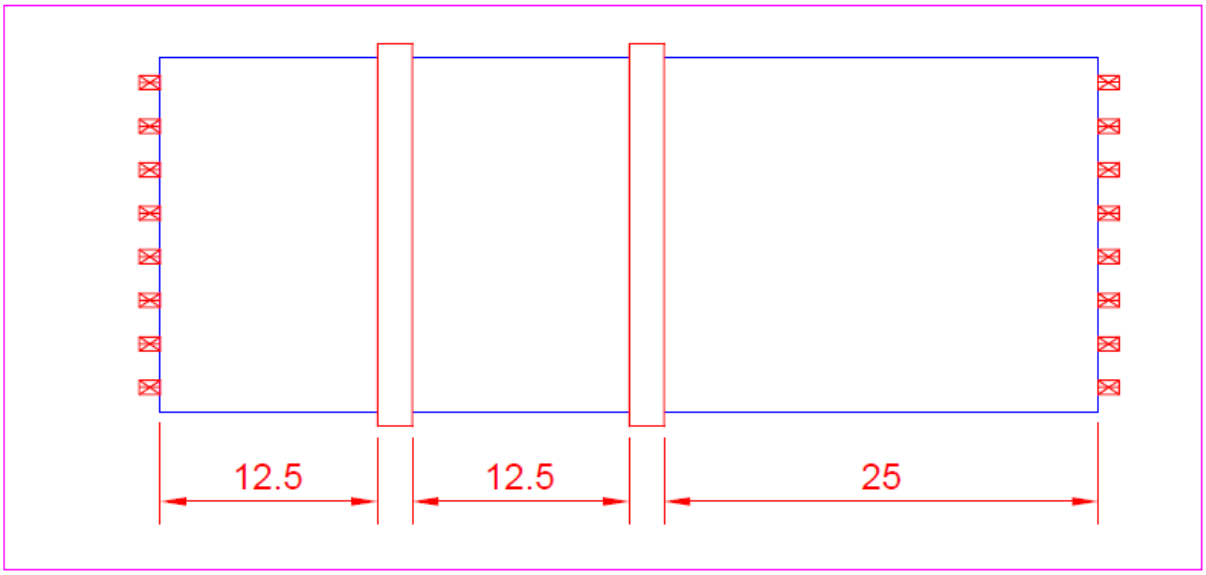
Swimming (Double-Ended Meet)



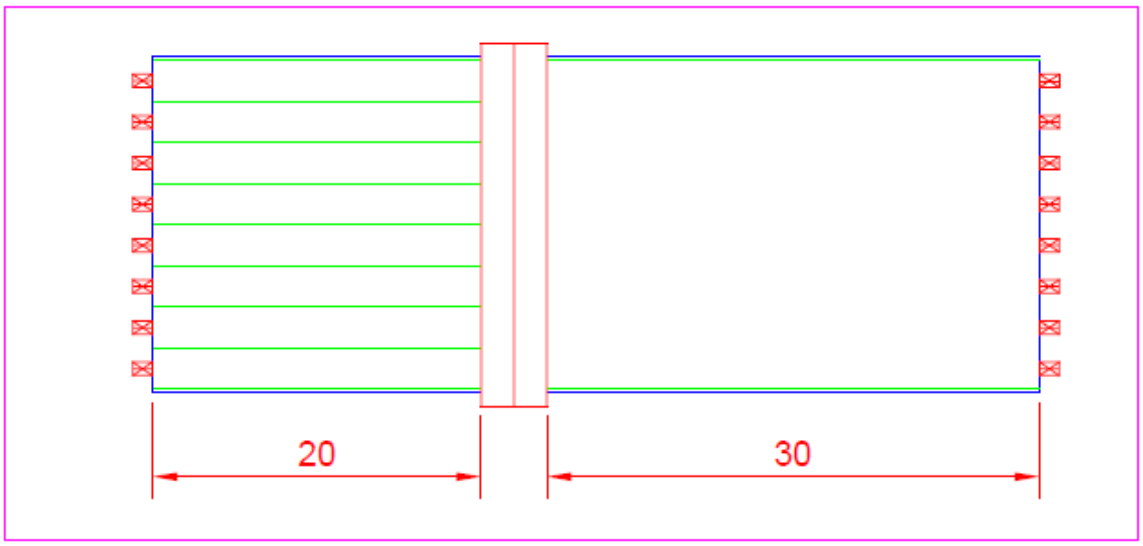
Diving / Synchro / Underwater Hockey



Diving / Synchro



Water Polo



APPENDIX B: SECTIONS OF RFP RELATED TO THE AQUATICS FACILITY

In October 2017, the City of North Vancouver issued a Request for Proposal (RFP) for "Functional Space Programing services" for the New Harry Jerome Community Recreation Centre.

The functional program highlights for the new HJCRC include a Community Recreation Centre component incorporating two gymnasia, fitness space, arts and crafts studios, multi-purpose rooms, youth and preschool space, administration as well as childcare space.

The Aquatic component includes:

- a 50 m tank with diving springboards and platforms
- associated seating
- a leisure pool
- steam room, sauna and hot tub, and
- a design to incorporate natural daylight and views to the outdoors.

The large 50 m tank is to meet FINA standards to host regional, provincial, national and international sporting events in its 50 m Olympic size competition pool and dive platforms. With associated spectator seating, it is poised to act as a premier destination for competitive diving and swimming, synchronized swimming and water polo events. Its competitive capabilities are to be carefully balanced with the needs of recreational users – without compromising the unique needs of either group.

Aquatic Centre:

- 50 m Pool + Leisure Pool (60,000 square feet)
- 50 m Pool w/ 900 seat spectator capacity (30,000 square feet)
- Large Leisure Pool (18,000 square feet)
- Support and Circulation Spaces (12,000 square feet)

The Aquatic centre will be used for:

- swimming for fitness
- safety and fun
- aquatic training
- competition hosting
- A large family leisure pool
- hot tubs, and steam and sauna rooms
- Change rooms

APPENDIX C: INTERVIEW RESULTS AND BIOS

Questions posed to aquatic users regarding pool needs

Criteria for Hosting Events and level

- Level of Competition facility could feasibly host
- Spectator requirements
- Specific amenities – officials, athletes, rooms,
- Equipment
- Pool requirements for sanctioning events

Facility requirements for Training and Programming

- Training area dimensions
    - Lanes
    - Water depth
- Pool design requirements
    - Deck size
    - Pool markings
    - Flags or other marker requirements
- Minimum requirements for programming or future program expansion

Suggestions for Maximum efficiencies (Compare to other facilities)

- Learn from other facilities
- Facility design
- Future upgrades
- Multiple utilization

Pool requirements by discipline for Main pool and Leisure pool

This table is based on interviews with subject area experts (see input following this table).

A) **Main Pool**: 20.4 m wide; 54 m long (including two 2 m bulkheads)

Main Pool	**Pool surface dimensions**	**Location of anchors for bulkheads**	**Pool depth**	**Pool contour**	**Warm water**		**Deck space**		**Pool markings**	**Specific to Discipline**
					On deck showers	Hot Tub	Officials	Warm up space		
Swimming	20 m X 50 m	0 m at either end (to secure at end for 50 m swim)	1.8 m	Rest ledge at deep end (4-6" wide)	2 near tower	Near deep end	3 m behind starting blocks	10 m wide on side of pool	Lengthwise and Crosswise lanes to maximize pool utilization	8 X 2.5 m wide lanes
	20 m X 25 m	25 m					3 m X 3 m on both sides of pool			0.2 m between outside lane ropes and pool edge
	20 m X 12.5 m	12.5 m								water lifts located at the pool ends for para swimmers
		37.5 m								
Water Polo	20 m X 30 m	30 m	1.8 m minimum	Rest ledge at deep end (4-6" wide)		Near deep end	3 m X 10 m on both sides of pool			Netting to prevent balls from entering public area
Synchronized Swimming	20 m X 12.5 m	12.5 m	5 m (ideal)	Rest ledge at deep end (4-6" wide)	2 behind tower or near tower	Near deep end	3 m X 10 m on both sides of pool	12 to 15 m	Lengthwise	2 m bulkhead
	20 m X 20 m	20 m	3 m							Underwater sound system, both sides of pool
			2 m	5 m tapering to 2 m at				Needs to accommodate a team of		sound system with volume control on deck

				20/25 m bulkhead				approx. 16 girls		
Diving	20 m X 12.5 m	12.5 m	4.5 m for 10 m tower	4.5 m tapering to 3-4 m at 20/25 m bulkhead	2 behind tower or near tower	Near deep end	3 m X 10 m on both sides of pool	185 m^2 ceiling height just over 5 m		2-3 spray nozzles
	20 m X 15 m	15 m	4 m for all others					2 dry spring boards and mats, 2 trampolines, 1 platform and safety riggings		Bubble apparatus
Underwater Hockey	20 m X25 m	29 m	3-4 m	Flat 25 m playing surface					Marked goal	Goal wall in front of sloped area of pool
		12.5 m							Field of play	
Aquacize	20 m X 25 m	25 m	2 m		2 near tower	Near deep end				sound system with volume control on deck
Public	20 m X 50 m	0 m at either end (to secure at end for 50 m swim)	Minimum 1.8 m		2 near tower	Near deep end			Lengthwise and Crosswise lanes to maximize pool utilization	8 X 2.5 m wide lanes 0.2 m between outside lane ropes and pool edge
	20 m X 25 m	25 m								
	20 m X 12.5 m	12.5 m								
		37.5 m								
Seniors	20 m X 50 m	0 m at either end (to secure at end for 50 m swim)	Minimum 1.8 m		2 near tower	Near deep end			Lengthwise and Crosswise lanes to maximize pool utilization	Stair entry, ideally at shallow and deep ends
	20 m X 25 m	25 m								
	20 m X 12.5	12.5 m								

	m	37.5 m								
Hydrotherapy	20 m X 25 m	25 m	Minimum 1.8 m		2 near tower	Near deep end			Lengthwise and Crosswise lanes to maximize pool utilization	Lift apparatus in deep end
	20 m X 12.5 m	12.5 m								
		37.5 m								

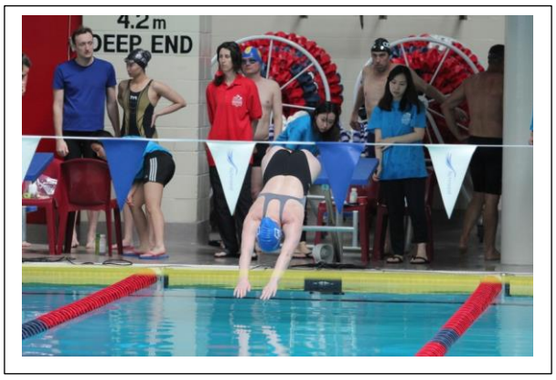
B) **Leisure Pool**: instruction area for young children and seniors, consisting of many Leisure Pool options (see Section 3.2, Pool Design Vision)

Leisure Pool	**Pool surface dimensions**	**Pool depth**	**Pool contour**	**Instructor Deck space**	**Dryland**	**Specific Features**
Swimming		0.8 m to 1.3 m	Sloped from deep to shallow	2 m - 2.5 m		
		Hinged or sloped movable floor				
Water Polo		1.1m to 1.3 m	Sloped from deep to shallow	2 m - 2.5 m		
		Hinged or sloped movable floor				
Aquacize	Ideally 15 m X 20 m	1.1m to 1.3 m	Sloped from deep to shallow	2 m - 2.5 m	3.7 m by 5.5 m	Sound system with volume control on deck
		Hinged or sloped movable floor			Resting benches	
					Floor mats	
Public			Sloped from deep to shallow			Vibrant colours and features for children
						Wheel chair ramp

Seniors			Sloped from deep to shallow		Resting benches	Directional signs using arrows for simple way finding
						Wheel chair ramp
Hydrotherapy	Min. 10 m X 15 m	1.1 – 1.3 m	0.2 m slope		Resting benches	Safety bars
					Floor mats	Wheel chair ramp

m

Swimming



Swimming

Chena Swim Club – Patrick Paradis

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local meets which attract approx. 200 to 300 swimmers
- Provincial Championships which attract approx. 300 to 400 swimmers

A successful swim meet will require the following:

- Minimum water depth of 1.8 m, or whatever municipal safety codes dictate for diving from a starting block
- Provisions for starting blocks and touch pads (wiring and anchors)
- Provisions for a timing system at both ends of the pool
- Movable bulkheads which are a Minimum of 1.5 m wide and can accommodate a starting block.
- Lane width of 2.5 m
- Additional space of 0.2 m outside the first and last lane ropes
- Adequate deck space – 9-m wide on one side of pool, min 3 m on the other side of the pool (example: Watermania). Wide deck would also be an area for temporary seating
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Viewing Area for approx. 500 -700 persons. Majority would be temporary seating, with 50 to 100 permanent seating

Facility requirements for Chena Swim Club Program

The Chena Swim Club is North Vancouver's largest competitive swimming program, operating out of pools in North Vancouver and the Vancouver Aquatic center in the city of Vancouver due to pool requirements. The swim program spans from novice and recreational to accomplished swimmers who are members of many of Canada's National Swim Teams. The program presently holds multiple practices 6 days a week and operates an 11-month program. All practices are conducted in a 25-metre pool with limited deck space on the North Shore and a 50 m pool in Vancouver. To enhance the quality of this program, the following recommendations need to be considered:

- 2.5 m wide lanes
- 50 m opportunity for training (replacing VAC pool time)
- Rest ledge at approx. 1.3 m depth at deep end (10.2 cm to 15.2 cm wide)
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on.
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto the deck.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage.
- Office space which organizations could rent.

