BAY ROBERTS

AQUATIC AND RECREATION CENTRE

PHASE 1

DRAFT FINAL REPORT:

PROPOSED BEST PRACTICES, FACILITY PROGRAM,

SITE PLAN AND OPERATIONAL PLAN

| NOVEMBER 27 -2015 |

TRACT

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BACKGROUND

In 2009, the Town of Bay Roberts retained dmA, Planning and Management Services to undertake a Multi-purpose Feasibility Study for the Town. The resulting study (Appendix 1) proposed a $21,000,000 (2009) facility that had an aquatic centre as the key recreation amenity.

Subsequently, in 2014 the Town retained Tract Consulting Inc, with Philip Pratt Architecture to undertake a site selection study to determine the preferred site for the facility (Appendix 2). Following the completion of the assessment the preferred site for the facility was determined to be adjacent to Amalgamated Academy in the Town.

To better inform the Town on the use and operation of an aquatic facility the Mayor, Director of Community services and others visited the aquatic facility in Dieppe, New Brunswick (Appendix 3). The visit proved to be instrumental in helping the Town more clearly to not only understand the significant opportunity the Aquatic Centre provides for the community, but also the need to understand what works, what does not and that the key to success is in building a facility that meets the specific recreation needs of Bay Roberts and area, and is a facility that the Town can afford to operate.

Following the Dieppe visit, Tract was formally retained by the Town to undertake the Aquatic Feasibility Assessment for the Town. The Tract team includes Neil Dawe; Tract Consulting Associate Dr. Don Hunter; Landscape Architect James Staveley; and, Philip Pratt of Philip Pratt Architecture.

Development Phasing and scope of consultant work

Tract identified three Phases of Development for the completion of the Aquatic and Recreation Centre, from planning through to construction and operation.

Phase 1 – Plan

A. Aquatic and Recreation Centre Program
   Best Practices Framework
B. Building Design
   Site Plan
   Probable Cost
C. Operational Model

Phase 2 – Implement

A. Secure Funding
   Develop Request for Proposals
B. Detailed Design
C. Tendering
D. Construction

Phase 3 – Operate

A. Operation and Maintenance
B. Programming, Marketing and Promotion
C. Monitoring and Adjustment

Tract has been retained to undertake Phase 1 of the assignment only at this time.

Community Consultations and survey

To begin the process of Program Development Tract undertook a review of the dmA report and visited the preferred site with the study team. This review was followed by a community and key user consultation that included the following:

Meetings

- Town's Recreation Committee
- Bay Roberts Sea Lions, Swim Club and site visit to the existing pool.
- Pool Staff
- Local Business Representatives
- School Principal, Neil Kearley
- Eric Jarrett (who donated the land for the Centre)
- Site Visit, Carbonear Pool
- Public Meeting (122 attendees)

Tract, with the support of the Town, also developed and posted on-line a community survey to gauge support for the Centre. In the first day the survey was posted, 454 citizens in the Region completed the survey. In all, over 625 surveys were completed, providing us with a good understanding of regional attitudes toward the proposed Centre.

The results of the community survey are posted in Appendix 4.

PROGRAM DEVELOPMENT CONSIDERATIONS

DEMOGRAPHICS AND CATCHMENT AREA FOR BAY ROBERTS AQUATIC AND RECREATION CENTRE

Catchment Area Concept

It is a significant endeavor for a community the size of Bay Roberts to build an indoor pool and associated recreation centre. At 5,818 residents in 2011, the Town does not have the population needed to sustain the Centre by itself, even with the recent growth that it has experienced. It does, however, have a number of other communities that are in close proximity and whose residents already use the community's shopping, school and other amenities.

This is why the concept of a "Catchment Area" is so significant. A catchment area is the larger area where a facility will consistently draw users from. The factors that influence an amenity's catchment area include:

- *Proximity.* The proximity of nearby communities will affect the catchment area and levels of use. Proximity includes not only distance of travel, but also the relative ease of travel and access to the Centre. The proposed Aquatic and Recreation Centre is within close driving distance to several smaller communities to the north and the south via Highways 70/60 and #75 connectors. Note that signage on these routes and at the site, reminding users of its location, is very important.
- *Adjacency to Schools* is another important catchment area benefit. The population of the three schools when the new High School is built will be approximately 1,800. Not only will these students, who came from a number of communities, use the Centre through daytime community-school programs, but will also encourage evening and weekend use by their families.

- *Combined Uses:* Adults in particular will sometimes combine a number of functions in a single trip. These include combining shopping and other functions with recreation, including individual or group recreational activities. People from several other communities already work and/or shop in Bay Roberts.
- *Multiplicity of Uses:* An aquatic and recreation centre that offers a multiplicity of uses is far likelier to attract and sustain continued participation within its catchment area. The aquatic uses include family leisure swims, swim lessons, aquatic fitness and lap swimming, swim team practices and meets, water-based rehabilitation, diving (one metre board), and introduction to other aquatic activities such as kayaking. Other recreation activities include dry-land fitness, dance, community meetings and social activities in phase one, and gymnasium related activities in a later phase.
- *Uniqueness of Amenities:* When a centre provides the type of amenities that are unique to the surrounding and nearby communities, it will attract people from the larger catchment area. The proposed aquatic component of the Centre will offer unique opportunities within the catchment area for family water play, child-friendly amenities, water rehabilitation features, and a standard 25 m. pool that will provide a venue for family fun activities (e.g. a large inflatable) that goes beyond its other uses for swim lessons, swim team practices and lap swimming. The 25 m. pool is also designed to support the Bay Roberts Sea Lions Swim Club to host regional and provincial summer swim meets.

For an aquatic and recreation centre of this type, a catchment area of 12,000 to 16,000 people would be viable. The Centre will certainly need a sufficient net base operating budget, and must also be well run and well marketed in order to create and maintain regular use by people in the catchment area.

Size of Catchment Area

There are 11 communities in addition to Bay Roberts that are highly likely to be part of its catchment area of regular users. Residents of these communities would need to go to St. John's or Mount Pearl to have the same range and quality of experiences. The Town of Carbonear is included in the 11 even though it currently has a pool. Some people from this community may prefer the proposed Bay Roberts Aquatic and Recreation Centre for warmer water family leisure swims, preschool swim lessons, rehabilitation, and water play opportunities, while still continuing to use the Carbonear pool.

The 2011 populations of Bay Roberts and the other 11 communities are shown in the following table:

Community	2011 Population	2006 Population	% Change
Bay Roberts	5,818	5,414	+7.5%
Bishop's Cove	275	329	-16.4%
Bryant's Cove	396	417	-4.4%
Carbonear	4,739	4,723	+0.3%
Clarke's Beach	1,396	1,289	+8.3%
Cupids	761	790	-3.7%
Harbour Grace	3,131	3,074	+1.9%
Harbour Main, Chapel Cove, Lakeview	1,083	1,090	-0.6%
North River	562	557	+0.9%
South River	655	649	+0.9%
Spaniard's Bay	2,622	2,540	+3.2%
Upper Island Cove	1,594	1,667	-4.4%
Totals	**23,032**	**22,539**	**+2.2%**

The above table does not include those who live in unincorporated areas outside of the towns, or other communities that are further away but would still likely use the Centre. Nor does it reflect the growth that has occurred since May 2011. By a number of accounts, the number of pre-school and school-aged children, and their families appears to have grown during this time, resulting in expected higher elementary school populations.

Bay Roberts alone had 95 more children aged 0 to 9 in 2011 than in 2006, and this growth has likely increased since 2011 with more young families moving into the community. While the proposed Aquatic and Recreation Centre will provide opportunities for all age groups, a growing number of children in the overall catchment area will support pre-school programs, swim lessons, and swim club registrations.

Summary

The combined catchment area for the proposed Bay Roberts Aquatic and Recreation Centre is sufficient to ensure its ongoing viability and contributions to the residents of the larger area. While the overall population of 23,000 plus residents held fairly steady from 2006 to 2011, there are indications of stronger population and economic growth in the coming decade. The current Bay Roberts pool is nearing the end of its useful lifespan and lacks many basic aquatic amenities. Other recreation facilities such as floor-based fitness activities are also needed in the community, and many groups are now using inadequate facilities.

RECREATION TRENDS RELATED TO THE COMMUNITY AND PROPOSED CENTRE

Trends are observable patterns of change, and are different than fads that tend to be far more short-lived and specific. Trends occur in a number of areas, including consumer preferences, demographics, the environment, economics, and leisure behavior. This section will focus on the leisure or recreational behavior trends that

relate to community leisure services and the proposed new facility in Bay Roberts. These trends can be described under the following categories:

1. Individual and informal activities
2. Personal growth
3. High expectations
4. Adult wellness
5. Active ageing
6. Chronic diseases and their management
7. Children and youth inactivity, and increasing weight
8. Sport participation and physical literacy
9. Volunteerism
10. Growing leisure activities

1. *Informal and Individual Activities:* There has been a considerable shift from formal and organized activities to more individualized and informal pursuits. People are increasingly choosing activities that can be done individually or in small groups, at a time of the individual's choosing and that fits the person's overall lifestyle. Conversely, many people enjoy the constancy of programs that are at a set time and place, and often done with others.

2. *Personal Growth:* A clear trend is the shift toward the experiential aspect of activities. Many people are seeking personal growth and meaning in the activities they choose. In the tourism industry, for example, the two fastest growth areas are cultural learning, (a destination's unique culture and heritage), and eco-tourism/adventure. These trends are clearly seen in visitors coming to Newfoundland and Labrador, and in the type of classes people choose to attend where they learn a new skill or explore an area of interest.

3. **High Expectations:** People not only have high expectations for achieving personal benefits from recreation programs and experiences, but also that there will be a high quality of service in the programs they take or facilities they visit. This includes a high quality of instruction and customer service, but also facilities that are clean and well maintained.

4. *Adult Wellness:* People are increasingly aware of the health benefits of physical activity and nutrition, and this has translated itself into somewhat higher levels of activity and nutrition, especially between 1994 and 2003. They are also, however, showing higher levels of being overweight and obese. In 2003, the provincial-territorial governments set a collective goal of increasing the activity levels in their jurisdictions by 10% by 2010 of those who were a least moderately active. In the most recent Canadian Community Health Survey (2008), there was minimal change over the previous five years. Unfortunately, Newfoundland and Labrador remained the least active province with only 42% being moderately active; this compares to 48/49% of all Canadians and 56% of BC residents. Observationally, it appears that more women than men in Newfoundland and Labrador are making efforts to become more active.

5. *Active Ageing:* As Baby Boomers age they will continue to have an interest and commitment to being active, but will turn away somewhat from more strenuous activities such as aerobics and jogging to more moderate activities such as walking, water fitness and tai chi. There is currently also a 15% discrepancy between older men and women (65-70+) in terms of activity levels with men being more active. The male-female gap is very small for Canadian mid-age adults, so the current discrepancy reflects the current generation of seniors and will likely disappear as the Baby Boomers age.

6. *Chronic Diseases and their Management:* There are also individuals who are impacted by chronic disease conditions such as arthritis, cardiovascular

diseases and Type 2 Diabetes. Activity will be an integral part of chronic disease management and therapy for these individuals. As people age and chronic disease conditions often increase, many people will seek to remain active while managing injuries and other conditions. Community recreation facilities, especially ones with aquatic amenities, will be key environments. A clear trend has been to have community recreation partner with health authorities and chronic disease organizations to allow people to manage the conditions in community settings. Physiotherapists are now providing their services in recreation facilities in partnership with municipalities. The proposed Bay Roberts Aquatic and Recreation Centre provides a number of elements to support rehabilitation of chronic or injury related conditions.

7. *Children and Youth Inactivity, and Increasing Weight:* The Ontario Medical Association estimates that Canadian children are 40% less active than 30 years ago. The Canadian Health Measures Survey (2009) identified that the fitness levels of Canadian children have declined significantly between 1981 and 2009 based on actual measurements of fitness, strength and flexibility. Children and youth activity levels have been recently tracked using pedometers through the Canadian Physical Activity among Youth Study (CANPLAY), and almost no changes have been seen over the last 5 years in the amount of activity based on the number of daily steps taken. CANPLAY also found that 46% of Canadian children get three (3) hours or less of active play per week; this is in sharp contrast to the recommended guideline of two (2) hours a day of physical activity. The key factors include a reduction of active play in the outdoors, increased screen time, decreased sport participation, and reduced active transportation (e.g. walking and cycling to destinations). Children now spend 5 to 6 hours on weekdays and 6 to 7.5 hours on weekends in front of screens. While 58% of parents say they had walked to school, only 28% of their children walk to school today. While obesity is a complex issue, there is a clear link for most children with the

imbalance between calories consumed and calories expended. In 2011, 31.5% of Canadian children and youth, ages 5-17, were either obese or overweight. The current obesity rate of 11.7% has essentially tripled over the last 30 years, and the overweight level of 19.8% has doubled. While boys are generally more active than girls, their obesity levels are higher. The good news is that obesity and overweight levels have leveled off even though they remain far too high. The current levels are resulting in more youth being diagnosed with chronic diseases including Type 2 Diabetes, which was formerly called “Adult Onset Diabetes”.

8. *Sport Participation and Physical Literacy:* According to the General Social Survey, registered sport participation levels fell from 45% and 9.6 million participants in 1992 to 28% and 7.3 million athletes in 2005. Some of this drop is due to a shift to more individual activities, but much relates to dropping physical activity levels over this period. Sport has acknowledged this issue and created the 2002 Canadian Sport Policy and the new 2012 Canadian Sport Policy in part to address the issue of how participation can be increased through a Long term Athlete Development Model. The Canadian Sport for Life (CS4L) movement has placed a greater emphasis on helping children have an active start, and acquire fundamental physical literacy (basic body control and sport skills) as an introduction to physical activity and sport, and then to ensure that those of all abilities have an opportunity to continue to participate. CS4L is working with the Canadian Parks and Recreation Association (CPRA) and its provincial-territorial partner associations to encourage the development of more physical literacy programs through partnerships at the local level. Physical literacy programs teach fundamental movement and activity skills that were often formerly learned in casual outdoor play.

9. *Volunteerism:* Canada lost a million volunteers between 1997 and 2000, going from 7.5 to 6.5 million (Stats. Canada), but has since stabilized and improved slightly (2010) as more volunteers are becoming engaged, especially in shorter term commitments. The greatest drop-off in volunteerism in 2000 was found for the 35-49 age group; these individuals are perhaps most affected by time segmentation and having to juggle work and family obligations with leisure and volunteerism. As Baby Boomers begin to retire, they may create an excellent pool of skilled volunteers. They will likely have to be actively recruited to become a volunteer in the community. Because of time pressures, individuals will more likely be willing to volunteer for shorter term projects and tasks, as opposed to long-term commitments. Examples of short-term projects are trail building and clean-up days in parks, and special events planning in recreation. This trend is termed “episodic volunteering”. The volunteerism rate in Newfoundland and Labrador showed the greatest growth in Canada between 2007 and 2010, going from 46% to 52%. The national average in 2010 was 47%, and the highest levels were noted in Atlantic Canada and the Prairie Provinces.

10. *Growing Leisure Activities:* There are a number of leisure activities that have grown in Canada and the province of Newfoundland and Labrador. These are not just limited to those that can take place in the proposed Centre and include:
    - Youth Physical Activity and Healthy Living Opportunities – Parents are beginning to get the messages about child and youth obesity and inactivity. There will be increasing demands for programs that get young people active and help them make healthy choices.
    - Walking and Cycling – there will be continued demands for safe routes to destinations and bicycle parking, including at the new Bay Roberts Aquatic and Recreation Centre.

- Community Events and Festivals – Individuals and families, especially with young children, will be looking for inexpensive and fun community events and festivals.
- Cultural Activities – The Boomers, in particular, will want to enjoy and participate in the visual, performing and cooking arts. There will also be a growing demand for art programs for pre-school and school-aged children.
- Home Landscaping and Gardening – As the interest in gardening and home landscaping grows, people will be looking for good information sources and courses beyond those offered on television.
- Outdoor Programs – There is a growing interest in learning about local and regional flora and fauna by all age groups. Guided walks and programs exposing children to nature will likely expand.
- Cultural Learning and Ecotourism – When people do travel, they will want to go someplace to also learn about the destination's culture, heritage, art, language and food. Ecotourism and adventure recreation will also remain strong as people seek unique experiences.

- Drop-in Opportunities - There will be greater demands for drop-in opportunities for recreation and cultural facilities, and scheduling should ensure that these are available throughout the day in the pool in particular.
- Sport Camps – Shorter term sport camps can be used to introduce and expose children to new activities.
- Rehabilitation Programs and Partnerships – Programs aimed a rehabilitation and wellness can be offered through partnerships with the health sector. Programs offered in community, rather than clinical settings, are often more likely to lead to ongoing healthy lifestyle change. Physiotherapists are now providing their services in recreation facilities in partnership with municipalities.

- Youth “Challenge” Amenities - The need for youth oriented “challenge” outdoor facilities will remain, including skateboard parks, BMX, and trails suitable for mountain biking.
- Youth Partnerships – Youth Inactivity and obesity are considered by many to be at the epidemic level. Schools play a key role but often have diminished capacity. Partnership approaches by schools, parks and recreation departments, community sport, and parents will be required to address the issue, including the after-school period.

DESIGN PRINCIPLES

Plan for Future Growth

Planning ahead for future additions and flow will be critical, especially for the size of the site available for this project. If the Gymnasium, for example, can’t be part of the first stage, its future location and connection needs to be pre-determined. Change rooms are often the most difficult spaces to expand once a building is completed. Options to expand the current spaces, or add new change rooms for other users (dry spaces such as a gymnasium) need to be considered at the outset.

Dual Functionality

Where viable, certain spaces should be designed for dual functionality. The timing booth, for example, can also have office cubicle areas for the coaches of aquatic groups such as the Sea Lions. The pool classroom needs to have the capacity to be used for coaches meetings during meets, or even as a gelling station for synchronized swimmers. An area of the parking lot that is not heavily used can also be used as an outdoor basketball or ball hockey court at specific times. Care must be taken, however, not to build in too many multiple uses that affect basic functionality.

Facility Finishes

Finishes must be designed for heavy use and be efficient to maintain. This means using high quality and durable flooring, wall treatments, washroom and shower stalls, counters and furniture. Carpet should be avoided for almost all spaces. Any tile flooring must be non-slip, and on the “wet” side of the facility the use of an epoxy grout for the pool, pool deck and the change rooms is a requirement to minimize the need to re-grout over the lifecycle of the facility. Wall treatments in public corridors and activity spaces need to be hardened, and painted drywall avoided, especially for the lower wall levels.

Natural Light

The use of natural light in the entry lobby and pool area is highly desirable. It enhances the atmosphere and reduces lighting costs. Glare should be avoided in all areas, however. This is especially true in the pools where lower level natural lighting should be confined to the north elevation.

Sound Absorption

In the lobby and the pool in particular, and other activity spaces generally, sound absorption treatments are a requirement and the design teams should demonstrate expertise in this area. In addition, any permanent sound system requires the capacity to be zoned to allow quality sound production for meets and other events, and for public announcements to go only to appropriate locations.

Accessibility

As a basic premise, it is assumed that the Bay Roberts Aquatic and Recreation Centre and its spaces will be fully accessible. Beyond basic access to the facility and within the facility (an elevator to a second floor), the spaces should be designed to support the uses of all citizens. This means the design should “go beyond the building code” into how spaces can be used by persons with a disability or condition. Disability related organizations, or a group of individuals with a disability, should be involved in the design process.

PROGRAM BEST PRACTICES

This document provides a preliminary description of the component spaces that our assessment confirms should be included within a new Aquatic and Recreation Centre in Bay Roberts. These spaces include:

1. Entry Lobby, Reception Desk, Control Point and Staff Offices
2. Change Rooms
3. The Pool Tanks and Related Amenities
4. Aquatic Staff Areas and Pool Storage
5. Fitness Program Area(s)
6. Multi-purpose Program Areas
7. Gymnasium
8. Parking, Access and Future Expansion
9. Partnership Opportunities
10. Pool Mechanical and Water Purification Systems

Each of the above areas is described in terms of both design features and relationships with other spaces. It is assumed that the Centre will attract users from a much larger catchment area than Bay Roberts and its immediate vicinity, including those living from Carbonear in the north to Holyrood and other communities to the south. Before the specific, potential design elements in each of these nine areas are described, some general design best practices for aquatic and recreation facilities are discussed.

ENTRY LOBBY, RECEPTION DESK, AND CONTROL POINT

Entry Lobby

The entry and lobby need to be inviting and large enough to accommodate crush times such as swim meets, program registration times, and for people arriving for

large social or sport events in the gymnasium. Views to the vehicle pick-up area or limited seating should be provided, along with an exterior rain/snow canopy. The lobby should also provide opportunities for an information display on upcoming programs, art, and potentially a Sea Lions display case; (note: this may be better placed in the pool viewing area off the lobby). Good sound attenuation in the entry lobby area is important for both staff and users.

Five key areas should be visible from the entry lobby. These are:

a) The front desk for information, program registration and payment for entry to the pool and/or fitness rooms.
b) The entry to the flexi-hall for gym use and community events and the signed connection corridors to other program spaces (e.g. multi-purpose rooms) not located behind the control point.
c) Location of the food service.
d) The control point where people enter to the change rooms and pool and fitness areas located behind the control point.
e) Ideally, a view into the pool itself and/or access to a pool viewing area.

Reception Desk

The reception desk is where the public can get general information, register people for programs, (those not done online), and often serves as the control point where people pay their user fees (see “Control Point” that follows). The reception desk needs direct visual access on the entry doors and lobby for all hours the Centre is open.

The reception area includes supervisory personnel that:

a) Can answer enquiries;
b) Direct people to areas,
c) Take program registrations and rentals, and
d) Control inappropriate behaviour in the lobby.

If the reception desk also serves as the control point (where admissions are paid), it needs to be immediately adjacent to the entry point for the change rooms used by pool and fitness users so that the receptionist can control the entry point. This is recommended for Bay Roberts. In this case, the reception desk clerk needs to see both the lobby and the controlled entry point into the change rooms, pool and fitness areas. Overhead signage can be used to direct patrons to the area for admissions or to another area if they are making a general inquiry or program related information. The front desk counter heights need should vary for users, including a section low enough to serve a person using a wheelchair. When the Centre is closed, it must be gated off for security reasons to prevent theft of equipment or materials.

Control Point

The control point is where people who have paid admission, or have a pre-paid pass, gain entry into the change rooms, pool and fitness areas during times they are opened. As stated above, the single control point in this Centre should provide the reception desk personnel with a direct view to the entry wands or gates. Having a tight control point prevents slippage and revenue loss. It also provides flexibility for the cashier to admit people to paid programs and rentals for those spaces, (e.g. swim classes and swim team practices).

The control point mechanisms generally include:

a) A entry wand (rather than a turnstile) that allows authorized users to enter the change rooms by swinging in that direction. The entry wand can be triggered either by the front desk or by the user with a valid pass that they scan at the wand control point to activate it.

b) An exit wand that can be pushed outwards by users exiting the change room and paid admission locations.

c) Some pools use an additional wider gate that can be opened for persons in larger wheelchairs, or parents taking tots that need support changing for their swim lessons.

The spatial relationship is always the same. The user can't access the drop-in areas or the change rooms unless they go through the control point. Pool users will always use the change rooms, while fitness room users may come prepared for activity and not use the change room or showers.

OFFICES AND ADMINISTRATIVE SPACES

The number of offices and work areas located behind or adjacent to the reception desk needs to be confirmed. These will likely include:

a) The Director of Parks and Recreation office would be located behind the reception desk but have his own exit to the lobby.
b) The Facility Manager.
c) The Aquatic and Fitness Programmer.
d) Other identified staff including administrative personnel.
e) Note that the Head Guard and other aquatic personnel would work out of the aquatic staff area (see section 4).