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Incorporate a well-designed Leisure Pool area which would provide adequate facilities for swim instruction for young children ages 1 thru 10. By having a leisure pool which can provide a swim instruction area for young children, the water depth of the shallow end of the main pool could be increased to 1.5 m, eliminating the requirement for an adjustable pool floor. The leisure pool would also have warmer water, making the swim lesson experience much more enjoyable for the younger children. If designed well, this would also be a good therapy pool as well as good for the senior age swimmers.
- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Readily accessible change rooms designed with sufficient change area space. (Ron Andrews Community Centre is an example of a well-designed, change area with adequate lockers for the size of the pool)
- Do not need expensive cosmetic design for roof or building – functionality is more important
- Have provisions (i.e., pre-wiring) for an electronic display board which would display scoring, timing and event results but also allow for advertising for commercial purposes (brings in revenue).
- Equipment storage rooms
- Starting blocks at both ends

Swimming

-**Patrick Paradis**

Education:

- Bachelor of Psychology, Laurentian University
- Diploma in Business Accounting, Georgian College

Titles:

- Head Coach/Director of Swimming Chena Swim Club (since 2010)
- Vice President BC Swim Coaches Association 2015-2017
- Head Coach Barrie Trojans Swim Club (2009-2010)
- Assistant Head Coach Barrie Trojans Swim Club (2008-2009)
- Assistant Head Coach Hamilton Aquatic Club (2006-2008)
- Other Coach positions (1996-2005)

Experience:

- Coaching since 1994 (23 years - 15 years in Ontario & 8 years in North Vancouver)
- Train all NV Rec Commission Instructors in stroke technique, drill progressions and how to build a stroke for all 4 swimming strokes, plus swimming starts and turns, annually since 2012
- National Coach Certification Program - Level 3 coach

Special Achievements:

- Technical Advisory Committee to Swim BC (2014 – Present)
- 3 Time Presenter at the Swim BC Coaching Conference (2011 - Breastroke Technique, 2013 - Planning for a Successful Program, 2017 - Key Roles for a Successful Assistant/Group Coach in a club Program)
- Canada Games Selection Committee (Athletes & Coaches for Team BC) 2017
- Advisor to Swimming Canada Domestic Coaches Committee on National Level Meet set up - 2014-2015

Coaching Achievements:

- Growth of Chena from 90 to 240 swimmers (100 recreational swim school)
- Swimmers from Chena representing Canada at National and International events since 2011
- Swimming Canada Open Water Coaching Staff for UANA Open Water Championships in Grand Cayman (2017)
- Named to Swimming Canada Select Coaches Group to identify top up-and- coming coaches in Canada (2014-2015, 2015-16, 2017-18)
- Top coaching performance (Rubber Boot Award Winner) as voted by BC Coaches - 2014
- Swimming Canada Coaching Staff for the 2014 Junior Pan Pacific Championships in Hawaii
- Swimming Canada Coaching Staff for the 2011 North American Challenge Cup in Mexico
- Named Lead Coach for the 2007 International Children's Games – Reykjavik, Iceland

Chena: Lifetime Champions in and out of the Pool

Chena North Shore Swim Club is a parent-run, non-profit competitive swim team operating in North Vancouver, British Columbia, Canada. It was founded in 1980, the result of an amalgamation of three previous teams that trace their history in the area to 1966. The purpose of Chena is to provide the opportunity for young athletes to strive for excellence through an inclusive and age-appropriate developmental progression which allows swimmers from novice to elite levels to reach their highest potential in a supportive and positive environment. Chena Swim Skills is an introductory speed swimming program for younger children and serves as a bridge to the main club. In the last few years, Chena has experienced unprecedented growth with now 150 participating North Shore families. Success has followed as reflected by outstanding representation and results at the provincial, national and international levels of the sport.

Chena's long range intent is to help develop the character and discipline necessary to succeed in life by providing support for families as their children grow into productive young adults in society. One quality that new parents to the club notice is their children's increased awareness of time management. It is essential for swimmers to be organized to effectively balance school activities, swim practice and competitions. Chena offers a scholarship program to assist graduating high school students as they enter post-secondary institutions. Head coach Patrick Paradis has received positive feedback from university swim coaches regarding how well prepared his swimmers are in their school and swimming readiness. NVRC is often the direct beneficiary of many active and retired Chena swimmers who work as swim instructors and lifeguards in local pools.

One of the requirements for BC high school graduation is community volunteer service and Chena offers all its members volunteer opportunities on the North Shore. Last season, the club participated in The Great Canadian Shoreline Cleanup, which is a national conservation initiative of the Vancouver Aquarium and WWF-Canada. The theme of environmental stewardship will be revisited as another Cleanup is scheduled for the Spring of 2018. This past 2017 Holiday Season saw coach Patrick and a group of senior swimmers teaming up with the Harvest Project, a community-based urban relief organization that serves Metro-Vancouver's North Shore, whose purpose is to break the poverty cycle and restore people to involvement in work, school and a healthier family life. Widening the outreach for community volunteerism remains a priority for the club moving forward.

Chena looks for ways to be a complementary partner with NVRC. An example was coach Patrick's assistance with pool staff training sessions for stroke technique and drill progressions.

Chena Swim Club is in a continuous process of creating a unique competitive swimming program in North Vancouver, with the goal of becoming the best swim team in British Columbia and throughout Canada. This objective is being accomplished through a carefully considered athlete development model that is designed for the pursuit of personal and team excellence, guided by a spirit of co-operation amongst its membership. The ultimate purpose of Chena is to provide young people with the tools necessary to successfully move into the world whether it be in the sport of swimming or in any other endeavour they choose in life.

Swimming

Cruisers Aquatics Club – Curtis Platson

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Developmental meets which attract approx. 100 swimmers
- Local meet which attracts approx. 750 swimmers (Hootenanny)
- Provincial Championships which attract approx. 1000 swimmers

A successful swim meet will require the following:

- Minimum water depth of 1.8 m, or whatever municipal safety codes dictate for diving from a starting block
- Provisions for starting blocks and touch pads (wiring and anchors)
- Provisions for a timing system at both ends of the pool
- Movable bulkheads which are a Minimum of 1.5 m wide and can accommodate a starting block.
- Lane width of 2.5 m
- Additional space of 0.2 m outside the first and last lane ropes
- Adequate deck space – 9-m wide on one side of pool, min 3 m on the other side of the pool (example: Watermania). Wide deck would also be an area for retractable bleachers
- Good ventilation in the pool area
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room, food preparation area for officials and lifeguard staff room)
- Viewing Area for approx. 500 -700 persons. Majority would be temporary seating, with 50 to 100 permanent seating
- Area for outdoor, daytime camping for swimmers
- Sufficient access to parking for the swim meet as well as parking for other facilities (e.g. hockey rink, curling rink)

Facility requirements for Cruisers' Aquatics Club Program

The Cruisers Aquatics Club is North Vancouver's largest summer recreational swimming program, operating out of pools in North Vancouver and West Vancouver. The club also hosts the largest summer swimming meet (aside from Provincials) at Watermania in the city of Richmond due to pool requirements for hosting the Hootenanny. The program presently holds multiple practices 7 days a week and operates a 3 ½ month program. All practices are conducted in a 25 m pool on the North Shore. To enhance the quality of this program, the following recommendations need to be considered:

- 2.5 m wide lanes
- Rest ledge at approx. 1.3 m depth at deep end (10.2 cm to 15.2 wide)
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on.
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto the deck.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage (timing system, touch pads, score clocks). Also, storage for flippers/kickboards (enough for two groups) adjacent to the pool deck for easy access
- Place to store personal gear on deck
- Noise baffling to improve meet announcements and communication with swimmers
- Office space which organizations could rent (possibly attached to rental time).
- Access to the pool deck to bring in equipment
- Overhanging viewing area to separate spectators from participants

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Incorporate a well-designed Leisure Pool area which would provide adequate facilities for swim instruction for young children ages 1 thru 10. By having a movable floor in the leisure pool, the leisure pool can provide a swim instruction area for young children while the water depth of the shallow end of the main pool could be increased to 1.5 m. The leisure pool would also have warmer water, making the swim lesson experience much more enjoyable for the younger children.
- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Readily accessible change rooms designed with sufficient change area space. Locate change room access in an area that will not interfere with on-going coaching activities (i.e. public does not cross through coaching space)
- Locate hot tub to one side, rather than in the middle which is a distraction
- Have provisions (i.e., pre-wiring) for an Electronic display board which would display scoring, timing and event results but also allow for advertising for commercial purposes (brings in revenue).
- Equipment Storage rooms
- Include fun spaces for swimmers such as rope swing, inflatable/movable floatables, climbing apparatus, waterslide
- Locate guard room so coaches/officials can readily access sound system (include viewing windows so guards can see pool)

Swimming

Curtis Platson

Education:

- Bachelor in History – Simon Fraser University
- National Coach Certification Program Level 1 - Canada
- Life Guarding and First Aid

Titles:

- Head Coach Cruisers Aquatics (since 2016)
- Club Manager Cruisers Aquatics (since 2017)
- Coach Cruisers Aquatics (since 2013)
- Coach North Shore Masters (2014-2016)
- Swim instructor North Vancouver Rec Commission (2016-presnt)
- Life guard (2016-present)

Experience:

- Coaching development through high performance swimming since 2013
- Head Coach and Winter Maintenance Manager for NV Cruisers
- Teaching learn to swim programs
- Coaching Masters Swimmers
- Leading instructor NVRC Swim Academy
- Broad knowledge of pool operations and equipment required at multiple facilities and events

Special Achievements:

- Guest lectured on German colonialism in Tanzania at Simon Fraser University
- Treasurer of the History Students Union at Simon Fraser University.

Coaching Achievements:

- Head Coach at the Cruisers Hootenanny (major swim meet equivalent to Provincials in BC)

Swimming

SwimFaster Club – Juan Gomez

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local meets which attract approximately 200 to 400 swimmers
- Provincial Championships which attract approximately 400 to 600 swimmers
- Depending on the configuration of the leisure pool area, if there were a few lanes where swimmers could warm down, larger meets (Nationals) may be available.

A successful swim meet (pool) will require the following:

- Lane width of 2.5 m (not less please).
- An extra space (lanes) of 0.30 m minimum at both sides outside the lane ropes, to allow for a clear lane width at both sides (2.5 m clear without walls).
- Minimum water depth of 1.8 m for diving from a starting block
- A clear path around the pool of not less than 1.5 m to allow officials to move freely
- Movable bulkheads (3 required) which are a Minimum of 1 m wide, for a pool arrangement of 1x50 m length or 2x25 m length, with starting blocks at both ends bulkheads.
- Provisions for a timing system at both ends of the pool to run events - 2x25 m pool simultaneously.
- Good solid starting blocks (FINA standards) which have the correct height dimension from the surface of the water – Water level will be flush with the deck level. Bulkheads will be higher than the water level to allow for the installation of the timing system. Starting blocks to match the regulated height from the water, installed on the bulkheads.
- Adequate deck space – 10 m wide (including the Official's buffer) on one side of pool, min 5 m on the other side of the pool. With extendable seating stands, pool can seat public on one side and swimmers on the other. During normal operation, the area will serve different deck activities, dryland training and lifeguard training.
- An environmentally controlled, windowed office facing the deck with a clear view of pool, with enough space to have the lifeguard staff room and the swim meet control.