There also needs to be general work and storage areas in this area, including a secure area for the safe.

CHANGE ROOMS

Types and Configurations

In most aquatic facilities, especially those built in the last two to three decades, family change rooms, (with some change spaces designed for persons with a disability), have been added to the traditional male and female change spaces. Many older facilities that lacked a family/disabled change room have been

renovated to add these spaces. In the Bay Roberts Aquatic and Recreation Centre, the three pool change room types are required.

There are some common elements for all three types of change rooms.

- Entry is after the control point along a common corridor that also includes the pool staff room.
- The three main change rooms would total approximately 350 sq m.
- All have ceramic non-slip floors.
- All have a shower area located at pool entry, with adjacent washrooms (both M and F needed in the family change room).
- Change room exits are oriented to the shallow end or the leisure pool.
- Use lockable coin lockers (25 cent – keep or return) that are a combination of full and half lockers.
- Consider coat racks on the common corridor to change rooms for heavy winter gear and boots.
- A swimsuit spin dryer can be located at the exit of the drying area to the lockers, but needs to be in open view of the main locker area (to reduce vandalism).

Male and Female Change Rooms

Key considerations include

- Besides open change in male and female, have 2-3 privacy cubicles with curtains in male and 4-6 in female.
- It is important to have a drying space immediately adjacent to the shower and between the shower and the locker room. This helps to minimize the floor wetness.

- Some facilities encourage pool users to use lockers closer to the showers and fitness users to use those nearer to the entry door, but patrons usually follow this pattern by themselves.
- Need to address cleanliness issue in corridor to change rooms, have a set of large floor mats to help reduce dirt been tracked in (similar to those at facility entry).
- Male and female change rooms should have equal bather load capacity.
- The entrance to each needs a partition wall that completely obstructs views into the changing/locker areas.
- The standard configuration is to enter directly into the locker area; this area should be as open a rectangle as possible.
- The creation of nooks is to be avoided, especially in male locker areas where theft is more predominant, with lockers on the perimeter.
- The locker area then proceeds to both the washroom area with sinks/counters and hairdryers, and to the drying and shower area which then leads directly into the pool.
- The drying area is critical to reduce some water tracking back into the locker area.
- The washroom area needs to be directly accessible both from the locker area and the shower/drying areas for pool users returning from the pool.
- Showers are not required in all privacy change stalls, because the individual can use the group shower with their swim suit on, retrieve their clothes and then change in the stall.
- The exception is that a small number of larger privacy change stalls with showers can be considered for the women's change room; this will reduce their use of family change room cubicles.

Family Change Rooms

These are intended for both families with children as well as persons with a disability with a caregiver.

- The family change spaces are used by families to change into their swim suits, then store their clothes and valuables in the common locker area before proceeding to the pool after showering.
- Family change room should have 8 cubicles, with one having a lift designed for persons with mobility impairments.
- Family change rooms often combine a series of partitioned family cubicle areas on perimeter walls with banks of lockers (full and half) that are often located in central, double-sided banks.
- The family change cubicle doors and divider walls should be a full 80-84" high, but the door should be open for the bottom 12 inches (to support staff monitoring), and divider walls at least the bottom 6" (to facilitate cleaning).
- The open area above the cubicles also supports better ventilation in the change room area.
- Each cubicle will have a bench and enough changing space for up to two adults and 2-3 children; an infant seat mounted on the wall is essential.
- Each cubicle is lockable from within only, and no clothes or personal items are to be left in the cubicle when the family exits.
- A best practice design element is to have the interior lock mechanism display whether the space is in use on the door exterior with a red or green symbol; the display also allows cleaning staff to know if it is available for cleaning.
- Upon return from the pool, the family would retrieve their clothes and then enter an available family change cubicle.
- Many facilities do not include showers in the family change spaces and rely on a group (swimsuit only) shower at the entrance to the pool - this can increase the overall number of family spaces, which are often at a premium.

- Other facilities will have some cubicles with showers for families who prefer that option and are willing to wait.
- The individual, lockable toilet stalls are located adjacent to the group shower and dry-off area.
- The toilet stalls can be unisex or divided into male/female only, but must include at least one marked accessible toilet.
- The sink/counter area is generally unisex for use by the whole family and designed to be accessible for persons with a disability. This area also needs fold-down change tables, wall mounted infant seats, hairdryers and plug outlets, and refuse containers for diapers and wipes.

Accessible Change Rooms

The accessible change rooms located within the family change rooms have some additional design elements:

- The accessible change rooms (1-2) need to be larger than family change rooms to accommodate persons with a disability, their personal wheelchair or motorized scooter, transfer space for the wet wheelchair provided by the pool, and adequate room for caregivers if required.
- A large pool facility should have a minimum of two or more rooms that are clearly marked for persons with a disability only.
- The room will need a specialized bench (water-proof and drainable) that can be set at variable heights, as well as a regular bench for sitting at transfer height.
- Accessible change rooms should have a hoist mechanism that is ideally ceiling mounted to allow for the transfer from the individual's personal wheelchair to the wet chair.
- Accessible change rooms should have a shower area with a hand held shower head that can also be extended to the specialized bench area if required.

- Because these rooms are meant to be for changing and transfer only, lockers with disability only symbols should be placed immediately outside the cubicle at mid-height level.
- Some facilities key accessibility change rooms to minimize possible vandalism and misuse by individuals who do not require the special equipment in these rooms. Access keys would be obtained from the front desk staff (in exchange for a personal identity card), and several keys are needed for each room so that one user doesn't tie the room up.
- The cubicles would have the same interior lock mechanism with an exterior display to identify when it is in use.
- Washroom stalls for persons with a disability would be provided within the shared family/accessible change room area.

Lockers

Locker Counts, Systems and Types

For a pool/fitness facility, the number of lockers in the locker rooms are generally 1½ to 2 times the normal expected bather load at peak times, along with an estimate of ½ peak fitness room users. This allows for adequate user turnover in the change rooms at peak periods.

- Lockers come in a variety of sizes including full, half, third, quarter and wallet size. The most common size lockers in change rooms are banks of half size and/or third size lockers, interspersed with a much smaller number of full lockers.
- Quarter and wallet size lockers are most commonly used for valuables or sport-bag storage, rather than clothes, and are most often located in fitness areas, on pool walls near the change room entrance, or in lobbies where they are in open or supervised areas.
- Pool walls can also benefit from hooks or cubbie holes for sport bags. These are used both by aquatic team members and regular patrons.

Locker Construction

There are some newer types of lockers and lock mechanisms that are less vulnerable to damage or theft.

- The lockers that are most vulnerable to theft are older model metal lockers.
- Lockers that use hardened dense plastics, fibreglass, and phenolic compounds appear to offer far greater resistance than most metallic lockers.
- In addition, lock mechanisms need to be selected that are resistant to puncture (usually with a screw driver). The selected design teams need to do more thorough research into the best products.
- The suggestion to move all clothes lockers directly on to the pool deck walls is not considered viable for most users because shower room spray is difficult to contain.

Coin and Token Options

Most facilities use either a coin-return or coin-keep system. The coin-return is obviously the most popular option with patrons, and would eliminate theft targeted at the coin wells at the base of locker banks. However, the choice of system is a policy decision.

- Coin-keep systems are a significant revenue source and also price the lockers by size.
- A newer system used by a number of major facilities is the use of tokens rather than coins. The tokens are paid for at the front counter, generally in multiples, or through self-service vending machines. They are also more flexible to change the price of lockers. The use of tokens requires less staff time because coin counts are not required.

Theft from Lockers

This has become a serious problem in many facilities. Users are experiencing the loss of money, identity and credit cards, and goods. Facilities with high levels of

theft are losing customers and have to pay the high costs of repairing or replacing locker doors and lock mechanisms. While not exclusively a problem in male locker areas, it primary occurs there. Many of the thefts also appear targeted, rather than random, and theft tools can be easily hidden. While magnets are sometimes used to retrieve coins from the collection wells, theft is primarily targeted at personal goods in the lockers. Many current locker designs are not providing secure, safe storage, and Bay Roberts would need to ensure the issue is addressed by the design team. For example, given the ongoing challenge of thefts from lockers, it is suggested that locker coin boxes be emptied throughout the day and that a large bank of wallet locker banks be situated in the front lobby in view of front desk staff.

Change and Wash Room Fixtures

The quality and durability of change and wash room fixtures is extremely important because of the higher humidity levels and resultant corrosion in these areas.

Partitions

Washroom partitions in humid pool environments can deteriorate rapidly unless they are properly selected and installed.

- Changing stall and washroom partitions and doors should be constructed out of solid synthetic materials such as phenolic.
- Hinges and footings should be stainless steel. Vertical stainless steel inserts into floors should be minimized to avoid corrosion points and should be anchored from the ceiling where feasible. The inserts should have a rounded stainless steel floor brace to assist cleaning.
- Doors on changing stalls or washrooms should be open for the bottom 12” and the internal locking mechanisms, as noted earlier, need to display occupancy.

Counter Tops

Counter tops can easily stain or chip if poor materials are chosen that are also more expensive to maintain and replace.

- Washroom and change room counter tops should be a solid product (such as “Sitstone”) as opposed to a laminate. This will reduce daily maintenance and repairs.
- Sink basins should be top mounted and made of stainless steel or china.
- The counter tops must be designed to have a slight downward and outward slant to avoid standing water.
- Galvanized steel framing materials should be used instead of wood in the counter framework.

Other Fixtures

Other quality fixtures also provide better long-term economies.

- All washroom fixtures should be of commercial quality and be stainless steel where available, unless otherwise noted. Taps should be equipped with motion sensor or timers.
- Soap dispensers present challenges with vandalism, and pool operators have found “Deb” dispensers to be an effective solution. Additional research needs to be done to review other systems, including the use of a central mounted filling tank connected to individual dispensers.
- Toilet fixtures should be ceramic. All toilets and urinals should be on battery operated flush sensors. In men’s washrooms, at least one urinal should be low enough for use by younger children.
- As noted previously, washrooms and change room areas need both baby change tables and infant seats at strategic locations.

- Hand dryers should be located at different levels to also allow for use as hair dryers. Types that appear to work well include “Dyson” and “Deep Blue Veltia” (high speed) dryers.
- Wall plugs with sufficient amperage should be provided in the male, female and family washrooms in close proximity to the mirrors to support the use of personal hair dryers.

Benches

- Built in cement benches with plastic or phenolic tops should be considered. These limit the amount of maintenance and repairs required for traditional change room benches, but do limit ease of renovations.
- If concrete built-ins cannot be used, solid phenolic bench tops with rounded stainless steel legs are recommended. These are bolted into place and can be easily cleaned underneath without catching a mop head or other cleaning equipment. Any bench top that allows dirt to collect in groves, thus increasing cleaning time and effort, should be avoided.

Regular and Handicap Shower Areas and Heads

- The regular shower heads in group and individual change cubicles should be mounted at a minimum height of 84”, with some mounted at 90” for taller users. The spray patterns should not intrude on the adjacent users and allow a clear walkthrough the centre of the shower area.
- The shower heads need to be mounted on a downward angle, be strong enough to support a normal individual’s weight, and shaped to prevent being easily grasped. Similarly, all bars and towel racks need to be mounted to support a person’s weight.
- The water temperature should be set for most shower heads, and controls need to have a simple on/off mechanism. At least one shower, however, should have a temperature control lever to allow cooler showers. All showers

should be on timers, with a shut-off mechanism that users can employ to reduce water wastage. If motion detector sensors are used for the showers rather than mechanical timers, a master control switch is needed to turn off the sensors when maintenance staff are cleaning the shower areas in the evenings.

- Showers in the change rooms for persons with a disability need to be hand held. The existing models can be easily damaged or vandalized, and a stronger hand held unit needs to be researched. One option is to look at those used by equestrians which appear to be heavier duty.

POOL TANKS AND RELATED AMENITIES

Pool Users

The pool users will include all age and ability groups in the community. This includes public recreational swims that will attract all ages of users and the growing number of families in Bay Roberts and the surrounding communities. It will serve as the training and competition base for the Seas Lions that will allow them to move from a summer swim club to a year-round operation. The pool may also foster the development of other aquatic sports including synchronized swimming, water polo, triathlon and introductory diving. The pool will be a major focus for year-round aquatic fitness pursuits including lap swimming and water aerobics. If designed properly, the pool will also provide rehabilitation opportunities for those with chronic conditions or injuries. The location of the pool will also create opportunities for student recreation and leadership development.

Pool Tanks

The main pool area should have three main bodies of water. These are the 25m rectangular tank, the free-form leisure pool that incorporates two 25m lanes on one

side, and the whirl pool. The total area of the three pools and decks would be approximately 1,520 to 1,570 sq. m.

25m Rectangular Tank

The 25m tank is used for a variety of purposes including swim team practices, lap swimming, diving, swim lessons, recreational family swims, and special supervised activities such as a rope swing, pool inflatable and other water leisure swim equipment.

- The pool is 25m long and 15m wide to provide 6 lanes of 2.5m width (note: 25m pools are often designed to be 25m + 3cm to allow for 3cm wide touch pads).
- Depth goes from a shallow end of 1.1 or 1.2m to 1.5m at the 2/3 mark of the tank before going to 3.5m in hopper-shaped deep end to allow a one meter spring board.
- The spring board needs to pivot away from the pool edge so it doesn't interfere with starting blocks for swim meets; likewise, the rope swing needs to be retractable and tether to a wall when not in use.
- Anchors for lane ropes must be installed at the outset, as must the anchors for tethering the pool inflatable.
- Water temperatures are generally set at 80-82 F.

Free-form Leisure Pool

The free-form pool will have a number of leisure and rehabilitation opportunities that will appear to all age groups, including pre-school children and their parents. The total water surface area is approximately 300 sq m. The key features include:

- Leisure tank goes from zero entry to 1.2m with most depth at 1.1m (approx. 300 sq. m).
- Has a ramp entry for users with disabilities.
- Includes a shallow entry and play area for pre-schoolers (0.5m depth) near the area of the warm water inlet.

- Has lazy river for fun and rehab; (note, this should be circular with one entry/exit area and not a linear system).
- Has two 25m lanes along one side for both play and rehab use (water walking); this is the 1.2m depth area of leisure pool; (note: these two lanes should be part of the leisure pool and not be separated .
- Water play elements such as sprays, bubblers and fountains van be placed on both the perimeter and in the middle of the leisure pool area.
- The best configuration is entry by ramp or through tots areas (closest to locker rooms and 25m pool shallow end), then to main leisure pool, with lazy river on farthest end.
- Other features may include a small tots slide, bubblers and other play equipment.
- Water temperature at 88-91 F.

Whirl Pool Tank

Should have capacity for 25 bathers, ideally with one jet per bather at different heights

- 1.1to 1.2 m deep with perimeter seating.
- Free form but open (avoid tight alcoves that consume space).
- Stair entry with rails.
- Water temperature at 103 F.

Related Amenities and Design Features

Other amenities in the aquatic area could include:

- Sauna and/or Steam Room with capacity for 15-20 with internal heating units and stepped bench seating areas; they should have glass doors to allow supervision by lifeguards.
- A Timing Booth at the side of the pool near to the marshalling end for swim meets that could also have limited office space for aquatic group coaches.

- Pools need to be fully accessible with spot lifts or channel lift along shallow end wall that provide access to all pools.
- Deck space needs to be adequate to allow for free movement, on deck teaching, and temporary spectator seating for swim meets. Deck space (including elements such as whirlpool) is approx. 650 - 700 sq m.
- Consider a small contained viewing area on-deck for parents of young children taking lessons - if design permits.
- Need direct access from deck to lobby for emergency purposes.

Deck and Pool Surfaces

The quality and longevity of pool deck and pool well surfaces is paramount, along with the ease of cleaning. The width of pool decks is also often a major area of concern voiced by user groups. It is absolutely critical that non-slip ceramic tiles be used for all pool decking, pool floors and walls. While other surfaces have been used, they tend to discolour and deteriorate over time. Generally:

- Pool deck tiles of a light or tan colour work well, along with light blue colours in the pool wells. The use of an epoxy grout of a darker colour than the tile is recommended.
- The side and end decks surrounding the 25 m pools must be wide enough to accommodate the easy flow of traffic, temporary seating and coaching/officiating space. The slopes of the decks are described in the section on gutter systems and hose-down procedures.
- The side deck area between the 25 pool and the storage areas must be wide enough to allow for a minimum of 6-8 rows of retractable bleachers that are spaced between storage room doors. These will be pulled out and used only by athletes, coaches and other authorized persons at meets. When the bleachers are extended, there still needs to be adequate deck area along the pool edge to allow for easy movement.

Relationships between Pool Areas

The fit between the change room exits with the major pool areas, as well as the fit between pool areas and amenities, are important.

Pool – Change Room Relationships

- The change rooms should exit out to in an uncluttered area that ideally provides good sightlines to the entire pool area.
- The leisure pool shallow/beach area should be in closest proximity to the change room exits. If this is not viable, the exit could be at the shallow end of the rectangular lap pool, but this is the less preferred option.

Pool Element Relationships

- The swirl pool should be located in closer proximity to the leisure pool rather than the 25 meter tank. This allows better parental control and sightlines.
- The pool viewing area for parents needs to be accessed from a dry floor area (not through the change rooms) and needs to be cordoned off.
- This area should be located to provide easy viewing to the prime lesson areas, (the leisure pool and lap pool shallow end).
- The storage areas should be located closer to, (and ideally along the length), of the 25 metre pool. The heaviest equipment elements, especially lane ropes, will be stored there and distances should be minimized. Child/infant lifejackets should be on hooks near to the exit from the family and other change rooms. Play equipment, such as noodles and floats, should be stored in roll-out bins that can easily be moved to the leisure pool area.

Pool Lighting, Sound Control and Pool Décor

Interior Lighting – Natural and Artificial

Even with the trend toward long-life interior lights, they still need to need to be located so that they can be easily changed during shut-downs. During the daytime, automatic sensors can be added to balance the mix of natural and artificial light by turning off or adding lights in the grid. Special light zones in the leisure areas of both pools can also be used to create atmosphere for evening teen or adult events. During the daytime, automatic sensors can be added to balance the mix of natural and artificial light by turning off or adding lights in the grid. At night, lighting allows the coloured play elements in the leisure pool to stand out, and for the overall colour scheme have a greater impact. Locally based themes can be used in the leisure pool area provided that they fit with the overall décor and are not overdone.

Natural light should be used in the pool areas provided that any excessive pool glare is avoided. Skylights work well as long as they are not placed over competitive areas that require ceiling grid lines (e.g. synchronized and backstroke).

- Full windows are best provided on the north walls; windows on east or west walls need film treatments to reduce any glare if they are used.
- Large glass garage doors have been used to provide access to an enclosed outdoor patio or hot tub area, but are not recommended for Bay Roberts.
- Access, however, can also be provided through standard glass double doors that allow equipment to be easily moved from inside to outside. Exterior storage for BBQs and outside furniture will need to be built in.

Sound Attenuation

Sound is an ongoing challenge in most swimming pools due the number of hard surface areas.

- The general rule of thumb is that 2/3 of the ceiling area should be covered with sound panels or acoustic treatment to absorb general pool sound levels.

- If sound panels are to be suspended, a non-metallic fastener system, which will not be affected by moisture and corrosion, should be used to secure the suspended sound panels.
- Consideration of sound traveling between pool activity areas should also be noted. For example, a synchronized swim team practicing to music can be very distracting to other aquatic users.

Pool Décor

The leisure pool décor can be relatively neutral with the colour and vitality coming from the play features such as sprays, raindrops and other elements. A heavy décor theme (e.g. jungle, pirate, forest) can become dated. A historical theme related to Bay Roberts can be celebrated though a few play elements if wished, and local public art blended in.

AQUATIC STAFF SUPPORT AREAS AND POOL STORAGE

With the possible exception of the Aquatic and Fitness Coordinator, all aquatic staff members are best located in a staff area that is entered from the same corridor that serves the male, female and family change rooms, and runs the same length before exiting into the pool.

Staff Room Location and Flow

Access to the aquatic staff area needs to be controlled by using a combination door lock or staff card swipe system to provide security for this space. The key components of the aquatic staff area are:

- *Change rooms* are needed for instructors, guards and aquatic fitness leaders. Both male and female change rooms are required and they need to be aligned to flow directly from the staff area entry corridor to exit directly to the pool deck after showering. They can also leave the room from the entry door and go to the

common staff area if still dry. The size of staff change rooms is based on the peak time volumes for lesson sets and public swims. The change rooms would have lockers, showers and washrooms, and be planned on the same basis as public change rooms with non-slip tile floors, proper drainage and ventilation and a swimsuit dryer. Staff should have the option of bringing their own lock, but on a daily basis only. Two to three shower heads should be provided in each room.

- *A Common Staff Work Area* is also required. It should have a work table and at least 4 work cubicles for lesson planning or reports. It also acts as a relaxation area between shifts and should have a fridge, sink, cupboards, counter, phone, and electrical plugs for a microwave, toaster, kettle and other utensils. It should have a washroom for male and female staff. Storage areas are also required for pool related records/supplies that are not located in the Head Guard or Programmer offices.

- *A Pool Viewing and Control Office* is the final area in sequence. It has a work station for the head guard with a full view of the pool. All guarding and instruction staff would enter and exit the pool past this station. It can be built slightly out from the pool staff area and be glassed in to provide good visibility. This is where the controls for pool features are located, including those for the leisure pools sprays and lazy river flow rates. A lockable storage cupboard should be provided and raised off the floor to prevent water damage. The pool public announcement sound systems and pool lighting controls are also located in the area along with lockable cabinets and pool walkie-talkie charging stations. In addition, first aid supplies, an AED unit, and an oxygen tank are located here to supplement supplies and equipment in the designated first aid room. If the location of the staff room area doesn't provide good visibility to all areas of the pool, some aquatic facilities have created a separate viewing area bridge with better sightlines and with most of the same equipment outlined above.

- *First Aid Room*: This area can be included in the staff offices, or be immediately adjacent to it. It should ideally be large enough to have room for a reclining chair, sink, and lockable cupboards. The floor should be tiled, non-slip, with a floor drain, and must be easy to clean. Direct access from the pool deck to the first aid room by stretcher, and from the room to the lobby and ambulance area must be provided. In addition to the first aid room, a number of spine boards should be located around the pool at key areas such as near the diving boards.

- *Pool Classroom:* A pool classroom that is accessible from the deck is required. It is used for lifeguard training and other courses, as a medium sized meeting room (15-20 people), and as a support space for aquatic competitions. It would ideally be a minimum of 20' X 30' (600 sq. ft. or 56 sq. m.) with flexible/stackable tables and chairs. It needs a synthetic, washable, non-slip flooring surface with a drain for easy cleaning. This room will require white boards, an end-wall projector screen and ceiling mounted projector, lockable cupboards, and a sink unit and a fridge. Numerous wall plugs should be provided for electronic devices, such as computers for swim meets results or audio-visual presentations. While the focus is on pool users, consideration could be given to access by non-pool uses by considering a separate lockable access from the pool lobby.

Pool Storage

The shortage of storage areas in aquatic facilities has been noted by user groups and aquatic staff. In this pool, the greatest opportunity is to use a significant portion of the side wall running along the 25 m pool to provide storage areas. The roof of this area can be used for seating for swim meets and for other uses such as fitness stretching. One end of the lower area could be required for a timing booth and control room for meets, or for a steam room and/or sauna. Most of its length, however, should be devoted to storage.

Storage Configuration and Access Doors

Pool storage should be wider than deep to allow for easy access to equipment. Narrow, deep storage often requires the removal of other equipment to access types that are needed. Doors need to be wide enough and plentiful enough to allow for easy retrieval. Temporary deck seating for athletes during swim meets can also guide the location of doors. The door widths and heights would be determined by the size of the elements being stored, and double-door sets will be required at key locations.