Additional facilities serving swimming:

- An off-deck multi-use room for training, meetings and conferences. Will have a completely equipped kitchen for food preparation and toilets. It will also be used as a rental space for special events and birthday parties involving swimming activities.
- Access to a gym with specialized swim training equipment.

SwimFaster Program - Background

The SwimFaster Program provides technical development and competitive swim training for children of all abilities, aged from 3 to 18 years old. The Team is a Swim BC Sanctioned club operating out of several pools: three in North Vancouver (25m); one in Squamish (25m); and, one in Vancouver (50m). Present participation is over 350 swimmers in North Vancouver and 150 in Squamish. The program currently has practices scheduled 7 days a week.

The program has been increasing in numbers since the start-up 10 years ago. More than 1,200 swimmers have taken part in the Program, at all levels.

SwimFaster swimmers are competing at Provincial and National levels.

Suggestions for Maximum efficiencies for programing and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool. This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location)
- 2-3 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Good quality starting blocks. (Blocks installed at Delbrook are not user friendly)
- Readily accessible change rooms designed with sufficient change area space. (Delbrook Community Centre is not large enough for event hosting. Lockers are too close and number of lockers is not adequate)
- Leisure pool large enough, and appropriately designed to provide positive aquatic learning experiences for toddlers through ages 8-10. Delbrook is too deep and not large enough.
- Water quality very important – high quality treatment system. Ozone the best
- Air quality and sound control very important
- Do not need expensive cosmetic design for roof or building – functionality is more important. Better to spend money on having good air quality and water quality
- Flooring/deck have good non-slip surface.
- Lighting, have some natural lighting but sufficient overhead lighting above pool.
- Do not need under water lighting in pool.
- Have an electronic display board which would display scoring, timing and event results, but also allows for advertising for commercial purposes (brings in revenue).

Development and Competitive Swimming

Juan Gomez, P.Eng., MBA.

Education:

- BS in Civil Engineering – Autonomous University in Guadalajara, Mexico
- MBA – Autonomous University in Guadalajara, Mexico

Titles:

- Program Director, SwimFaster Club (since 2008)

Experience:

- Adapted Swimming Coach, Special Olympics North Vancouver (2006-2007)
- Adapted Swimming Coach, Greater Toledo Aquatic Club, Ohio (2003-2005)
- Adapted Swimming Coach, Special Olympics Perrysburg, Ohio (2003-2005)
- Program Director, Dorados Swim Club, Ibague Colombia (1984-1987)
- National Coach, Mexico Teams (1981 and 1983)
- Head Coach, Dorados Swim Club, Monterrey Mexico (1979-1983)
- UAG Varsity Coach, Guadalajara (1976-1979)

Sport Participation:

As a swimmer, competed at an international level since 8 years old (representing Colombia) including the 1971 Pan American Games, at the age of 16.

Held National Records for different age groups and a College title in Mexico, during the study of Civil Engineering.

Swimming

North Shore Masters – Khosro Mansuri

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local meets which attract approx. 100 to 150 swimmers
- Provincial Championships which attract approx. 300 to 400 swimmers (Hosted 2016 Provincial Championships in Richmond)
- Canadian Masters National Championships

Generally, these are 25 m short course swim meets; but, there are a few 50 m long course swim meets. In both cases, the pool does need to meet the minimum FINA Specifications.

A successful swim meet will require the following:

- Minimum water depth of 1.5 m, or whatever municipal safety codes dictate for diving from a starting block.
- Provisions for a timing system at both ends of the pool
- Movable bulkheads which are a Minimum of 1 m wide and can accommodate a starting block. (Must be large enough to allow officials to move freely)
- Water entry steps at ends of pool for swimmers and Para-swimmers
- Lane width of 2.5 m.
- Additional space of 0.2 m outside the first and last lane ropes
- Spectator seating for approx. 900. This would include a temporary seating area for approx. 700
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room.)
- Small Food service room off deck for food prep. Would have a sink, microwave, fridge and cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.

Facility requirements for Masters Swim Program

The North Shore Masters program presently operates out of 3 pools on the North Shore: two pools in North Vancouver (Harry Jerome & Ron Andrews) and one pool in West Vancouver. The program practice schedule presently has times 6 days a week. All practices are conducted in a 25-metre course pool. To enhance the quality of this program, the following recommendations need to be considered:

- 2.5 m wide lanes
- Rest ledge at approx. 1.3 m depth under water at the deep end (10.2 cm to 15.2 wide)
- Minimum depth of 1.25 m
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for participants to work on.
- Room with deck access, media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto the deck.
- Underwater viewing facility.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage.

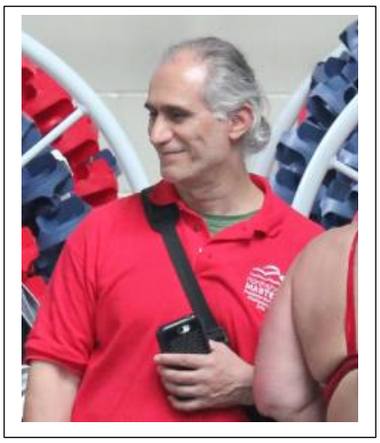
Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience with pools in other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going width-wise across the pool. This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Handicap/para-swimmers water lifts located at the pool ends, not mid-pool.
- Sufficient deck space/width – at least 15 m along the length on one side of the pool and 4 to 5 m on the other side of the pool. (Watermania is a good example)
- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location).
- Readily accessible change rooms designed with sufficient change area space. (Delbrook Community centre is a cramped change area)
- Leisure pool large enough and appropriately designed to provide positive aquatic learning experiences for toddlers through ages 8-10. Delbrook leisure pool is not large enough.
- Hand rails in shower area
- Places to hang towels in shower area
- Water slide that exits into the leisure pool.

Swimming

Khosro Mansuri



Education:

- Diploma in Radiology – Iran
- Coaching Level 3 – Iran
- National Coach Certification Program Level 2 - Canada
- Life Guarding and First Aid

Titles:

- Coach Canadian Dolphins (since 2001)
- Head Coach North Shore Masters (since 2003)
- Assistant Coach West Vancouver Otters (2009-2017)
- Coach North Vancouver Rec Commission Swim Academy
- Head coach English Bay Swim Club (13 years)
- Assistant Head Coach Vancouver Pacific Swim Club (8 years)
- Coach Iranian Youth Development Team in water polo and swimming
- Coach Athletic University in Athens, Greece
- CPR and First Aid Trainer (18 years)
- Master evaluator for aquatics swim instructors
- Swim instructor trainer
- Senior life guard

Experience:

- Coaching development through high performance swimming since 1992
- Coaching Masters and teaching adult learn to swim program
- Coaching age group with Canadian Dolphin Swim Club
- Coaching NVRC Swim Academy
- Broad knowledge of pool operations and equipment required at multiple facilities and events

Special Achievements:

- At age 17 broke the Iranian 100m Breaststroke Long Course (50 metre pool) record
- Meet Manager for 2016 Masters Provincial Swim Meet, North Shore Masters swim meets, NV Rec Commission Swim Academy development meets, Canadian Dolphins monthly development mini-meets
- Winner Masters Swimming of BC Stan Powell Award – 2010
- Winner Team Stranco Award for Coaching Excellence - 1995
- SwimBC award for coaching - 1996

Coaching Achievements:

- Emily Overholt (Rio Olympics 2016), Nathan Clement (Rio Paralympics 2016), Jessica Deglau (Atlanta Olympics 1996)
- Developed North Shore Masters and NVRC Swim Academy Programs

Synchronized Swimming

Synchronized Swimming

Synchro BC Swimming Association – Rae Anne Rose (President) & Jennifer Keith (Interim Executive Director)

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Recreational Tournaments
- National Qualifier and National Championships
- World Series Events – Surrey Leisure Centre May 29 – June 2, 2018
- Regional and Provincial Championships.
- Training Summits
- Synchro BC hosts 6 events per year

A successful Synchronized Swimming meet will require the following:

- Pool area 25 m X 12 m (figures) for team competition of which 12 m X 12 m must have a minimum depth of 3 m; 25 m X 25 m (routines)
- Additional warm up pool lanes
- Score system with display
- Movable bulkheads which are a Minimum of 1.5 m wide positioned at 25 m point of pool. Is also used as an entry point for synchro swimming.
- Adequate deck space – 9-m wide on one side of pool, min 3 m on other side of the pool (example: Watermania). Wide deck would also be an area for temporary seating.
- Deck space must be able to accommodate officials' tables and chairs on both sides of pool. Officials are usually on risers.
- Area for teams to prepare for routines
- Built in underwater speakers – or at least provisions - one on each side in deep water. A good sound system which is zone controlled. Main control center usually in lifeguard control office.
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Separate eating area for athletes and officials
- Officials' room and scoring room with access off-deck. Windows viewing onto pool
- Internet with wide band for streaming events
- Change room facilities to accommodate large groups of athletes – mostly female at this time
- Spectator space for a minimum of 300 spectators for regional or provincial meets; 500 for national meets – spectator space must be off the deck if there is a desire to host national or international meets

Facility requirements for Synchronized Swimming Instructional program

Synchro BC is the Provincial Sport Body which governs and oversees the sport of synchronized swimming for the Province of BC, from the recreational level program to high performance provincial athletes. Besides providing administration for synchronized swimming, Synchro BC provides instructional resources, education and training opportunities for both coaches and athletes. It also hosts training summits and approx. 6 Synchro Meets annually. For a Synchronized Swimming program to flourish on the North Shore, Synchro BC recommends the following:

- Underwater sound system is a requirement. A multi-zone sound system with a couple of underwater speakers installed in the deep end would be needed. Remote control for system. This system would also be used by staff in the day to day operation of the pool
- Dryland training area on the pool deck or part of a multi-purpose area. A rubber coated floor or matting for athletes to work on (typically, at deep end of pool). Needs to accommodate a team of approx. 16 girls

- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto deck.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools).
- Change rooms with lots of mirrors and electrical outlets

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- 2 bulkheads for creating multiple pool zones which would allow multiple activities at the same time. Bulkhead must be able to be moved easily.
- Readily accessible change rooms designed with sufficient change area space. Sufficient number of lockers and mirrors. Universal change rooms use up a lot of space, but do not have the capacity for pool users. Both new pools in Surrey have large universal change rooms and small standard change rooms. Not enough capacity for the different pool user groups and lessons.
- Lighting, have some natural lighting, but sufficient overhead lighting above pool.
- A multipurpose room large enough to include counters, sink, fridge and microwave as well as tables and chairs for instructional purposes and officials meetings. It could serve a multitude of different purposes and events.
- Good shower drainage system. Many pool shower drainage systems become plugged when the girls wash out their hair.
- Banquet room which can be rented (e.g., Edmonds Pool)
- Multi-purpose leisure pools – both educational and fun (e.g. Edmonds Pool)

Synchronized Swimming

RaeAnne Rose

Education:

- Bachelor of Arts (Communications), Simon Fraser University (1991)

Titles:

- President of Pharos Fundraising Strategy + Communication (since 2003)
- President of Synchro BC (since 2016)
- President of BC Aquasonics Synchronized Swim Club (2014 - 2016)
- Treasurer of BC Aquasonics Synchronized Swim Club (2013-2014)
- Director of DIVERSE*city* Community Resources Society (since 2016)

Experience

- Synchronized swimming volunteer since 2009
- Various volunteer roles in softball and hockey
- Developed a strategic plan, overhauled the governance, business and communications practices, and launched a dynamic new website for the Aquasonics
- Restructured and expanded services to member clubs in BC as President of Synchro BC
- Professionally, worked with over 80 non-profit organizations in Western Canada
    - Capacity building
    - Fund development
    - Communications strategies
- Clients include healthcare, social services, education, sports, and the arts

Special Achievements:

- Synchro Canada Strategic Planning Committee
- Local Organizing Committee for the Espoir National Championships and Synchronized Swimming World Series to be hosted in Surrey in 2018

Synchronized Swimming

Jennifer Keith

Education:

- Bachelor of Commerce, Marketing – Mount Allison University (1996)
- Durham College, Post-Graduate Diploma Sports Administration with Honors – Durham College (1998)

Titles:

- Interim Executive Director, Synchro BC (since 2017)
- President & Lead Consultant, Jennifer Keith Consulting Inc. (since 2012)
- Club Manager, Vancouver United Football Club (2002-2014)
- Senior Manager – True Sport Engagement, Canadian Centre for Ethics in Sport (2008-2012)
- National Projects Manager, True Sport Foundation (2007-2008)
- Executive Director, Soccer New Brunswick (2002-2007)
- Assistant Director, Employment Initiatives, YMCA of Greater Moncton (1999-2002)
- District Administrator, Eastern Ontario District Soccer Association (1999-2002)

Experience

- 20+ years in the Canadian sport sector at the local, regional, provincial and national levels
- Event management of provincial, national and international sporting events including a dozen synchronized swimming events
- Club Excellence Facilitator and contributor to the development of the Club Excellence program
- Editor, launch and promotion of “What Sport Can Do: The True Sport Report”
- Launched and managed the True Sport Community Fund – a 4-year $1.69 million national grant initiative to increase access and inclusion to sport
- Partner in *Engage!* – a collaboration of experienced physical literacy and community sport consultants
- In collaboration with *Engage!*, developed a Sport for Life Strategy and Active Aging Initiative for the District of Mission
- Consulted with community sport organizations in Coquitlam to revamp municipal sport facility allocation policy
- Successfully started and developed sustainable delivery models for programs that use sport as a platform to educate youth

Special Achievements:

- Central Manager for the Local Organizing Committee for the Espoir National Championships
- Central Manager for the Organizing committee for the Synchronized Swimming World Series to be hosted in Surrey in 2018.