Key Storage Need

Lane rope storage is a significant storage need in a 25 m pool such as that anticipated for Bay Roberts. There can be the need for two different sets of lane ropes. These include good quality competition lane ropes for training and competition, and a lighter set of conventional lane ropes that pool staff can use for dividing pool spaces up for public use. The pool storage room will need double door sets to provide for easier access lane rope reels. The storage area will also need a number of wall hooks for smaller lane rope sets. Other requirements can include the large inflatable, water polo nets if and when the sport develops, nets, Teaching aids (paddle boards, etc.) and bins with play toys and equipment. All storage containers or bins should have drainage holes in the bottom. Shelving or brackets should be constructed of water resistant materials. All storage containers or bins should have drainage holes in the bottom. Shelving or brackets should be constructed of water resistant materials. Drain floor covers must be heavy duty to withstand the weight of loaded lane reels, etc.

Consideration may also be given to identify an area where the Sea Wolves can store their equipment that is separated off by chain link fencing with a separate access door lock. The use of chain link design allows for good ventilation and will meet fire sprinkler code requirements.

On-Deck Storage

There is also a need to plan for on-deck storage for many of the items that the public use to enhance their pool activities. Depending on the size of the facility, a certain amount of deck area needs to be allocated for portable storage units or bins containing kickboards, life jackets, lesson equipment, pool noodles and barbells floats, pool wheelchairs and aquacize float belts. Some of these bins can be placed in the storage areas overnight to reduce deck clutter and enable cleaning, but generally need to be on deck and accessible each day. Some items such as child/infant lifejackets can be placed on hooks and left on deck continuously.

Pool Maintenance Storage

A separate lockable pool deck storage room is required for maintenance equipment and supplies.

- This includes items such as pool vacuums, hoses, deck cleaning equipment and supplies, specialized tools, as well as personal protection equipment.
- The pool maintenance storage room will require a low sink drain, floor drains, and electrical outlets on GFI. A best practice design is to have a separate exit to an outside corridor so that staff can access the room without going onto the pool deck.
- The best current double disinfection system uses liquid chlorine and UV in the facility.
- Some facilities are designed with a three-stage system, where the heat from the compressor is used first to assist heating the water system, then any unused heat assists heating the air, and finally, any remaining heat goes through a condenser and can be used for air conditioning.

Other HVAC Best Practices

A best practice DDS system would have the capability of sensing energy power load levels on key pumps and motors, as well as vibration levels on key moving parts or bearings.

- Another best practice is to collect the water condensation off the compressors, which could be as much as 5 gals per hour, and return the water to the pools.
- There is also a need to address the quality of the damper and linkages used in the HVAC system, with the goal of having minimum rusting, corrosion and part failure problems.
- Air duct vent access is needed to have the ability to regularly clean these vents. The design of access points, (e.g.12" x 24"openings), should be located approximately every 10'.
- Change room and shower area exhaust systems should be over specified to ensure ample exhaust.
- There are new washable HVAC filters available, so the provision of hoses, sinks and a wash pit in the HVAC area must be included in the design if this option is chosen. The operator should have two sets of filters to allow for rotation of their use when washing one set.

Electrical Systems

The design of the electrical systems requires the client to work closely with the electrical consultants and architects throughout the design process. Some key practices are

Pool Deck Electrical Outlets

- Plugs need to be spaced on the pool deck for the operation of maintenance equipment without the use of long extension cords. The same applies to change rooms.

- Additional deck plugs will also be needed at pre-determined locations for swim meet officials, as well as other aquatic sport judges.
- Plugs will be required for the synchro sound systems used for both training and competitions as the sport develops in Bay Roberts.

GFI Breakers and Outlet Requirements

- GFI breakers are essential for the outlets on pool decks, change rooms, washrooms and every other location where water is present.
- 20 amp GFI electrical outlets are required around the Pool and in most other areas in order to have enough power to handle the pool vacuums and other service equipment.
- GFI breakers are also required in the chemical mixing room.
- The GFI breaker next to the main electrical line coming into the facility should be inspected annually.

Other Electrical Requirements

- The shower temperature control and mixing valves should be DDC controlled and monitored.
- A back up electrical generator should be installed to provide emergency lighting in the pool, change rooms, and corridors and other public areas to provide a safe environment until power is restored.
- The generator needs to be large enough to support sump pumps, phones, computers, the PA system. Ideally, the generator would maintain the boiler temperature as well. A large facility should have a diesel generator that is 125 KA with 200 AMPS and has the fuel capacity to operate for approximately two days.

FITNESS PROGRAM AREA(S)

There is not yet full agreement about the nature of fitness related facilities could be part of the Bay Roberts Aquatic and Recreation Centre. There is general agreement that a free-floor fitness facility should be included that can be used for aerobics, Zumba, dance and other floor-based activities. This room could be used for Town-operated programs and for rentals to local organizations. It was noted, for example, that a very successful local Zumba instructor was currently using an inadequate facility.

There is less agreement about the inclusion of a fitness room with weights and other equipment. Some citizens have indicated their interest in having a public space of this type. The concern of others, including members of town council, is that this would compete with the operators of private facilities. One major difference between public and private fitness facilities is that private operators generally stress annual memberships, while public operators generally stress individual drop-ins or limited time passes (e.g. one or three months). In many communities, the provision of public fitness facilities has generally not impacted on private operators, but has increased the number of those who are active – some of whom choose private operators in the future.

The priority for the new Centre appears to be to provide a free-floor fitness facility that can be used for both public programs and for rentals to private instructors and community organizations. A fitness/dance facility would likely include the following:

Fitness/Dance Studio

- The aerobics/dance studio should be approximately 230 to 280 square meters (2,500 – 3,000 sq. ft.) and serves fitness programs (aerobics, Zumba, Pilates and yoga, etc.), dance and martial arts sports (Tae kwon do, etc.).
- Needs a wood sprung floor.

- Mirrors on two walls, and bars on one.
- 3.7 m (12') ceiling.
- Good sound system that is accessible to user instructors (iPod or CD).
- Because it is both a paid admission room (aerobics) and a group rental or registered program room (dance, tae kwon do), it can either be placed after the control point or outside(like the gymnasium).
- Needs storage of mats, exercise balls and user equipment.
- Should be able to provide privacy to users with curtains when required.
- This room will require adequate storage for individual floor mats and other equipment.

Fitness Room

If a full fitness room is considered, including weight and other fitness equipment, it could be operated by the Town or leased to a private operator. If leased to a private operator, the Town would influence the level and type of fees to support casual drop-ins. Note that private operators generally charge high single drop-ins to encourage the purchase of memberships. The typical elements include:

- Is at least 370-420 square metre (4,000-4,500 sq. ft).
- It contains free weights (plates and hand dumbbells), strength exercise machines, cardio equipment, a stretching area, and potentially an area for spinning bikes.
- Layout needs to separate cardio and circuit strength machines from heavy lifting free weight area (place away from entry).
- Needs a dense synthetic floor throughout, 3.7 m (12') min. height, and wall mirrors in some areas.
- Strength stations equipment needs to be adjustable for rehab use and by persons with a disability.

- Some cardio equipment should have screens with options to provide active power by user.
- Needs a supervisor station or office near entry with good visibility of whole space.
- Like the pool, this needs to be placed behind the control point and share the change rooms – this means the fitness users need to come back out of the dry entry to change rooms and be able to get directly to fitness room.
- Some fitness rooms have been placed above the change rooms with access by stairs and elevator – allows viewing windows into the pool.

MULTI-PURPOSE PROGRAM AREAS

Two general program rooms should be considered for the Centre outside of the proposed gymnasium. These are:

1. A Board Room of 41- 46 square meters (450-500 sq. ft.) that could be used for small and medium group meetings.
2. A multi-purpose program room of 185 – 280 square meters (2,000 to 3,000 sq. ft.) that can be used for meetings, art and other general interest programs.

Both rooms should have:

- A synthetic, hardwearing floor surface (avoid carpet).
- A counter with sink and cupboards should be placed at one end.
- Can also be used as nerve centre for tournaments by coaches and officials.
- If possible, have the room face the north so that direct sun does not impact on arts related activities (especially painting).
- Have access to storage for tables and chairs for program purposes.
- Some facilities have placed programs rooms back to back with the gymnasium storage areas to provide storage access from either side.

GYMNASIUM

This is a full size gymnasium that can also be used for large community social events and concerts/recitals. It would ideally be provided in the first phase, but needs to be carefully planned for if future inclusion.

- Needs direct and easy access from lobby without going through control point.
- Must have adequate storage that includes tables and chairs.
- Needs fairly direct access to public washrooms that can handle a large social event.
- The gymnasium size would be at least 670 (7,200 sq. ft.) and ideally 745 square meters (8,000 sq. ft.) configured at 30.5 meters long x 24.4 meters (100' long by 80').
- 30.5 meters (100') length allows for main 25.6 meters (84)' basketball courts with 2.4 meters (8') at either end.
- 24.4 meters (80') width allows for two smaller cross court basketball, two regulation volleyball courts, and 6 regulation badminton courts.
- It can also accommodate indoor soccer.
- Surface is either synthetic of sufficient width (9 mm) to provide a resilient surface, or a sprung wood floor (superior but resurfacing required).
- Retractable bleacher seating along a wall is not recommended.
- The gymnasium needs a quality sound system for sporting, social and other related events.
- Gymnasium needs hardened walls up to 4.9 to 6.1 meters (16-20') for rebound purposes and a clear ceiling height of 10.1 to 10.7 meters (33-35').
- A food warming/service area for caterers needs direct and easy access (double door) from outside.
- Storage should be placed along one wall with multiple door access for large and small equipment.
- Because the flexi-hall could also cater to trade shows it should have:

- Exterior access doors for larger equipment and a floor cover to protect the surface.
- An electrical floor plate grid in the floor, or in the trusses as a drop-down.

PARKING, ACCESS AND FUTURE EXPANSION

Parking

The Town has confirmed a minimum count of 65 spaces to serve the Aquatic Centre portion of the Bay Roberts Aquatic and Recreation Centre. The location of the High School may lead some students to use the leisure centre lots, so coordination with the school will be required. Major evening events will also need coordination with all of the schools and their hosting of major events. The provision of parking stalls for persons with a disability and families with pre-school children needs to be carefully considered. A drop-off loop at the front entrance needs to be wide enough to ensure that an individual car can't impede flow though the loop. The pedestrian flow from the lot to the entrance must also be considered with a separate accessible pathway at the entry loop. Bicycle parking must also be provided and clearly marked. Keeping the lots and pathways clear of snow should be a priority for the Town staff.

Access and Accessibility

In addition to the drop-off and pick-up loop, the entry doors should be design for easy entry and should flow to the sides when activated for use by persons with a disability or families with children in strollers. A large (hand-size) activation push device should be used.

Inside the facility, every effort should be made to include persons with a disability in the planning process for not only entry, but also for the use of the spaces. The elevator width and use must also be reviewed.

Future Expansion

The design needs to carefully consider any future additions of spaces or expansion of current spaces. This includes how corridors will link to new spaces. Underbuilding change room and shower spaces in the first phase has generally proven to be a mistake because these spaces are often the most difficult to expand. The original design needs a clear future expansion plan.

PARTNERSHIP OPPORTUNITIES

Food Services:

Preliminary discussions were held with the local owner of 5 nearby food franchise outlets that focus on healthy food options. This potential food service provider would develop a satellite facility in conjunction with his main Bay Roberts restaurant. It would have the same food options with a regular service counter, a storage area, preparation area, and some seating that supplements the recreation facility's lobby seating. He would like an exterior door and to be included on Facility external directional signage. He would need access for delivery trucks or have goods transferred from his downtown location. He understands that the food service would need to be tendered out, but would consider a % of net sales or a sq. ft. rental agreement. In addition to facility users, this operation may also have student and takeout users.

Swim Suits and Gear

Some pools have made arrangements with aquatic goods suppliers to attain and sell aquatic gear (nose clips, swim caps, goggles, and swim suits). The small swim shop is often created in the front desk area and sales are carried out by front desk staff. These satellite operations have proven to be financially successful in other public pools, especially given the distance of swim gear retail shops from Bay Roberts.

Physiotherapy and Sports Medicine:

There may be options for a partnership arrangement with a local physiotherapist to provide operations on a lease basis in commercial space at the facility. These operations have proven to be successful at other recreation facilities and clients tend to become ongoing users of the recreation amenities, especially the pool and fitness areas.

Fund Raising

During discussions with the local business person involved with the food service industry, it was stated that the local business community and service organizations could support fund raising for the new facility. He believes that $2 million is a realistic target.

POOL MECHANICAL AND WATER PURIFICATION SYSTEMS

This section is not intended to be a full examination of these systems, but rather a preliminary overview of some best practices.

Water Circulation and Purification Systems

The clear objective is to provide clear, pure and odourless, tasteless water to pool users, while meeting all Newfoundland and Labrador Health regulations. The quality of the system is also essential to air quality in the pool area.

Mechanical Spaces

The pool mechanical spaces need to be fully accessible, both from inside the facility for maintenance personnel, and from outside for the delivery of supplies and replacement parts. The water circulation room (pumps and heaters), needs to be separate from the filter room where chemical mixing and water purification take place. A separate pool

chemical storage room needs to be attached to the filter room and have direct outside access for the delivery of chemicals and filter elements.

Water Purification and Filtration:

Some current best practices include:

- The best current double disinfection system uses liquid chlorine and UV. Regardless of what system is used, it is important that there is ongoing automatic monitoring of the system, including a two stage alarm, if a leak develops.
- Vertical high rate sand filters are the best practice for filtration. Horizontal sand filters should not be used.
- The “Neptune Benson” filter products appear to work well. Their automatic backwash system includes motors which automatically open the various valves required in the backwash process. Further research on what safeguards this system has for such things as a motor burn-out is recommended prior to a final decision being made.
- Traditional manual backwash systems do have the benefit of personnel overseeing the opening and closing of all valves the procedure.
- All pool pump motors should have stainless steel impellers with coated housing.
- For chemical feed pumps, a long lasting and reliable product is needed. Currently, the Chem Tech by Pulse Pump is the preferred product.

Gutter and Surge Tank Systems

A pool deck overflow system is standard in current public pools also used by high performance swim teams such as Bay Roberts. Gutter systems flow to a top access surge tank that must be vented and well marked.

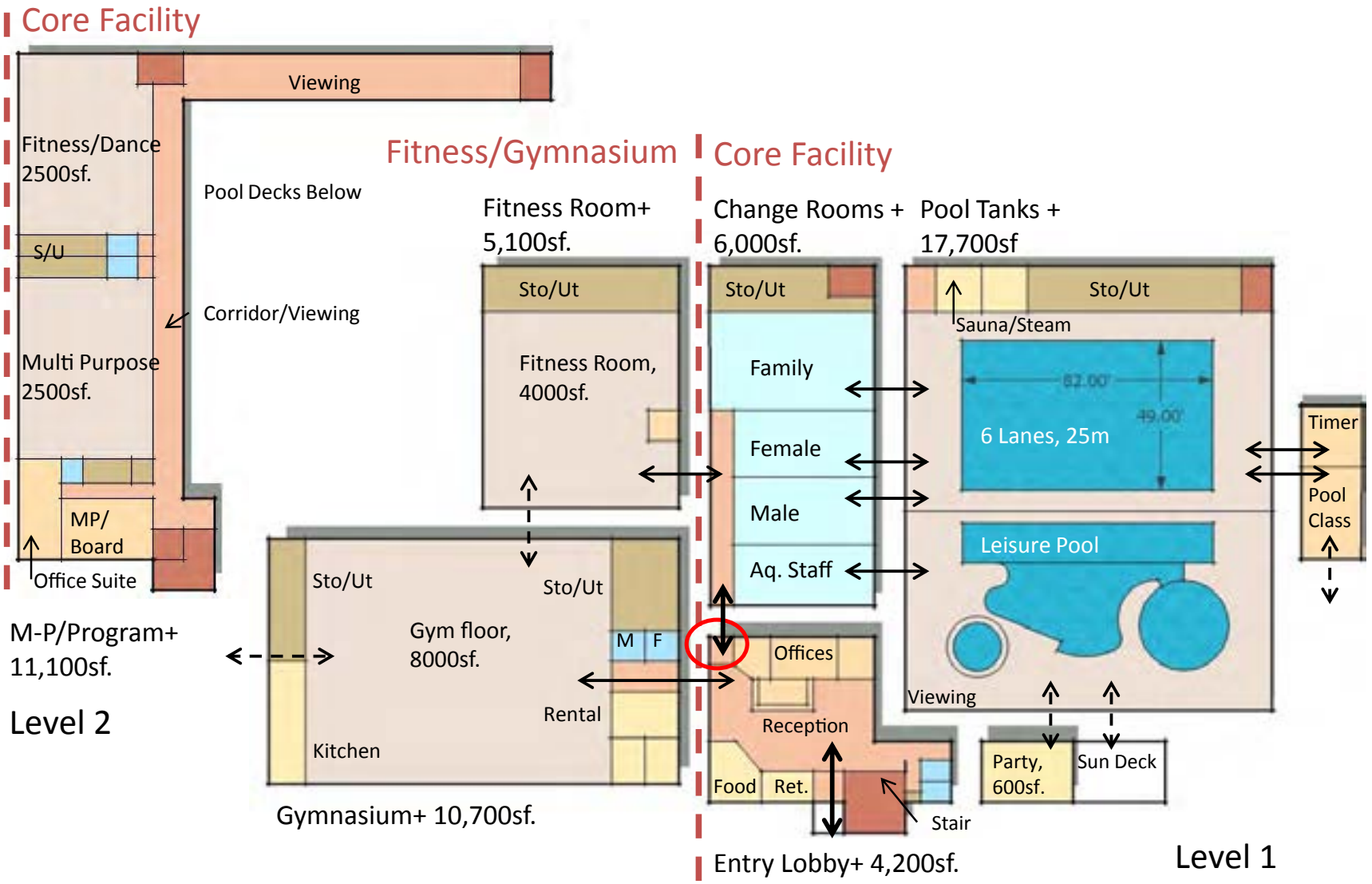
- The access point to the surge tank should be in one of the mechanical rooms rather than on the pool deck.
- Mythra pools use hooks within the gutter system to anchor lane lines. A best practice would be to have anchors built in every 5 meters in all gutters, because it is more difficult to add them in once the pool is constructed.
- Pool grating on gutter systems that use rubber cross braces between the ribs should be avoided. Duradeck grating for covering the pool gutter systems works well.

PROPOSED SPATIAL PROGRAM OF BAY ROBERTS AQUATIC AND RECREATION CENTRE

Taking all the above discussed into account, a spatial program was drafted for the Bay Roberts Aquatic and Recreation Centre, presented to and approved by Council in Summer 2014. Prior to submission of this report, computer generated renderings were also produced showing what the building may look like from street level in photorealistic detail. See following two pages.

Estimates of square footage and preliminary facility cost are included on the subsequent pages.

Bay Roberts Aquatic and Recreation Centre: Proposed Spatial Program



Bay Roberts Aquatic and Recreation Centre Conceptual Rendering: Front View

Bay Roberts Aquatic and Recreation Centre

Preliminary Cost Estimate

Building Areas		sq. m	sq. ft	Cost
	Core Facility			
Level 1				
	Pool Tanks	1650	17,700	
	Change Rooms	560	6000	
	Entry Lobby	390	4200	
Level 2				
	Multi-purpose, program and office	1030	11,100	
	Add 10% structure	370	4000	
	Total (Core Facility)	**43,000**	**43,000**	**$ 20,640,000.00**
	Fitness/Gymnasium			
Level 1				
	Fitness	475	5100	
	Gym	995	10,700	
	Add 10% structure	150	1600	
	Total (Fitness / Gymnasium)	**17400**	**17,400**	**$ 8,352,000.00**
	Grand Total			**$ 28,992,000.00**

Note: Facility Cost estimate is based on the number of square feet required multiplied by the average of the following available data:

Facility	Cost/sq. m	Cost/sq. ft.
Marystown	$ 40.00	$ 430.00
Wedgewood Park, St. John's	$ 45.00	$ 475.00
Summit, Mount Pearl	$ 50.00	$ 535.00
Average Cost per sq. ft		***$ 480.00***

BAY ROBERTS AQUATIC AND RECREATION CENTRE OPERATING PLAN

The Operating Plan for the proposed Aquatic and Recreation Centre in Bay Roberts includes three major components:

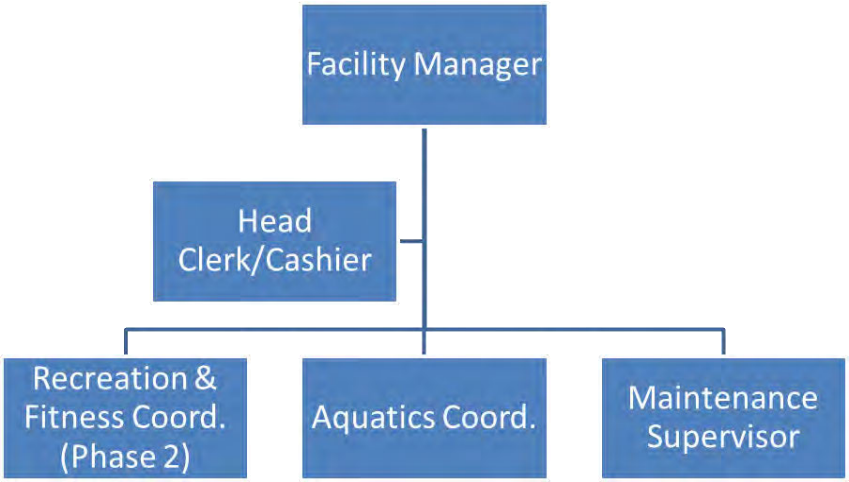
Part 1 is the Staffing Plan which outlines the suggested positions and staffing levels for the four facility operational areas.

Part 2 provides the Annual Net Operating Budget Projections for each of the four facility operation areas including all staffing and operational costs, and the projected annual revenues.

Part 3 is a Summary of the Projected Annual Budget Requirements.

PART 1: STAFFING PLAN

The Bay Roberts Aquatic and Recreation Centre would be part of the overall responsibilities of the Director of Recreation. It is proposed that the direct management of the Centre would be under a Facility Manager who reports to the Director. The Facility Manager would eventually have four direct reports as shown in the following organizational chart. The Recreation and Fitness Coordinator would be hired when Phase 2 of the project, (the gymnasium and fitness room), is carried out.



The **Facility Manager** is responsible for the overall operation and promotion of the Centre under the direction of the Director of Recreation. The Manager should be a non-union or "exempt" staff member. All other facility staff would likely be within the bargaining unit.

The Manager's duties include:

- Supervision of the four direct reports and the development of an overall performance management program for the facility as identified by the Director of Sports and Recreation.
- Ensure that the Director is regularly updated on the performance of the Centre and any issues that have arisen.
- Preparation of the annual budget with the participation of the four direct reports.
- Review of the monthly budget actuals with the four senior staff for both revenues and expenditures to ensure that fiscal targets for the year are been met.
- Ensure the development of quality public program and drop-in opportunities, along with space rentals to maximize revenues while providing public services.
- Prior to the hiring of the Recreation and Fitness Coordinator after Phase 2 of the project is completed, develop and implement a set of dry-land programs, and identify rental opportunities for these spaces when not required for civic programs.
- Develop marketing and public awareness tools for the Centre, and meet with community organizations to promote use of the Centre.

Building Operating Hours

The Centre would be open all 52 weeks of the year, with a recommended basic operating schedule of 8:00 am to 10:00 pm on weekdays and 8:00 am to 9:00 pm on Saturdays and Sundays. Note that some public recreation aquatic facilities open at 6:30 am on weekdays if a demand for early morning lap swimming becomes

evident, and the hours at the Bay Roberts facility could be adjusted in this case in the future. It is also recommended that statutory holidays would have reduced operating hours, (e.g. 10:00 am to 4:00 pm), and the Centre would likely be closed on Christmas and New Years' Day. It is assumed that most full-time staff would work 37.5 hour weeks, with the exception of the two full-time maintenance staff who will work 40 hour weeks.