Synchronized Swimming

Cruisers Aquatics Club – Jennifer Joy Anderson

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local meets which attract approx. 75 synchronized swimmers, 200 spectators
- Provincial Championships which attract approx. 300 synchronized swimmers, 500 spectators

A successful Synchronized Swimming meet will require the following:

- Minimum water depth of 2.0 m, but also need 3.0 m or greater for about 12 m
- Provisions for a sound system at both sides of the pool
- Movable bulkheads which are a Minimum of 1.5 m wide positioned at 12 m point of pool for figures and 25 m point of pool for routines. Is also used as an entry point for synchro swimming.
- Adequate deck space – 9 m wide on one side of pool, min 3 m on other side of the pool (example, Watermania). Wide deck would also be area for temporary seating. Deck space must be able to accommodate officials' tables and chairs on both sides of pool and still have space available for teams to pass in front safely – 3 m wide and 10 m long at deep end.
- Area for girls to get made up for Routines. Need electrical power, mirrors and water.
- No special lane markers
- Built in underwater speakers (or at least provisions), one on each side in deep water area.
- Scoreboard
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Meeting room for judges
- Small food service room off deck for food prep. Would have a sink, microwave, fridge and cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.

Facility requirements for Synchronized Swimming Instructional program

The North Vancouver Cruisers Aquatics Club offers recreational Synchronized Swimming three times a week from May to August to young swimmers (8 – 14). At present, it is the only Synchronized Swimming program offered on the North Shore. At one time the Cruisers, in cooperation with the Rec Commission, offered the introductory Star Program; however, when William Griffin Pool closed four years ago the program was suspended due to lack of access to proper pool space and to date has not restarted. For any swimmer interested in participating year-round or pursuing a higher level of training, they must leave the North Shore and travel to other pools in the lower mainland. As a result, many swimmers leave the sport after the age of 14.

For a Synchronized Swimming program to flourish on the North Shore, the following recommendations need to be considered:

- Under water sound system is a requirement. A pool sound system with a couple of underwater speakers installed in the deep end would be needed. Remote control for system
- Rest ledge approx. 1.3 m underwater at deep end (10.2 cm to 15.2 wide). Enables swimmers to stand on and rest in the deep end.
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A rubber coated floor or matting for athletes to work on (typically, at deep end of pool). Needs to accommodate a team of 8 to 10 girls

- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto deck.
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Office space which organizations could rent for storage of filing cabinets to store records
- Change rooms with multiple mirrors and electrical plugs

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- 1-2 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Readily accessible change rooms designed with sufficient change area space (need room for at least 16 girls at the same time as well as the public). Sufficient number of lockers and mirrors.
- Large viewing area.
- On-deck area for stretching/warm-up and rehearsing routines. Also need on-deck space to put personal gear (each swimmer has own equipment for training).
- Do not need underwater lighting in pool.
- Have an Electronic display board which would display scoring, timing and event results.
- A multipurpose room large enough to include counters, sink, fridge and microwave as well as tables and chairs for instructional purposes. It could serve a multitude of different purposes and events (e.g. judges meeting area).
- Makeup area for the Synchronized Swimmers during meets needs to have multiple mirrors, access to water and multiple electrical outlets

Synchronized Swimming

Jennifer Joy Anderson

Education: University of British Columbia

- Bachelor of Science 2017

Titles:

- Synchronized Swimming Coach, Cruisers Swim Club (since 2012)
- President of the UBC Thunderbirds Synchronized Swimming Sports Club (2016 - 2017)
- Treasurer of the UBC Thunderbirds Synchronized Swimming Sports Club (2015 - 2016)

Experience

- Coaching since 2012
- Synchronized swimmer since 2006
    - North Vancouver Cruisers Aquatics (2006 - 2013)
    - UBC Thunderbirds Synchronized Swimming Sports Club (2013 - 2017)
    - Synchronized Swimming Masters Program (2017 - present)

Special Achievements:

- Campling-Pharo Award (2012)
- All Canadian Award (2015-2017)

Coaching Achievements:

- Coached the first boys-only synchro team to gold in the BC Provincials (2014-2015)

Synchronized Swimming

Seniors Synchronized Swimming - Dr. Lucy Turnham

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- National Masters Synchronized Swimming meets
- Local meets which attract approx. 100 to 150 synchronized swimmers
- Up to 200-300 spectators
- Provincial Championships which attract approx. 300 to 400 synchronized swimmers

A successful Synchronized Swimming meet will require the following:

- Minimum water depth of 2.0 m, but prefer 3.0 m or greater
- Provisions for a sound system at both sides of the pool
- Movable bulkheads which are a Minimum of 1.5 m wide positioned at 25 m point of pool. Is also used as an entry point for synchro swimming.
- Adequate deck space – 9 m wide on one side of pool, min 3 m on other side of the pool (Example, Watermania). Wide deck would also be area for temporary seating. Deck space must be able to accompany officials tables and chairs on both sides of pool and still have space available for teams to pass in front safety.
- Area for girls to get made up for Routines. Need electrical power, mirrors and water.
- Lane markings on bottom of pool
- Safety ledge on end wall of deep end which is approx. 1.3 m below water surface and approx. 10.2 cm to 15.2 wide. Enables swimmers to stand on and rest in the deep end.
- Built in underwater speakers (or at least provisions), one on each side in deep water area.
- Scoreboard
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Small food service room off deck for food prep. Would have a sink, microwave, fridge and cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.

Facility requirements for Synchronized Swimming Instructional program

At present the only Synchronized Swimming program is a recreational program operated by the North Vancouver Cruisers. Swimmers interested in pursuing a higher level of training must leave the North Shore and travel to other pools in the lower mainland. There is no Masters Synchronized Swimming program on the North Shore. The BC Synchronized Swimming Star introductory program was suspended when William Griffin Pool was closed and to date has not restarted.

For a Synchronized Swimming program to flourish on the North Shore, the following recommendations need to be considered:

- Under water sound system is a requirement. A pool sound system with a couple of underwater speakers installed in the deep end would be needed. Remote control for system
- Rest ledge approx. 1.3 m underwater at deep end (10.2 cm to 15.2 wide)
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A rubber coated floor or matting for athletes to work on (typically, at deep end of pool). Needs to accommodate a team of 8 to 10 girls
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings.

- Off deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example; CCAC & VAC pools)
- Office space which organizations could rent for storage of filing cabinets to store records
- Change rooms with multiple mirrors and electrical plugs

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool. This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- 1-2 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Pace clock on wall and regular wall clocks
- Readily accessible change rooms designed with sufficient change area space. Sufficient number of lockers and mirrors.
- Some small individual bathrooms (Non-Gender) located in different areas readily accessible to pool deck area
- Lighting, have some natural lighting but sufficient overhead lighting above pool. Sunlight is sometimes a problem so blinds needed on windows
- Viewing area on the side of the pool, but isolated from pool deck.
- Do not need underwater lighting in pool.
- Have an Electronic display board which would display scoring, timing and event results.
- A multipurpose room large enough to include counters, sink, fridge and microwave as well as tables and chairs for instructional purposes. It could serve a multitude of different purposes and events - could be the makeup area for the Synchronized Swimmers during meets.

Synchronized Swimming

Dr. Lucy Turnham

Education

- Cornell University Bachelor of Arts (1971)
- SFU Professional Development Program- Secondary Teacher (1978)
- UBC Medical Degree (1989)
- NCCP Level 2 Synchronized Swimming Coach

Experience

- Masters Synchronized Swimmer – Vancouver Masters Synchro (2009-present)
- Synchronized Swimming Coach – Cruisers, North Van (2000-2010)
- Secondary School Teacher- Dawson Creek (1978-1980)
- Aquatics Supervisor- Dawson Creek (1972-1980)
- Synchronized Swimming Director and Coach – Dawson Creek (1972-1980)
- STAR program judge
- Currently Physician - Clinical Associate, Division of Hematology/Oncology/BMT at BC Children's Hospital

Special Achievements

- Developed the recreational synchronized swimming program in Dawson Creek. The program was primarily for young swimmers, although also included a small masters program.
- Brought synchronized swimming to North Vancouver.
- Developed the STAR program in North Vancouver. Many swimmers who started in the STAR program at William Griffin pool subsequently joined winter synchronized swimming clubs in the lower mainland and competed at a national level and even at the international level.
- Organized water shows and competitive summer synchronized swimming meets.
- Hosted a National Masters Synchronized Swimming Meet in 2012. The Masters program based out of Britannia Pool continues to expand and was the major representative for British Columbia at the FINA World Championships in Budapest, Hungary 2017. Competed in a 5 person team representing BC for the 35-49 age group.
- The oldest swimmer by far on a competitive team. My team at the FINA world championships was comprised of swimmers aged 26, 27 39, 44 and then me- at 66.....I am proud that I was able to swim with those youngsters!!

Coaching Achievements

- Judging athletes in the recreational STAR program
- The North Van Cruisers synchronized swimming program won numerous gold and silver medals at the meets and was, for most of my coaching years, the strongest summer synchronized swimming program in the province.

Water Polo

Water Polo

Pacific Storm Water Polo Club – Nik Maric & John Stockdale

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local Water Polo Tournaments
- League Games
- Provincial Championships which attract approx. 100 – 150 players
- Canadian Nationals/League Championships

A Water Polo Tournament will require the following:

- Minimum water depth of 1.8 m
- Provisions for a timing system and score keeping system (Shot Clocks – 2 Minimum/ 4 shot clocks preferred and score display)
- Movable bulkheads which are a Minimum of 1.5 m wide which can be used by officials
- Adequate deck space – 9 m wide on one side of pool, min 4 m on other side of the pool (Example: Watermania). Wide deck would also be an area for temporary seating
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Deck space where team players can sit at each end of the playing field
- Anchors installed so the bulkhead can be positioned at 30 m for official game field
- Minimum width of 18 m
- Pool anchors to hold game play area, side lines and goal lines
- Small food service room off deck for food prep. Would have a sink, microwave, fridge and cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users
- Access to electrical power on deck on the side opposite the bleachers, for officials' table
- Good sound/announcing system
- Good wide band Internet cabling for streaming purposes
- Seating for 200-300

Facility requirements for Water Polo development program

Pacific Storm Water Polo club has a nationally recognized high performance and development program which caters to young players (ages 10 to 12) up to National team members. Pacific Storm's water polo program operates out of various pools throughout the lower mainland with the exception of North Vancouver and West Vancouver, even though up to 50% of its players originate on the North Shore. The construction of a multi-purpose 50-metre pool would enable Pacific Storm to operate a portion of its program here on the North Shore to the benefit of the North Vancouver based members. To provide a quality development program for water polo, the following recommendations need to be considered:

- Water depth of 1.5-m min.
- Ability to anchor water polo nets on pool side, allowing cross pool training.
- Rest ledge at approx. 1.3 m depth at deep end (10.2 cm to 15.2 wide).
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on.

- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto deck.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools).
- Office space which organizations could rent.
- Wall hangers for 4 nets (folding nets) - similar to Coquitlam pool (CCAC).
- Provisions to install 4 shot clocks (hangers and power outlets).
- A good raised filming area.

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pool based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (widthwise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Multiple bulkhead anchor positions to accommodate various activities (Not just at the 25-metre location).
- 2-3 bulkheads for creating multiple pool zones which would allow multiple activities at the same time.
- Good lighting: have some natural lighting, but sufficient overhead lighting above pool (Walnut Grove Pool in Langley is a poor lighting design).
- Have an electronic display board which would display scoring, timing and event results, but also allow for advertising for commercial purposes (brings in revenue).
- Easy ability to raise spring diving boards up and out of the way.

Water Polo

Nikola Maric

Education:

- Diploma in Sheep Building, Project Manager - Belgrade
- Diploma in Blasting, Blasting Specialist – Vancouver
- Athletics Canada:
    - National Coach Certification Program (NCCP) Level 3
    - NCCP Level 4 (in progress)
- Coaching Certificate from Croatia

Titles:

- Head Coach Water Polo Canada (since 2012)
- Head Coach Pacific Storm Water Polo Club (since 2005)
- Technical Director Pacific Storm Water Polo Club (since 2006)
- Head Coach Team BC (2011-2013)
- Head Coach Burnaby Barracudas (2007)
- Part-time coach Croatian League 1999-2004
- Coach in 2nd and 3rd Croatian League 1996-1998

Experience:

- Coaching water polo since 1996 (22 years)
- Advisor and Life time Member of the Croatian Club
- Community Coach Course Facilitator CCP Levels 1, 2, 3
- Extensive National and International Water Polo experience with a strong network of professionals in the Sport internationally. Played in Serbia VK Belgrade from 12-Senir Team from 1982-92 and was selected for the Jugoslavija Junior National Team. He also played in Croatia VK POSK from 1992-1994.
- Program development and implementation and athlete development for Water Polo Canada

Special Achievements:

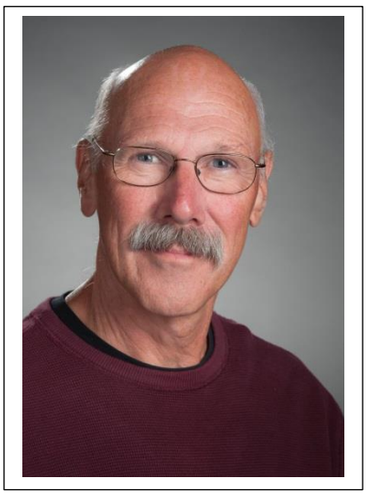
- Developed 3 Water Polo Canada Assistant Coaches from Storm staff
- Developed national level athletes invited to the Senior National Teams with scholarships and carding funds
- Head Coach of Men's Provincial Program participating in Europe at International Tournaments
- Founder and Coach VK Okruk - Okruk, Croatia (1996 to 2004)

Coaching Achievements:

- Water Polo Canada Most Valuable Coach 2011, 2012, 2013, 2014
- 18U Men’s (2013, 2014), 16U Boys (2011, 2012, 2014) National Water Polo Champions
- Water Polo Canada Head Coach (2013-2017) Junior World Championships and Junior Pan American Games
- 12U, 14U, 16U, 18U and Open Category medals in Provincial Championships (2007)

Water Polo

John Stockdale



Education: Simon Fraser University

- Bachelor of Education 1981
- Master of Education 1994

Titles:

- Assistant Coach Pacific Storm Water Polo Club (since 2005)
- Assistant Men's National Water Polo Team Coach 1987 – 1992
- Provincial Men's Water Polo Coach 1975 – 1982
- Junior National Water Polo Men's Coach 1981
- Head Coach Coquitlam Lions Water Polo Club 1974-1982
- Head Coach Coquitlam Sharks 1973-1974
- Director Water Polo Canada 1976-1978, 1983-1985, 2013, 2015
- Technical Director BC Water Polo 1986 – 1987

Experience

- Coaching since 1966 (50+ years)
- Teaching:
    - 16 years Physical Education
    - 14 years Associate Professor (SFU)
    - 3 years Associate Professor (UBC)
- Conducting NCCP coaching of all Burnaby Barracuda's Water Polo head coaches since 2007
- Formed Coquitlam Lions Water Polo Club 1974 (Men), 1976 (Women) - won 12 Provincial titles
- Formed the Burnaby Water Polo Club 1977

Special Achievements:

- Currently Water Polo Master Course Conductor and Master Learning Facilitator
- Water Polo Coaching Course Conductor 1982 until 2017
- Developed High Performance Camp for future NCAA female athletes 2010 – present. (Over 40 athletes from the camp have gone on to receive athletic scholarships)
- Presently Mentoring National Team Coaches Women's Youth Program
- Co-authored Canadian Technical Water Polo Manuals 1982
- Twice honoured as Water Polo Canada's Volunteer of the Year
- Twice honoured with Sport BC President's Award
- Queens Diamond Jubilee Medal 2012

Coaching Achievements:

- Senior Men's (1982, 1988), Junior Men's (1976, 1977, 1978), Cadet Boy's (2010), Senior Girl's (2006, 2007, 2008), and Cadet Girls (2007) National Water Polo Champions
- Water Polo Canada Coach of the Year 1978, 1982

Water Polo

North Vancouver Cruisers Aquatics – Jim Sykora

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Annual 2 Day Hootenanny Tournament in summer (part of one of the largest Aquatic events in BC.)
- Individual games during summer season
- Provincial Championships which attract approx. 250 water polo players/400 family members

A Water polo tournament will require the following:

- Minimum water depth of 1.8 m minimum.
- Provisions for a timing system and score keeping system (Shot Clocks – 2 Minimum/ 4 shot clocks preferred and score display)
- Movable bulkheads which are a Minimum of 1.5 m wide which can be used by officials
- Ball net anchors at a 25 m point so ball net can be secured across the pool.
- Adequate deck space – 9 m wide on one side of pool, min 4 m on other side of the pool (example: Watermania). Wide deck would also be an area for temporary seating.
- Deck space where team players can sit at each end of the playing field
- Pool anchors to hold game play area side lines and goal lines
- Ability to easily lift diving boards or move diving boards out of the game area.
- Small food service room off deck for food prep. Would have a sink, microwave, fridge, cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.
- Deck hydro access on deck across from bleachers for official's table
- Good sound/announcing system
- Good wide band Internet cabling for streaming purposes
- Seating for 300-400

Facility requirements for Water Polo development program

The North Vancouver Cruisers water polo program has been a summer fixture on the North Shore for decades. The Cruisers offer an introduction, development and recreational water polo program which has introduced many children to the sport of water polo who have aspired to being members of Canada's National water polo teams and participated in world completions including the Olympics.

During the May thru September season, Cruisers Water Polo practice up to 4 times a week with age group programs starting at 10 and under and progressing through to the ages of 16. To provide a quality developmental program for Water Polo, the following recommendations should be considered:

- Water depth of 1.5 m min.
- Pool length or 20 – 25 m. Across an 8 lane pool will work for practices
- Ability to anchor Water Polo nets on pool side allowing cross pool training (i.e., widthwise).
- Provisions to install a ball net across the pool in a few different locations. Ball net protects swimmers using other areas of the pool from overthrown balls
- Rest ledge at approx. 1.3 m depth at deep end (4 to 6 inches wide).
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on. Usually in the diving area.
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto the deck
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools)
- Office space which organizations could rent
- Wall hangers for 4 -6 nets (folding nets)

- Provisions to install 4 shot clocks (hangers and power)
- A good raised filming area

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.

- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location)
- 2-3 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- A leisure pool which is approx. 1 m deep to train young player (ages 6-8), similar to the small tank at Karen Magnussen pool.
- Good Lighting - have some natural lighting but also sufficient overhead lighting above pool.
- Have an electronic display board which would display scoring, timing and event results, but also allow for advertising for commercial purposes (brings in revenue).
- Easy ability to raise spring diving boards up and out of the way.
- Access to some green area outside. Summer swimming is a very social program where families gather outside the pool between events. (Walking bridge over 23rd street to the planned park)
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room).

Water Polo

North Shore Titans Water Polo Club – Con McQuade

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local Recreational Water Polo Tournaments
- Lower Mainland League Games - weekly
- Recreational Games – Alumni Games, drop in games
- Potential of 4 major Tournaments each year

A Water Polo tournament will require the following:

- Minimum water depth of 1.8 m for games.
- Minimum game field width of 18 m
- Game field length – 25 m
- Provisions for a timing system and score keeping system (Shot Clocks – 2 Minimum/ 4 shot clocks preferred and score display)
- Movable bulkheads which are a Minimum of 1.5-metres wide which can be used by officials
- Adequate deck space – 9-m wide on one side of pool, min 4 m on other side of the pool (example: Watermania). Wide deck would also be an area for temporary seating.
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as timing control room and lifeguard staff room)
- Deck space where team players can sit at each end of playing field
- Pool anchors to hold game play area side lines and goal lines
- Small Food service room off deck for food prep. Would have a sink, microwave, fridge, cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.
- Access to electrical power on deck on the side opposite the bleachers, for officials' table
- Good Sound/announcing system
- Good Wide band Internet cabling for streaming purposes
- Seating for 200-300

Facility requirements for Water Polo development program

The North Shore Titans Water Polo club is a recreational water polo club with the primary goal of introducing water polo to young children on the North Shore. Depending on the age group, players practice one or two time a week with the practice focussing on teaching basic water polo skills. With the majority of the water polo players under the age of 14, recreational play and having fun is what this program is all about. The construction of a multi-purpose 50 m pool would enable the Titans to provide increased opportunities for the North Shore youth to experience the game of Water Polo.

To provide a quality developmental program for the sport of Water Polo, the following recommendations need to be considered:

- Water depth of 1.5 m min.
- Ability to anchor water polo nets on the side of the pool allowing cross pool training.
- Movable bulkheads
- Movable shallow end pool floor to accommodate multiple ages of players

- A parent viewing area so parents of younger children are in close proximity to the pool to watch the players
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on.
- An open pool deck area where the Club could have team meetings, gathering point and social events
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools).
- Wall hangers for 4 nets (Folding Nets)-Similar to Coquitlam pool (CCAC)
- Provisions to install 4 shot clocks (hangers and power)

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location).
- 2-3 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Good Lighting - have some natural lighting, but sufficient overhead lighting above pool.
- A leisure pool approx. 15m x 10m, 0.8 to 1 m deep which could serve as a teaching tank for the very young water polo players, plus has warm water.
- Open area in lobby which can be used for registration.
- Food prep area/multi-purpose room off the deck. Should have counters and a sink area for food prep. If the room has a folding wall, could be a food prep/staff room and an instructional classroom.