Based on this schedule, the total annual operating hours would be approximately 4,900. The pool, however, would have an annual maintenance shut-down for two weeks in early September for cleaning and repairs in most if not all years. The fitness and program areas would likely continue to operate during this period. Some key maintenance staff will be needed to work for the shut-down period.

Staff Description

The projected staffing needs of the four facility operational areas that report to the Manager are outlined in the remainder of Part 1. The four areas are:

1. Clerical Section
2. Community Recreation and Fitness Program Area
3. Aquatic Section
4. Maintenance and Utilities Section

As per the organizational chart on page 1, the Clerical section is led by the Head Clerk/Cashier, the Aquatic section is led by the Aquatic Supervisor, the Community and Fitness Program area is led primarily by the Facility Manager until Phase 2 of the facility occurs, and the Maintenance Supervisor leads maintenance and mechanical operations of the facility. With the exception of the Community and Fitness Program area where all staff is part-time, each of the other three sections has two full-time positions and a number of part-time staff. All of the full-time positions and their responsibilities are described, along with each section's part-time

complements and projected hours. In a facility such as this, there would also be contracts with organizations or individuals to provide certain services, especially in the program and food services areas.

1. Clerical Section

This Head Clerk/Cashier is responsible for the provision of secretarial, clerical and cashier services at the facility, including:

- Supervision of the full-time Assistant and the part-time clerical staff that provide front-desk services at the Centre. Note: the Assistant provides this supervisory role when the Head Clerk/Cashier is not present and other clerical staff are working at the same time.
- Recruitment and training of part-time clerical staff for regular shifts.
- Ensure that additional staffing needs at the front desk are fulfilled for program registration periods as needed.
- Ensure that receipts from program registrations, rentals and public admissions are accounted for and deposited.
- Ensure that records and files are created.
- Provide administrative reports as required.
- Provide clerical and administrative support to the Manager and Director of Recreation as required.
- Track rental agreements with user groups.
- Investigate and implement both electronic card entry systems at the control point to the change rooms, and web-based program registration systems.

The **Head Clerk/Cashier** would generally work Monday to Friday during normal day-time working hours (e.g. 7:45 am to 4:15 pm).

Assistant Clerk/Cashier: It is recommended that the Head Clerk/Cashier has a full-time Assistant, and that this individual work a partially overlapping schedule. The Assistant Clerk/Cashier could, for example, work Saturdays and Sundays from 7:45

am to 4:15 pm, and then on Monday to Wednesday from 1:30 pm to 10:00 pm. This provides three days where the two full-time clerical people have some overlapping hours and provide full clerical coverage during opening hours.

Part-time Clerical Complement: Part-time clerical staff will primarily be required to provide front-desk coverage from Thursday to Sunday to cover hours outside of those worked by the full-time clerical staff. These hours include lunch coverage on all four days for the full-time staff person, all late afternoon and evening coverage on all four days, and holiday and sick relief for the two full-time staff when required. There may also be busy times during program registration or on weekends when additional coverage is required. Double coverage allows one person to handle paid admissions while the other deals with registrations, inquiries, and bookings.

The part-time clerical coverage at the front desk in support of the Head Clerk/Cashier and Assistant is shown in the table below:

Weekly and Annual Part-time Clerical Coverage

Days Covered	Thurs. & Fri.	Sat. & Sun.	Additional Support	Totals
Hours of Coverage	4:00 - 10:00pm	4:00 to 9:00pm	Lunch hour & FT relief	
Hours per Week	12 hours	10 hours	5 hours	27 hrs./week
Annual Hours	624	520	260	1,404

These hours can be adjusted by the Facility Manager and the Head Clerk/Cashier based on actual demands. It should be noted that the 1,404 hours estimate does not include the holidays or sick leave of the two full time clerical staff (245 hr. annually), or conversely, the partial hours or closures on statutory holidays (-75 hr.). The total estimated part-time hours of 1,575 will be used in the next section for budgeting purposes.

2. Community Recreation and Fitness Program Area

The two programming rooms in phase 1, the multi-purpose room and the fitness/dance studio, would host both rentals and programs developed by the Facility Manager. When the gymnasium and fitness room space are added in phase 2, a **Recreation/Fitness Programmer** would be needed, although a part-time person may be needed immediately to assist the Facility Manager in program development and supervision. A net revenue estimate for rentals and programs will be included in the Budget Estimates.

In terms of programs, these could include a variety of aerobic fitness, pre-school and after-school, arts and culture, dance, and general interest programs. The programs collectively would be expected to generate net revenue above instructor and supplies costs of 25%. The aerobics fitness area is a significant revenue producer and a head-instructor who both teaches and organizes other classes may be needed to develop this area more fully.

Room rentals have almost a 100% return on the fees paid. Rentals could include the existing private Zumba program, arts groups, and other community organizations which require a space for meetings and programs. The board room is also a potential rental space for community organization meetings. The Facility Manager would promote and advertise rentals. The rentals contracts would be processed by the Head Clerk/Cashier or their Assistant. It is expected that rental groups would be responsible for their own equipment and set-ups, or pay an additional fee for these services.

3. Aquatic Section

The aquatic area will be led by the Aquatic Coordinator. This individual will need a full-time Assistant Aquatic Coordinator, as well as two other regular part-time Head Guard/Instructors to ensure that at least one qualified individual is responsible at all times to supervise the pool and provide direction to lifeguards and instructors. The pool will be open for all operating hours of the Bay Roberts Aquatic and Recreation

Centre with the exception of the two week annual pool shutdown in the early fall. The pool daily closing time should also be approximately 20 minutes to one-half hour prior to facility closing times. This allows aquatic personnel to clear the pool, put equipment away and sweep the change rooms to ensure that all patrons have left by closing time. The Aquatic Coordinator, and ideally the Assistant, should have completed the Certified Pool Operators Course offered by Recreation NL, or an equivalent program.

Aquatic Coordinator and Assistant: The Coordinator is responsible for developing the aquatic program and schedules, recruiting and training lifeguards and instructors in addition to provincial programs, creating innovative public swim programs and events for staff to carry out, and working in liaison with the Bay Roberts Swim Club and other groups. The Assistant should have similar capabilities.

The Coordinator and Assistant would each work 37.5 hour weeks, with some overlap on three days of the week to allow planning time and coordination. For example, the Coordinator could work Tuesday to Friday from 7:45 am to 4:15 pm and then Saturday from 12:30 pm to 9:00 pm, with Sunday and Monday off. The Assistant could work Saturday, Sunday and Monday from 7:45 am to 4:15 pm, and then Tuesday and Wednesday from 1:30 pm to 10:00 pm, with Thursday and Friday off. This provides some overlap of hours between the Coordinator and Assistant on three days of the week.

The Aquatic Coordinator will need to spend a considerable amount of their time in planning aquatic programs, staff scheduling and training, and administration. This is in addition to some on-deck supervision of the lifeguards or from the pool office window. The Assistant will have greater time allocated to on-deck supervision, but will also have other activities. There will also be times when neither is working during the week. The Head Guards are intended to provide on-deck leadership during these times.

Head Guards: When the Coordinator and Assistant are not working, or unable to provide on-deck supervision of the lifeguards, this role needs to be undertaken by one of the qualified Head Guards. The times when either the Coordinator or Assistant will not be on duty are: Monday, Thursday, and Friday 4:00 pm to 10:00 pm and Sunday from 4:00 pm to 9:00 pm. This is 23 hours a week for 50 weeks (excluding the annual shut-down) for a total of 1,150 hr. Another 225 hours will be needed for holiday coverage for the Coordinator and the Assistant, and an estimated additional deck coverage of 600 hr. This is a total of **1,975 hr.** for the Head Guards, not including sick relief for the Coordinator and Assistant.

Other Part-Time Aquatic Staff: The configuration of the proposed aquatic area has two distinct pool areas, the 25 meter rectangular pool and the leisure pool. Each pool will require a minimum of one lifeguard (National Lifeguard Standard) on deck at all public use times. The bather loads and pool functions will determine pool staffing levels for public recreational swims, swim instruction, parent and tot, water fitness, water rehabilitation, swim team practices and other aquatic programs. When the bather load in either pool exceeds 40, for example, a second guard is required, with a third added when the bather load is between 81 and 140. Guards also need a short 10 minute break every 30 to 40 minutes, so guards will need to rotate. It is estimated that approximately **14,500** part-time hours will be needed for the pool lifeguards, swim lesson instructors, and water fitness instructors. Water fitness programs are a significant source of revenue and will require instructors with specific expertise.

In aquatic facilities, the full and part-time aquatic staffing costs are generally covered by revenues collected for public swims, lessons and other aquatic services. These revenues will, however, likely only recover a portion of other pool related costs such as utilities and maintenance staffing. Pools with both leisure pool amenities and a rectangular pool, such as that proposed for Bay Roberts, will have a much higher recovery rate than traditional rectangular pools alone.

4. Maintenance and Utilities Section

Two full-time maintenance staff will be required to maintain the building and pool mechanical systems, and to carry out major regular cleaning of the facility, including the entrance and lobby, hallways, offices, pool area, change-rooms, and program spaces. The **Senior Maintenance Worker** and their **Assistant Maintenance Worker** will work 40 hours per week. They can also assist in room set-ups when required. This would normally be the role of program staff or a part-time facility attendant.

It is important that the pool mechanical systems be of high quality. The water purification system currently accepted as the best is double disinfection using liquid chlorine UV. The best current filtration system is vertical high rate sand filters with an automatic backwash. Whatever pool systems are used, it is essential that they have an automated monitoring system. The building HVAC system also needs to be of high quality with automated controls and monitoring. The two maintenance staff members need to be fully trained to operate and maintain the building and pool mechanical systems.

The Senior Maintenance Worker would likely work a shift of Monday to Friday from 5:30 am to 2:30 pm. The Assistant Maintenance Worker would work from 1:30 pm to 10:30 pm Wednesday to Friday and then noon to 9:00 pm on Saturday and Sunday. This would provide for the basic maintenance of the facility systems, and cleaning of high traffic areas and rooms/offices that are not in use.

The cleanliness of the building is a critical factor in its success and continued use. The maintenance staff will require adequate storage areas for both pool and cleaning supplies, including a custodial station that is large enough for cleaning equipment and supplies as well as a slop sink.

The senior maintenance staff person and the assistant will clean areas as their working hours and the facility schedule permits. All staff, of whatever position, will also be expected to pick up any litter and to promptly report any major cleaning

issues. The major roles that the lifeguards played in cleaning the existing outdoor pool are not viable in a facility of this type and significance. Lifeguards should still use their short breaks from guarding to go to the change rooms, pick up litter, and hose down the floors and shower areas as required.

In terms of additional staff for cleaning, part-time Maintenance Workers will likely not be needed with the possible exception of Monday and Tuesday evenings. One option is to hire “Facility Attendants” during these two evenings to assist with room set-ups. It is also an option to have a private cleaning service carry out periodic cleaning after closing hours as required. An estimated 260 hours of holiday/sick-days coverage will be needed when either of the two full-time staff are absent for an extended period.

Summary of Staffing Needs for the Bay Roberts Aquatic and Recreation Centre

The following table provides a summary of the projected staffing needs for Phase 1 of the Aquatic and Recreation Centre:

Section	Full-time Staff	Part-time Staff Hrs.
Facility Manager	1	0
Clerical	2	1,575
Aquatic	2	1,975 Head Guards and 14,500 LG/I
Programs/Rentals	0 (1 in Phase 2)	Instructors TBD
Maintenance	2	Holiday/Sick Days coverage of 260
Summary	7	18,310

It should be noted that the part-time staff hours for both Aquatic and Programs/Rentals are largely related to use levels. This means that increases in these staffing costs are almost always covered entirely by increased program, admissions, and rental revenues. While the number of recreation program

instructors is not estimated in the previous table, an estimate of program costs in relation to program revenues will be included in the next section.