Water Polo

Constantine McQuade

Education:

- Bachelor of Arts, Simon Fraser University
- Certified Professional Accountant of BC, CPA CGA

Titles:

- Director of Finance & Administration (since 2015)
- President of North Shore Titans (since 2000)
- Vice President of North Shore Titans (2009 - 2011)
- Treasurer of Lower Mainland Water Polo League (since 2015)
- President Lower Mainland Water Polo League (2013-2014)
- Treasurer of BC Water Polo (2013)
- Director Cruisers Aquatics (2007-2009)
- Meet and Tournament Official Cruisers Aquatics (2005-2010)

Experience

- Water Polo executive positions since 2009
- Water polo tournament manager and facilitator
- Engaged in water polo at National, International and University level competitions
- Officiating at events for:
    - Cruisers Aquatics (8 years)
    - North Shore Titans (7 years)
    - Chena Swim Club (3 years)
    - Otters Swim Club (3 years)
    - Pacific Storm Water Polo Club (6 years)
- Working for Burnaby Family Life – charity/non-profit agency for childcare, family education, immigrant services and counselling

Special Achievements:

- Tournament Manager hosting 3-day water polo tournaments for 120 players for 3 consecutive years

Diving

Diving

North Shore Dolphins –Kostyantyn Karibyan

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local, informal meets (6 times per year) – 30 to 60 divers
- Provincial (60-80 divers), National (300 divers) and International meets (except Olympics)
- Senior divers (over 18 years) – 100-120 divers
- Summer Camps
- Workshops, nutritional training, fitness programs
- Hosting specific training programs (e.g., yoga, ballet, acrobatics, gymnastics, aerobics)
- Ongoing training for approximately 1,000 participants

A successful Diving meet will require the following:

- Pool depth of min. 3.4 m for 1 m and 3.7 m for 3m springboard events;
- Pool depth of min. 4.1 m for 5m and 7.5m platforms and 4.5 m for 10m platform events (see FINA requirements)
- Score system with display
- Movable bulkheads positioned at 12.5m (springboard) or min. 15m (tower)
- Deck space must be able to accommodate officials' tables and chairs on both sides of pool [3m X 10m on both sides of pool for 7 judges (individual event) and for 12 judges (synchronized event) plus referee]. A tower referee is required for tower events.
- Dryland training space away from pool with room for 2 dry spring boards and mats, 2 trampolines, 1 platform and safety rigging (approx. 186 m^2); ceiling height just over 5 m (see FINA requirements)
- Bubble machine for training/warm-up (dissipates water pressure for safety) and 2-3 small jet spray systems on both sides of the pool to improve pool surface visibility from springboards and tower platforms
- An environmentally controlled, windowed office facing the deck with a clear view of the pool (dual purpose as control room and lifeguard staff room)
- Warm showers on deck behind the tower or hot tub near diving area
- Officials' room and scoring room with access off-deck. Windows viewing onto pool
- Internet with wide band for streaming events
- Spectator space for a minimum of 300 spectators for regional or provincial meets; 500 for national meets – spectator space better off the deck if there is a desire to host national or international meets

Facility requirements for Diving Instructional program

North Shore Dolphins is a springboard and platform diving program (registered non-profit society established in 2004) that trained 264 children and youth divers in 2017 and operates out of pools in North and West Vancouver and Vancouver. Divers practice 3 to 5 days a week, depending on their diving level. In addition to pool time, older and higher level divers attend weekly gymnastics and dryland instruction on mats and trampoline. The program is offered year-round. The North Shore Dolphins believes it has the ability to grow its programs to more than 1,000 participants per year if adequate facilities are built on the North Shore.

For the Diving program to flourish on the North Shore, North Shore Dolphins recommends the following (must be FINA compliant to host dive meets):

- Full tower platform complex with 1m, 3m, 5m, 7.5m and 10m positions.
    - The 1m, 3m and 5m are essential for training to use the 7.5m and 10m platforms.
    - Platforms must be 3.1m wide for synchronized diving with a special non-slip surface (not carpet or cement)
    - Tower up to 10 m required for divers over 14 (including Masters) to train and compete, otherwise program limited to under 14 years old
    - Pool depth for platforms must be min. 4.1 m for 3m, 5m and 7.5m; and 4.5 m under 10 m (a min. of 4.5m at the plummet point below the 10 m platform) (less in other areas of the pool – see Appendix A)
- Springboards with 1m and 3m positions (two 1m on one side of tower; two 3m on other side of tower)
    - Need two 1m Maxiflex Type B springboards (cannot use other types, must be FINA compliant); must be located side by side at min. 2m apart (mid-point of board to mid-point of board)
    - Need two 3m Maxiflex Type B springboards; must be located side by side at a min. 2.2m apart (mid-point of board to mid-point of board)
    - Must have Duraflex stand and fulcrum for each springboard, not metal wheel type, mechanism for adjusting the springboard (wheel type too difficult to move and jams easily and is not FINA compliant)
    - Pool depth for springboards must be a min. 3.4m under 1m, and min. 3.7m under 3m
- Warm up/dry land training space (may be away from pool deck) with room for 2 dry spring boards and mats, 2 trampolines, 1 platform and safety riggings (approx. 2000 square feet); ceiling height in training space just over 5 m (Club would equip dry land space)
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto deck.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools).
- Close access to washroom facility (possibly off deck near tower in addition to change rooms)
- On-deck showers or close access to hot tub

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- 10m tower is essential to include divers older than 14 and Masters divers, and to host meets beyond a mini-meet, developmental level that attracts only 30 divers
- Lighting, have some natural lighting, but sufficient overhead lighting above pool that allows consistent lighting without glare
- Bubble apparatus (or the capability of adding it later) for training/warm-up and 2-3 small jet spray systems on both sides of the pool in the dive area
- A multipurpose room large enough to include counters, sink, fridge and microwave as well as tables and chairs for instructional purposes and officials meetings.
- Warm up/dryland training space away from pool with room for 2 dry spring boards and mats, 2 trampolines, 1 platform and safety rigging (approx. 2000 square feet); ceiling height just over 5m
- Maxiflex Type B springboards with Duraflex Stand box with Fulcrum, not wheel type, mechanism for adjusting the springboard (wheel type too difficult to move and jams easily and is not FINA compliant)

Kostyantyn Karibyan

Education:

- Bachelor Degree in Physical Education - Lviv's State
  University of Physical Culture (1979), Ukraine
- NCCP - Level 2 Diving Coach (2002)
- NCCP - Level 3 Diving Coach (2006)
- Mental Performance - Pacific Sport , workshops with Roger Friesen (2014)
- National Coach Certification Program - Diving Coaching Course & Clinic (2016)

Titles :

- Head Diving Coach North Shore Dolphins Dive Club (2004 - Current)
- Head Diving Coach Fraser Valley Diving Club (2005-2017)
- Assistant Diving Coach Vancouver Aquatic Centre Diving Club (2003-2004)
- Head Diving Coach Prince George Mantas Diving Club (2001-2003)
- Assistant Diving Coach - White Rock Diving Club (2000-2001)
- Head Diving Coach - Sport Club 'Dynomo' - Lviv, Ukraine (1990 - 2000)
- Diving Coach - Sport Club 'Dynamo' - Lviv, Ukraine (1986 - 1990)
- Diving Coach - Sport School #3 - Lviv, Ukraine (1979 - 1986)

Experience:

- Former National level diver, Ukraine.
- Coaching since 1979 (38 years -21 years in Ukraine and 17 years in Canada).
- Training all groups of divers from Learn to Dive to the Competitive levels producing multiple Provincial and National medalists and finalists on 1 m and 3m springboards, and platform.
- Developing program on dryland: acrobatics, gymnastics, trampoline, mats and dry springboards.

Coaching Achievements:

- Brought the competitive & recreational diving programs to North Shore area by opening the North Shore Dolphins Dive Club in 2004.
- The program teaches athletes fundamental movement and sport skills which include agility, balance, coordination and speed.
  - The program consists of seven stages: active start, sport entry, technical and competitive foundations, consolidation, realization, active for life.
- Participate in National, Provincial & BC local Diving Camps which help to improve diver’s techniques.
- Mental performance:
  - Dealing with disappointment, confidence, positive thinking, how to push yourself, preparation for practice and major competition.

NORTH SHORE DOLPHINS DIVE CLUB

We are a registered non-profit society offering springboard and platform diving instruction to children and youth in an accessible, safe and supportive environment.

Founded in 2004, we have grown from 8 divers in our inaugural program, to 264 registered participants last year.
157 Learn to Dive / Recreational
14 Pre-Competitive
18 Competitive
75 Summer Camps

DIVE CLUB PROGRAMS
The North Shore Dolphins Dive Club ("The Club") provides springboard diving instruction to children and youth. The Club serves a very wide geographical population – West Vancouver, City of North Vancouver, District of North Vancouver, Bowen Island, Lions Bay and the Sunshine coast. The Club provides the only year-round springboard diving program in these geographical areas. We also have divers coming to us from Vancouver, Port Moody, and Burnaby.

The Club offers 3 levels of diving instruction: Learn-to-Dive (LTD)/Recreational, Pre-competitive, and Competitive. Our facilities include the West Vancouver Aquatic Centre (1m and 3m springboards, and a mini dive trampoline that sits on the side of the pool) and the Ron Andrews Pool in North Vancouver (1m and 3m springboards). In addition, the competitive team trains at the Vancouver Aquatic Centre on the 1m, 3m and Towers as well as using the dryland equipment there (rigs over trampolines and dry boards).

The Club's coaches are all fully certified by BC Diving / Dive Canada. The Club's Head Coach is a fully certified NCCP Level 3 (competition development) coach with over 35 years' coaching experience. We have two Pre-competitive coaches, one with NCCP Level 2 (competition introduction), and one working towards her NCCP Level 2 (competition introduction). In addition, we have four NCCP pre-Level 1 (Instructor Beginner) coaches for our LTD and Recreational classes. Our club has also developed a pathway program for our older competitive team divers, to become certified coaches when they retire from competitive diving. Our current two pre-competitive coaches are both former competitive divers from our club. Over the past 2 years, we have sponsored 3 more competitive divers to become instructor-beginner certified.

Talented divers in our LTD/Recreational program are invited by the Head Coach to join our Pre-competitive group. These divers train 3 hours per week: 2 hours at the West Vancouver pool, and one hour of dryland and trampoline at the West Vancouver Community Centre. They are encouraged to compete in local and provincial-level dive meets.

Our competitive classes offer advanced diving instruction in the West Vancouver Aquatic Centre pool. The competitive team trains two to five times per week for a total of 5 to 14hrs/week. In addition to pool time, the higher level divers attend bi-weekly gymnastics (dryland) classes and a strength class, both in the West Van Community Centre. Year-round, they also attend a weekly training session at the Vancouver Aquatic Centre which includes gymnastics instruction on mats and the trampoline (with harness) and competitive diving instruction on the 1m and 3m springboards and the 5m, 7.5m and 10m platforms. Divers in the competitive program have the opportunity to compete in local, provincial, extra-provincial and national diving competitions.

CURRENT SCHEDULE

Learn-to Dive/Recreational:

Sundays 11am-12pm at WVAC
Sundays 12pm-1pm at WVAC
Sundays 6-7pm at WVAC
Tuesdays 7-8pm at WVAC
Thursdays 7-8pm at WVAC
Fridays 4-5pm at Ron Andrews
Fridays 5-6pm at Ron Andrews
Saturdays 3:30-4:30pm at Ron Andrews

Pre-competitive:

Sundays 5-7pm at WVAC
Tuesdays 7-8pm at WVAC
Thursdays 7-8pm at WVAC

Competitive Team – Development – 6.5 hours/week

Tuesdays 6-8pm at WVAC
Fridays 6:30-8am Downtown
Sundays 4-7pm WVAC

Competitive Team: High Performance – 14 hours/week

Tuesdays 4-7pm at WVAC
Thursdays 4-7pm at WVAC
Fridays 6:30-8am Downtown
Saturdays 7-10:30am Downtown
Sundays 3-6pm at WVAC

COMMUNITY BENEFIT
Apart from serving a host of waterfront communities with easy access to the ocean, many homes in our communities have swimming pools, and most of the public aquatic facilities in the City of North Vancouver, District of North Vancouver and West Vancouver have diving boards. Parents and caregivers want to ensure that their children learn to dive safely. There is a strong interest in springboard diving as seen from our continually full classes. Feedback provided from our divers' parents says that we are providing an excellent program in a fun, safe environment. We know that our program is really attractive to gymnasts who leave gymnastics due to injury or other reasons. We are happy to be able to introduce ex-gymnasts to a new sport!

Our Program provides a benefit to the families in our communities by providing year-round highly experienced diving instruction for children and teens who wish to learn to dive. The program is also a benefit to the Municipality of West Vancouver, the City of North Vancouver, the District of North Vancouver, Lions Bay and Bowen Island as those communities do not offer any programs in advanced year-round diving instruction.

ACCESSIBILITY
Our Program is open to children and teens of all ages, ability, ethnicity, gender and religion. As long as they are comfortable swimming in the deep end of the pool, they are welcome to join the program. To date, the program has provided lessons to children as young as 3 and teens as old as 16.

We make every effort to keep the fees as low as possible to ensure that divers are not held back from our program due to financial barriers. We provide these families with the various funding agencies (A4K, Jumpstart) information so they can apply for youth sport funding. If needed, we help them in the application process.

SUSTAINABILITY
With the ongoing demand for diving lessons and the many diving participants who choose to re-register for diving lessons, session after session, the Club is confident that it will have the financial resources to continue the program.

Last year, we expanded our program to offer our competitive team more time in the Vancouver Aquatic Centre pool. The divers trained downtown 6:30-8am Friday mornings, which involved a significant commitment from parents, coaches, and divers alike, and also increased our pool rental costs. But it was worth it! We are continuing these training sessions this year, which will allow our competitive divers to spend some more time training on 5, 7.5 and 10m towers in Vancouver, and will free up space in West Vancouver for more Learn to Dive participants.

WHY DIVING NEEDS SPACE AT A RE-BUILT HARRY JEROME FACILITY:

- Diving is in-demand as an affordable, healthy, accessible sport on the North Shore

- We have a proven record of advancing our former competitive divers into coaching, providing jobs and community engagement
- Since 2012, we have lost our top divers each year, to a club that trains at Vancouver Aquatic Centre, because of a lack of facilities on the North Shore.
- High-performance divers currently travel from the North Shore to downtown 5-6 days per week to train.
- Our own competitive team has to travel downtown 2 days per week to access necessary facilities.
- 70% of the participants in Dolphins programs at WVAC drive from North Van.
- We have the coaches, programming experience, and local talent to produce national and international-level divers. Let's keep it on the North Shore!
- We have the ability to SIGNIFICANTLY grow this program for the benefit of North Shore residents if we had the facilities to support the development programs.
- If FINA rules are complied with, the new facility could host provincial, national and potentially international competitions. This would provide economic and branding benefits to North Vancouver.

FACILITY REQUIREMENTS FOR A COMPETITIVE DIVE PROGRAM:

The following is a summary of our requirements (planners should consult the FINA facility rules):

- 2x1m Springboards, 2x3m Springboards (competition grade: Maxi-flex model B, with Duraflex fulcrum)
- Platforms at 1m, 3m, 5m, 7.5m and 10m
- Pool depth to FINA standards
- On-deck hot tub
- On-deck showers
- Dedicated dryland space including tumbling mats, trampoline, dryboards, and harness over trampoline

Diving

iDive – Igor Kopecky

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include: (Dependent on what diving components are available)

- Regional Springboard Competitions – Novice thru Nationals
- Provincial and National Championships require a 7.5 m and a 10 m platform
- Regional 3 m and 5 m platform diving competitions
- Synchronized diving competitions – dual 1 m and 3 m boards

A Diving meet will require the following:

- Provincial and Nationals
  - 1m, 3 m, 5 m 7.5 m & 10 m platforms
  - 1 m and 3 m springboards (2 of each)
- Movable bulkheads which are a Minimum of 1.5 m wide placed at least 15 m from deep wall to create a dive tank - allows the remainder of the pool for other uses.
- Sufficient deck space for judges and judging table where there is an unobstructed view of diving events – 5 to 9 judges distributed on both sides of pool.
- Adequate deck space – 9-m wide on one side of pool, min 3 m on other side of the pool (Example: Watermania). Wide deck would also be area for temporary seating.
- Lane markings – 2.5 m apart
- Food room / multi-purpose room with access to pool deck. Would have a microwave, sink, fridge and cupboards and counter. Would serve as an officials' room, a meeting room, as well as food prep room.

Facility requirements for Diving instruction and training

Below are recommendations made by iDive Coach Igor Kopecky. These recommendations would increase the diving presence on the North Shore as well as help develop a healthy recreational dive program as well as add growth to competitive diving programs.

For diving to grow and succeed on the North Shore the following recommendations need to be considered:

- 2 X 1 m spring boards
- 2 X 3 m spring boards
- 1 m, 3 m and 5 m platform
- Rest ledge approx. 1.3 m under water at deep end (10.2 cm to 15.2 wide)
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events. A coated floor or matting for athletes to work on. Would need to accommodate a trampoline and harness (equipment would remain portable).
- Viewing area for parents – 30-40 person
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto the deck.
- Off deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example; CCAC & VAC pools)
- Office space which organizations could rent.

Suggestions for Maximum efficiencies for programing and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Provisions to install a side wall spring board
- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location)
- 2 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Showers on deck
- Bubble machine – good for public as well as novice divers
- 10 m tower – VAC is scheduled to be replaced with a facility which will not have a tower. Opportunity for the Diving Centre to be located in North Vancouver
- Gym space in same building
- Lighting, have some natural lighting, but sufficient overhead lighting above pool that allows consistent lighting without glare
- Have an electronic display board which would display scoring and event results.

Coach - Igor Kopecky

Igor is a NCCP Level 3 Coach and Course conductor for Competitive Intro and Competitive Development diving with iDive. Igor was a National Team diver winning 5 national titles over all 3 disciplines, 1m, 3m and 10m Platform. After his first degree in Kinesiology, he started coaching diving as well as pursuing an Education degree. Igor taught junior high school for two years before taking over the Head Coach position at Dive Calgary. During his 5 years at Dive Calgary, he trained numerous National and International medalists. After establishing the programs and coaches in Calgary, he took on the challenge of developing and working with the Peruvian National Diving team. He has coached at the World Cup, World Series, South American Championships, Commonwealth Games, World Junior Championships and the Pan Am Games. Currently, Igor is pursuing his Masters in High Performance Coaching and Technical Leadership from UBC.

Aquacize

Aquacize

Instructor - Sandra Starrett

Potential Events and associated pool requirements

Aquacize is an exercise program in the water and does not hold aquatics events. However, Aquacize could host workshops, aquatics personal training and introductory clinics for participants for self-management of pain and rehabilitation. In addition, with adequate pool space in both shallow (warm water) and deep water, the participation in aquacize programs would increase.

A successful Aquacize program will require the following:

- A warm water, shallow tank (approx. 15 m by 20 m) and a deep water tank (approx. 20 m by 25 m)
- Room for 15 to over 40 participants who each need a radius of 1.5 m to avoid collisions
- Hinged or sloped movable shallow pool floor in the warm tank to accommodate different heights of participants (from 1.1. m to 1.3 m deep), possibly 1.4 m
- Depth of 2 m in deep water pool to ensure participants cannot touch the bottom
- Easy access on deck to music/sound system (i.e. sound controls beside aquacize area; could be portable)

Facility requirements for Aquacize program

Aquacize is exercise undertaken in both shallow water and deep water. It is designed for people with mobility issues, rehabilitation following surgery or an accident, people who cannot participate in other aerobic exercise, and seniors and general fitness participants. There has been an increase in male participation which requires adjustment in pool depth requirements. The construction of a multi-purpose 50-metre pool would enable Aquacize to provide increased opportunities for seniors to remain active with greater ease.

To provide a quality Aquacize experience, the following recommendations need to be considered:

- Water depth of 1.1 – 1.3 m (0.2 m slope) in a warm tank with zero entry area for easy access.
- Hinged or sloped movable shallow pool floor in the warm tank to accommodate different heights of participants (under 1.1. m too shallow; over 1.4 m too deep)
- Access to the main pool using stairs (not ladders) such that a senior with mobility issues could enter the pool easily
- Dryland training/stretching area on deck (rectangle 3.7 by 5.5 m) – part of a multi-purpose area where adjacent seating benches could be placed for resting. Storage under benches for mats for easy access. A coated floor or matting for seniors to work on.
- Install sound system with easy access on deck by the teaching area to adjust music sound levels (i.e. sound controls beside aquacize area in both shallow and deep pools; could be portable)
- Wall hangers on deck for personal items (e.g. towel, sandals, mat) while using the pool
- Noise attenuation to reduce loud noises that can be distracting and interfere with music played during the aquacize routine
- Careful placement of lighting to ensure the instructor is readily visible (no glare)
- Teaching space on deck for instructor away from distractions such as the change room entry/exit, hot tub and viewing windows behind the instructor. The teaching space should be a minimum of 2-2.5 m along the pool deck and free of obstructions, for easy participant and instructor viewing and instructor safety
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. This space would be used to teach up to 10 new instructors. Windows facing onto deck to view aquacize classes in session. Blinds are ideal for privacy when needed.
- Heat lamps for a warm space for seniors and rehabilitation participants
- Easy, simple access from cashier to pool for those with mobility issues
- Equipment for up to 40 participants stored close to the teaching area, or on rolling cart; include teaching chair for instructor to demonstrate proper leg movements/body position

- Avoid having public access to pool that crosses behind or through teaching area (particularly shallow pool); if the public must access the rest of the facility around the teaching area, then allow sufficient walking space
- Install climbing wall, ropes, flags, diving boards with easy ways to move them out of the teaching space; locate waterslide entry/exit away from area where aquacize will be held
- Install movable basketball hoops (in Leisure Pool), not fixed in place. Avoid permanent structures that could interfere with deck teaching areas
- Locate the hottub away from the teaching area – interferes with teaching space and is distracting for participants
- Include open social spaces with comfortable seating for gathering in large groups (up to 10) near the pool to socialize before and after a visit to the pool – do not rely on small coffee shops to fill the need for informal meeting spaces
- Provide instructor/lifeguard designated parking stalls with stickers, depending on the amount of time an instructor is at the pool (avoids late starts to classes when events are on that take up a lot of the parking)

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Good Lighting - have some natural lighting, but include curtains to reduce glare
- Install noise baffling
- A leisure pool approx. 15m x 20m, 1.1 to 1.3 m deep which could serve as a warm water teaching tank, plus has zero entry for seniors with mobility issues (suggest movable bottom).
- Open area in lobby (lounge area) adjacent to the pool which can be used as a gathering space before and after using the pool for up to 10. Ideally this area would have a view of the pool.
- A sound system with easy access on deck by the teaching area to adjust music sound levels (i.e. sound controls beside aquacize area in both shallow and deep pools; could be portable)

Aquatic Fitness

Sandra Starrett

Education: University of British Columbia

- Bachelor of Education 1991

Titles:

- Registered Fitness Leader with the BCRPA since 1987
- Registered as: Aquatic Fitness leader, Group fitness leader,

Personal Trainer, Yoga fitness instructor with the BCRPA

- BCRPA – Trainer of Fitness Leaders
- Former Chairperson of the Aquatic Fitness Committee with the BCRPA
- Former member of NFLA (National Fitness Leadership Association)

Aquatic Fitness Committee

- Organizer of Making Waves Aquatic Fitness Conference 1995-2017
- Author of “The Complete Aquatic Fitness Guide” 2008

Experience

- Lifeguarding and swim instruction 1987- 1993
- Aquatic Fitness and group fitness instruction 1987 - present
- Trainer of Fitness Leaders (recognized by the BCRPA) :
    - Have trained over 10,000 fitness professionals within BC since 1992
- Have been a recognized BCRPA Personal Trainer since 1992
- Yoga Fitness instructor since 2010

Special Achievements:

- Have developed in depth training guides for fitness instruction: fitness theory, aquatic fitness, group fitness, personal training
- Have trained over 10,000 fitness professionals since 1992
- Have participated in both Provincial and National Fitness Committees steering professional standards for aquatic fitness

Presenting Experience:

- From 1992 to present have given many “expert” workshops and taught instructional courses on aquatic fitness throughout BC and parts of Canada, including workshops from Northern BC to Hawaii, San Diego, Colorado and Mexico.
- Currently working to present some workshops this spring in Denmark.

Public

Public

Aquatics User/Instructor – Tom Walker

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- High School Swim Meets
- High School Provincial Championships
- High School Swim team training
- Deep Water Running
- Scuba Training
- Paddle Sports

To successfully host the listed events will require the following:

- Minimum water depth of 1.5 m, or whatever municipal safety codes dictate for diving from a starting block.
- Control room for timing
- Temporary seating for approx. 500
- Movable bulkheads – min of 2 (Must be large enough to allow officials to move freely)
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Facility requirements for Aquatic instruction/programming.

Based on Tom Walker's experience as an Aquatic Instructor for numerous years as well as a career with the North Vancouver Recreation Commission, below are suggestions for programming flexibility and efficiencies for a 50-metre pool.

- Movable pool bottom at the shallow end of the pool. Allows pool programming flexibility for both deep water and shallow water programming.
- Dryland training area on deck – part of a multi-purpose area where seating could be placed for events.
- A minimum of 2 moving bulkheads to enable multi-zone pool for multiple activities.
- Life guard control room at mid-pool area not at end.
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Have counters, sinks with water, cupboards and fridge at one end so it could be used as a food area/staff room. Windows facing onto deck. Have a folding wall to divide the room into two.
- Off-deck storage rooms – one which is environmentally controlled for electronic equipment storage. Equipment storage cages (2.5 x 2.5 m) (example, CCAC & VAC pools)
- Office space which organizations could rent.
- Leisure pool which can be utilized for aquatic instruction for young children and toddlers and easy access for seniors and re-habilitation. These groups require warmer water and water that is not deep. Beach access is essential, and must be wide enough to allow pool wading. (Note: If leisure pool can be used for instruction of young children and toddlers, the main pool depth would not need to be as shallow and could eliminate the need for a movable bottom)
- Easy access for therapy and seniors with limited mobility
- View area/deck seating for approx. 80 where parents can view children swimming and receiving instruction.

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.
- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location)
- Natural Lighting on the correct wall for correct lighting as well as viewing. (West Vancouver Aquatic Center is a good example).
- Do not need underwater lighting in pool.
- Do not need a 10-metre tower, a high cost for limited usage particularly if this is a community centre.
- Provision for a bubble machine in deep end
- Food services at deck level (e.g., Watermania, CCAC)
- A rectangular 54 m pool with two bulkheads is vastly more flexible than a square pool (e.g., 10-lane, 25 m pool)

Public Swimming

Tom Walker

Education:

- Bachelor Physical Education, UBC, 1982
- Master's Urban Studies, SFU, 2009

Titles:

- Coaching Association of Canada, Certified Learning Facilitator: Fundamental Movement Skills; Competition Introduction; Movement Preparation; Master Coach Developer (In Training). Trained Level 2 (Age Group) Swimming Coach, NCCP – CC# 74688
- Trainer, HIGH FIVE (PHCD, HIGH FIVE Sport, QUEST2)
- Certified, Aboriginal Coaching Module, Coaching Association of Canada
- Co-Founder and facilitator of the BC Physical Literacy Cooperative
- Member Canadian Swim Coaches and Teachers Association
- Canadian Centre for Ethics in Sport: Club Excellence Facilitator

Experience:

- Currently coaching swimming and teaching PE aquatics units at Bodwell High School
- Programmed and managed aquatics in NVRC 1983-89, 2002-2005, 2010-2015
- High School swimming coaching 1988-96
- Water Safety Instructor (1974-86)
- Water Safety Instructor Trainer (1983-86)
- Red Cross Small Craft Safety summer staff (1982)
- Swimming coach, various clubs, 1975-1982
- Initiated Masters swimming in NVRC 1981

Seniors

Seniors

Seniors – With input from Annwen Loverin

Potential Events and associated pool requirements

The Silver Harbour Seniors' Activity Centre does not hold aquatics events. However, with careful planning, the Centre could benefit from synergies with the pool. Seniors could enjoy viewing aquatic events and socializing with other seniors during events.

Facility requirements for Silver Harbour program

The Silver Harbour Seniors' Activity Centre is focussed on the programming and social needs of seniors (55+ years old) in North Vancouver. Silver Harbour offers over 70 different programs (e.g. yoga, pottery, painting) and activities designed to keep seniors active, stay mentally fit, develop creativity and socialize. The Centre also offers a number of helpful services including meals and refreshments, legal advice, informal gathering spaces and more. The Centre organizes special events including dinner dances, special teas, bus trips, informative lectures, and practical workshops. Silver Harbour Seniors Centre currently does not offer programming in aquatic activities. However, the construction of a multi-purpose 50-metre pool would enable increased opportunities for seniors.

To provide a quality seniors aquatic experience, the following recommendations need to be considered:

- Water depth of 1.5m in a warm tank with zero entry area for easy access.
- Movable shallow pool floor in the warm tank to accommodate cardiac rehabilitation and compromised mobility issues
- Access to the main pool using stairs (not ladders) such that a senior with mobility issues could enter the pool easily
- A clearly marked (e.g. arrows like those used in Lions Gate Hospital) and readily accessible path from the pool to Silver Harbour
- Dryland training/stretching area on deck – part of a multi-purpose area where adjacent seating benches could be placed for resting. A coated floor or matting for seniors to work on.
- Wall hangers on deck for personal items (e.g. towel, bathrobe, sandals) while using the pool
- Noise attenuation to reduce loud noises that can be distracting to seniors with hearing impairment
- Careful placement of lighting to minimize stress on seniors with dementia
- Public Art that is appropriate for seniors with dementia(s) (not overly stimulating or distracting)
- Include open social spaces for gathering in small and large groups near the pool to socialize after a visit to the pool – do not rely on small private sector coffee shops to fill the need for informal meeting spaces

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Offer senior aquatic programming in consultation with Silver Harbour
- Good Lighting - have some natural lighting, but include curtains to reduce glare
- Install noise baffling
- Design with dementia in mind (including art and way finding)
- A leisure pool approx. 15m x 10m, 0.8 to 1 m deep which could serve as a warm water teaching tank for seniors, plus has sufficient depth for seniors with mobility issues to enjoy (suggest movable bottom).
- Open area adjacent to the pool which can be used as a gathering space before and after using the pool for groups of seniors. Ideally this area would have a view of the pool.
- Install the food services offered by Silver Harbour in an area that would be accessible to seniors following an aquatic activity

Seniors

Annwen Loverin

Education: University of British Columbia

- Master of Arts, Community Planning (2000)
- Bachelor of Arts, French and International Relations (1994)

Titles:

- Executive Director, Silver Harbour Seniors' Activity Centre (since 2005)
- Coordinator, Lynn Valley Seniors' Association (1997-2005)
- Programmer, North Vancouver Recreation Commission (1997-2005)

Experience

- 20 years of experience in non-profit organization management, community development and seniors programming
- Current co-chair of the Community-Based Seniors Services Leadership Council of BC
- Current co-chair of the North Shore Immigrant Inclusion Partnership
- Co-emcee of the 2017 Provincial Summit on Aging

Underwater Hockey

Under Water Hockey

No Under Water hockey on the North Shore - Robert Maisey

Potential Events and associated pool requirements

Events which could be undertaken with the proposed pool include:

- Local team games and tournaments – presently 6 teams in Lower Mainland
- National and Provincial Championships
- Recreational drop in programs

To host an Under-Water Hockey tournament the following requirements are needed:

- Minimum water depth of 3 to 4 m
- Game play dimensions – 25 m long & 14 m wide
- 20 – 25 m of flat pool floor
- Set of Goals ($1500)
- Anchor points installed in floor of the pool to anchor underwater hockey wall
- Hockey markings on pool floor and goal markings
- Small Food service room off deck for food prep. Would have a sink, microwave, fridge, cupboards and counter. Would also serve as a lunch room for staff and a small meeting room for staff and users.

Facility requirements for Under-Water Hockey Program

Underwater Hockey (UWH) is a globally played limited-contact sport in which two teams compete to manoeuvre a puck across the bottom of a swimming pool into the opposing team's goal by propelling it with a hockey stick. The players wear snorkel equipment and mostly play on 3m deep, flat pools with large glazed tiles. The North Shore presently has no Under-Water hockey program, though in years past there was an Under-Water hockey program at the existing Harry Jerome Pool. Under-water hockey would like to get a program re-started at a recreational drop-in level.

UWH is open to all ages and levels and is an ideal sport for people who either want to add a new exciting sport to their activities or those with little or no sporting background who want a fun and healthy activity. This program caters to youth at the high school level who have no interest in high performance, high competitive sports or leagues. This would be a truly community recreational program. To enhance the quality of an Under-Water Hokey Program, the following suggestion should be considered:

- Hockey play field markings so hockey could be played across an 8-lane pool. At the recreational level, a 25 m game field would not be required.
- Pool floor tiles which are white glazed and 10.2 cm x 10.2 cm in size would be best.
- Room with deck access with media equipment, desks and chairs. This would be a multi-purpose room for lessons, lectures, training and meetings. Windows facing onto deck.
- Off-deck storage rooms – Equipment storage cages (2.5 x 2.5 m) (example: CCAC & VAC pools)
- Field of play would be in the mid- pool area where floor is flat with minimum incline.

Suggestions for Maximum efficiencies for programming and usage.

To achieve the end goal of a multi-purpose, community aquatic complex, below are listed some suggestions to maximize the efficiencies of the pools based on experience and pools of other municipalities:

- Include lane markings across the width of the pool and wall anchors for lane lines going across the pool (width-wise). This will allow for the pool to be set up for lane swimming across the pool and increase the flexibility of the pool scheduling.

- Multiple bulkhead anchor positions to accommodate various activities (not just at the 25 m location).
- 2-3 bulkheads for creating multiple pool zones which would allow multiple activities at the same time
- Readily accessible change rooms designed with sufficient change area space.
- Flooring/deck have good non-slip surface.
- Lighting: have some natural lighting but sufficient overhead lighting above pool.
- Have an electronic display board which would display scoring, timing and event results, but also would allow for advertising for commercial purposes (brings in revenue).

Underwater Hockey

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Robert Maisey

Titles:

- Head Coach Canadian U19 team (since 2017)
- Head Coach Canadian Men's team (2013, 2016)
- President Underwater Hockey Vancouver
- Coach of Baseball and Ice Hockey

Experience:

- Coaching various sports for over 35 years, including 28 years on the North Shore.
- Started playing underwater hockey in the United Kingdom in the early 80's (30+ years)
- Coach men's recreational Ice Hockey and UWH (1992- present)
- Hockey Canada NCCP Coach Level 2 (2011)
- Hockey Canada Coach NCCP Hybrid Certified (2010)
- Hockey Canada Coach NCCP Level 1 (2007)
- Whitewater kayaking (level one, moderate water) / British Canoe Union (1981-93)
- Small Boat Handling / Diver Coxswain / The Sub-Aqua Assoc. (UK) (1982-89)
- Club Instructor / Dive Master for Slough Sub Aqua Club (UK) (1982-89)
- Uses a collaborative, solution-based approach to building long-term successful and healthy sports environments.

Special Achievements:

- Manage and Coach a community based UWH development program
- Tournament Director for an annual high-performance water polo camp
- Director for an annual Pond hockey tournament hosted on Grouse Mountain.
- Member of the Great Britain underwater hockey team that won silver in the 1990 World Championships in Montreal

Coaching Achievements:

- Head Coach of the Canadian U19 squad that is just starting its journey towards the Junior Worlds to be held in Sheffield, England in 2019
- Head Coach for Team Canada for the 2013 World Championships in Eger, Hungary and the 2016 World Championships in Stellenbosch, South Africa

Hydrotherapy

Hydrotherapy – Information provided by North Shore Sports Medicine

Facility requirements for Hydrotherapy

Hydrotherapy is the use of exercises in a pool as part of treatment for conditions such as arthritis or partial paralysis. It can also be used for rehabilitating sports injuries or recovering from surgery (e.g. hip or knee replacement). Hydrotherapy involves submerging all or part of the body in water using lifts, wheelchair ramps, stairs (not ladders) and zero (beach) entry access. It often uses a combination of warm water (leisure pool or hot tub) and cold water immersion techniques.

A successful Hydrotherapy program will require the following:

- A hot tub, warm water, shallow tank and a deep water tank with assisted access
- On-deck access to physiotherapy
- Hinged or sloped movable shallow pool floor in the warm tank to accommodate different heights and mobility issues
- Wheelchair ramp into leisure pool
- Zero-entry access to leisure pool
- Lifts for wheelchair access
- Stair entry to both deep and shallow ends of the deep pool
- Assist railings to facilitate entry into the leisure pool (along wheelchair ramp, zero-entry access and stair access)

Suggestions for Maximum efficiencies for programming and usage.

The construction of a multi-purpose 50 m pool would enable Hydrotherapy to be part of the offerings to the community and provide increased treatment opportunities.

To provide a quality Hydrotherapy experience, the following recommendations need to be considered:

- Those with acute pain, arthritic or some neurological conditions will benefit from a pool at 34-35ºC; others benefit from access to a thermo-neutral pool from 33.5-34.5ºC.
- Water depth of 1.1 – 1.3 m (0.2 m slope) in a warm tank with zero entry area for easy access.
- Leisure pool space of a minimum of 10 m by 15 m
- Hinged or sloped movable shallow pool floor in the warm tank to accommodate different heights of participants

- Access to the main pool using stairs (not ladders) such that someone with mobility issues could enter the pool easily
- Wall hangers on deck for personal items (e.g. towel, sandals, mat) while using the pool
- Space on deck for stretching following hydrotherapy – part of a multi-purpose area where adjacent seating benches could be placed for resting. A coated floor or matting for people to work on.
- In-pool equipment (e.g., jets, walking rails, ramps).
- Deck access to a room with facilities for additional treatment (e.g. physiotherapy or occupational therapy). This could be part of a multi-purpose room for lessons, lectures, training and meetings. Or, it could be a rental space for a physiotherapy clinic. Blinds are ideal for privacy when needed.
- Heat lamps for a warm space for rehabilitation participants
- Easy, simple access from cashier to pool for those with mobility issues
- Non-slip surfaces of pool floor surrounds, including change area