General Admission Fees

The projected general single admission fees for a facility of this type should be approximately: $5.50 for Adults (age 19+), $4.25 for Seniors (age 60+) and Students (ages 13-19), and $3.25 for Children (ages 5-12). Children under 5 would be admitted free. The Family rate would be $11.00 or twice the adult rate. These rates would apply to the pool and the fitness area when added in Phase 2. There also should be “use” passes for 10, 20 and 50 uses, and “time” passes for one month, three months, six months and one year.

A full Fees and Charges Schedule will need to be developed and approved well prior to the opening of the facility. This schedule will include admission fees, program fees of all types, and room rental rates.

PART 2: ANNUAL NET OPERATING BUDGET PROJECTIONS

This section identifies the projected annual expenditures and revenues for the Recreation and Aquatic Facility, both by major area and for the facility as a whole. The following major facility areas are shown:

1. Administration
2. Dry-land Programs and Rentals
3. Aquatic
4. Maintenance and Utilities

The staffing costs identified in Part 1 are a critical part of the overall budget. In addition, costs related to utilities, supplies and other factors will be included. Finally, revenue projections in relation to operating expenditures will provide the net annual costs to the Town and its rate-payers.

Area 1: Administration

This area includes the Facility Manager, all full-time and part-time clerical staff, and all expenditures related to administration and general services. As with all positions, benefits are calculated at 20% for full-time and 16% for part-time staff. All salaries and wage levels are best estimates and need to be determined.

Administration Staff Costs

Position	Hours	Salary/Wage	Total Costs with Benefits
Facility Manager	37.5 hrs. per week	$58,000	$69,600
Head Clerk/Cashier	37.5 hrs. per week	$41,500	$49,800
Asst. Clerk/Cashier	37.5 hrs. per week	$37,500	$45,000
Part-time Clerical Support	1,575 hrs. per year	$15.00 per hour Total of $23,625	$27,405
Admin. Total			**$191,805**

The Facility Manager should be appointed a minimum of four to six months before the facility opening date to allow them to develop and implement a hiring schedule, to order supplies and non-capital equipment, train staff, and market the facility.

Phase 2 will add a gymnasium and a fitness facility. These facilities will produce significant additional net revenues over operating costs and improve the bottom line, rather than increasing operational costs.

Other Administrative Costs

The following general additional costs are projected:

Type of Cost	Annual Amount
Advertising	10,000
Supplies and Stationary	6,500
Telephone and Internet	8,500
Misc.	1,000
Total	**$26,000**

*It is assumed that fire insurance is covered centrally by the Town.

Administrative Revenues

The following general revenue avenues are viable and should be explored prior to the opening and implemented from the date of opening.

Food Service and Vending Machine Sales: A food service operation should be explored for the facility. The best option may be to negotiate with a major food chain to install a satellite operation at the facility, and pay a proportion of net sales. Such a facility would need to be situated off the lobby and have a street presence in terms of signage. Vending machines may also be installed and supplied by a vending machine company. The net estimated annual revenue from these services is **$35,000 for the food services**.

Swim Product Sales: Many recreation facilities with a pool have found that the sale of swim related gear (goggles, swim caps, nose clips) can be a source of revenue and a benefit to both swim club members and recreational lap swimmers. Typically, an arrangement for supply of gear is made with a supplier and the facility receives a proportion of net sales. A small sales area can be created at the front desk and be handled by the clerk/cashiers. The net annual estimated revenue from this source is **$5,000 for sales.**

Total Net Revenue: The total net administrative revenues are **$40,000**.

Summary of Area 1: Administration Net Costs

The following table provides a summary of Area 1: Administration in terms of costs, revenues, as well as the net costs:

Area of Costs/Revenues	Amount
a. Salaries/Wages	$191, 805
b. Other Costs	26,000
c. Revenues	-40,000
Net Administration	**$177,805**

Area 2: Dry-land Programs and Rentals

The Facility Manager is responsible for this area when the facility is completed. When Phase 2 is completed, a Community Programmer will be required to maximize use of the larger facility. In the first phase of the facility, two program spaces will be created. The 2,500 sq. ft. fitness/dance studio and the 2,500 sq. ft. multi-purpose room will both be able to host rental groups and recreation and cultural programs developed by the Facility Manager. The fitness/dance studio will likely attract rental groups such as the existing private Zumba program and dance related community organizations. It should also be used for other types of fitness/aerobics and other open-floor programs directly developed by the Manager. The multi-purpose room has the capacity for rentals by community groups including those in the arts and crafts area, along with general interest programs and meetings. This room also has the capacity for programs developed by the Manager to maximize its use. In addition, the smaller board room can be rented when not required for internal use.

Rentals by community organizations will be promoted by the Manager and be handled administratively by the clerical/cashier staff. A rental fees schedule, including additional services such as additional set-ups or special equipment uses, needs to be developed to provide clarity to community groups on costs. If special set-ups are needed, for example, the costs of a facility attendant should be included

in the rental fee. Because most staffing and energy costs are already covered in the budget, the rentals areas should generate an estimated net profit of **$40,000.**

Dry-land Programs developed by the manager will have instructor costs, as well as materials and supplies costs for certain types of programs. The net profit margin for these programs should be 25% of total costs. Aerobics programs with sufficient attendance levels will have a higher return, while supplies heavy programs (e.g. arts) will be less. Using a 25% profit margin on an estimated $180,000 in revenues would result in an estimated net profit of **$45,000.** The instructor fees and supplies budget lines amounts and targets in the dry-land program area are best clarified after the first full year of operation.

Summary of Net Profit in Area 2: Dry-land Programs and Rentals Area

The estimated annual profit of **$85,000** for the combination of rentals and programs in the fitness/dance and multi-purpose rooms should be used for the initial annual budget, based on the number of months in the first year of operation. This estimate can then be adjusted in subsequent years based on actual performance.

Area 3: Aquatic

This area relates to all costs and revenues projected for the operation and programming of the pool area and the aquatic program rooms directly off the pool deck. As identified earlier, very heavy public swim loads will require additional guards on deck. Their costs, however, are covered by additional revenues.

Aquatic Staff

Position	Hours	Salary/Wage	Total Costs with Benefits
Aquatic Coordinator	37.5 hrs./week	$43,500	$52,200
Assistant Aquatic Coordinator	37.5 hrs./week	$39,000	$46,800
Head Guards	1,975 hrs./year	$16.00/hr. Total of $31,600	$36,656
Lifeguard/Instructors	14,500 hrs./year	$14.00/hr.	$235,480

		Total of $203,000	
Summary			**$371,136**

Other Aquatic Costs

The other costs included in the aquatic area are those most directly attributable to the operation of the pool, and the provision of aquatic programs. For example, pool chemicals and filter replacement parts are included in the pool costs. Water consumption is also included because the pool and the change room showers will be the major contributor. Electricity and heating oil are not included under pools. Even though the pool and change rooms are heavy users of power, consumption occurs throughout the facility and is included under general Maintenance costs. The following aquatic related costs have been identified:

Type of Cost	Annual Amount
Chemicals	$30,000
Filter Parts	4,500
Program Supplies	5,000
Pool Equip. Replace.	2,500
Birthday Party Supplies	2,500
Staff Training	3,000
Exam/Badge Fees	5,000
Uniforms	2,000
Total	**$54,500**

Aquatic Revenues

The following revenues are attributed to the aquatic area:

Revenue Area	Revenue Amount
Pool Admissions	$335,000
Lessons	75,000
Aquatic Fitness	40,000
Pool Rentals	45,000
Birthday Parties	20,000
Rehab Services	10,000
Locker Coin Use	15,000
Total	**$540,000**

Summary of Area 3: Aquatic Expenditures, Revenues and Net Cost

Areas of Costs/Revenues	Amount
a. Salaries/Wages	$371,136
b. Other Costs	54,500
c. Revenues	-540,000
Net Aquatic	-$114,364

While the projected net revenue of $48,616 over costs does include the majority of pool related costs, it does not include maintenance staffing or utilities (electricity and fuel oil). These costs are identified in the following section: “Area 4: Maintenance”.

The distribution of costs between the different areas was somewhat arbitrary and was an attempt to assign costs to the staff groups that had the greatest influence on them. All of the costs, however, are identified.

Area 4: Maintenance and Utilities

This area covers the staff costs, utilities, maintenance supplies and equipment, and other related costs used to maintain the Bay Roberts Recreation and Aquatic Facility, other than to those already attributed to Aquatic. Full-time Maintenance staff work a 40 hour week, but have the same benefits package of 20% as do other full-time personnel.

Maintenance Staff

Position	Hours	Salary/Wage	Total Cost with Benefits
Sr. Maintenance Worker	40 hrs. per week	$43,680	$52,416
Asst. Maintenance Worker	40 hrs. per week	$39,520	$47,424
Vacation/Sick Pay Relief	260 hrs. annually	$4,420 ($17/hr.)	$5,127 (16%)
Summary			**$105,057**

Other Maintenance Costs

Type of Cost	Annual Amount
Electricity	$90,000
Heating Fuels	50,000
Cleaning Supplies	25,000
Repairs and Parts	15,000
Additional Cleaning	5,000
Total	**$185,000**

Note: The “Additional Cleaning” amount is an allowance that can be used to have a cleaning service or extra staff to carry out periodic off-hours cleanings as required. This could be the result of a major community event, or simply to provide a more thorough cleaning of an area such as the change-rooms.

Revenues

There are no budgeted revenues directly associated with maintenance services. There may, however, be rental group contracts that include additional fees for clean-ups that would allow the Senior Maintenance Worker to bring on additional part-time hours after major community events such as a provincial swim meet. The use of Facility Attendants in these circumstances can allow the full-time Maintenance staff to focus on their primary duties.

Summary of Area 4: Maintenance and Utilities

The overall expenditures for the Maintenance and Utilities Section are projected at **$290,057** based on the identified staffing and other costs. While there are no direct revenues produced by this section, it plays a vital role in ensuring that the facility is clean, attractive, and prepared for programs and participation. Facility cleanliness and operational efficiency play a significant role in maintaining participation levels, and public acceptance and appreciation.

PART 3: SUMMARY OF THE PROJECTED ANNUAL BUDGET REQUIREMENTS

Summary of Net Expenditures by Area

Operational Area	Expenditures	Revenues	Net Cost
Administration	217,805	40,000	**$177,805**
Dry-land Programs and Rentals	TBD	TBD	**+85,000***
Aquatic	425,636	540,000	**+114,364**
Maintenance	353,650	nil	**290,057**
Totals			**$268,498**

*As previously identified, the estimated $85,000 in dry-land and rental revenues consists of $40,000 for rentals and $45,000 for dry-land programs. The $45,000 represents a 25% profit margin for an estimated $180,000 in program revenues.

Net Annual Facility Cost

As identified in the above table, the estimated net annual operating cost of the new Centre is $268,498. When the facility is opened, the current pool facility would be closed, saving an approximate annual net amount of $86,000. This means that the new net costs to the Bay Roberts ratepayers for the new Recreation and Aquatic Facility would be **$182,498.**

Impacts of Phase 2

Phase 2 will add a gymnasium and a fitness facility. These facilities will produce higher revenues than increased operating costs, resulting in an increased net positive bottom line for the facility. While the capital cost of Phase 2 may not be immediately viable, the sooner it is constructed, the sooner that reduced net costs can be achieved. The gymnasium will add program and rental opportunities for sport and recreation groups, as well as provide a venue for large community events such as craft fairs, major social events and sport tournaments. The fitness room will encourage more people in the community to become active. Nearly all major public recreation facilities include a fitness facility, and the experience has generally been that they increase the number of people that are newly active. Their impact on use

levels of private fitness operations has generally been either non-existent or positive. There are also opportunities for the Town to partner with the private fitness providers and physiotherapy and rehabilitation providers.

PROPOSED SITE PLAN FOR BAY ROBERTS AQUATIC AND RECREATION CENTRE

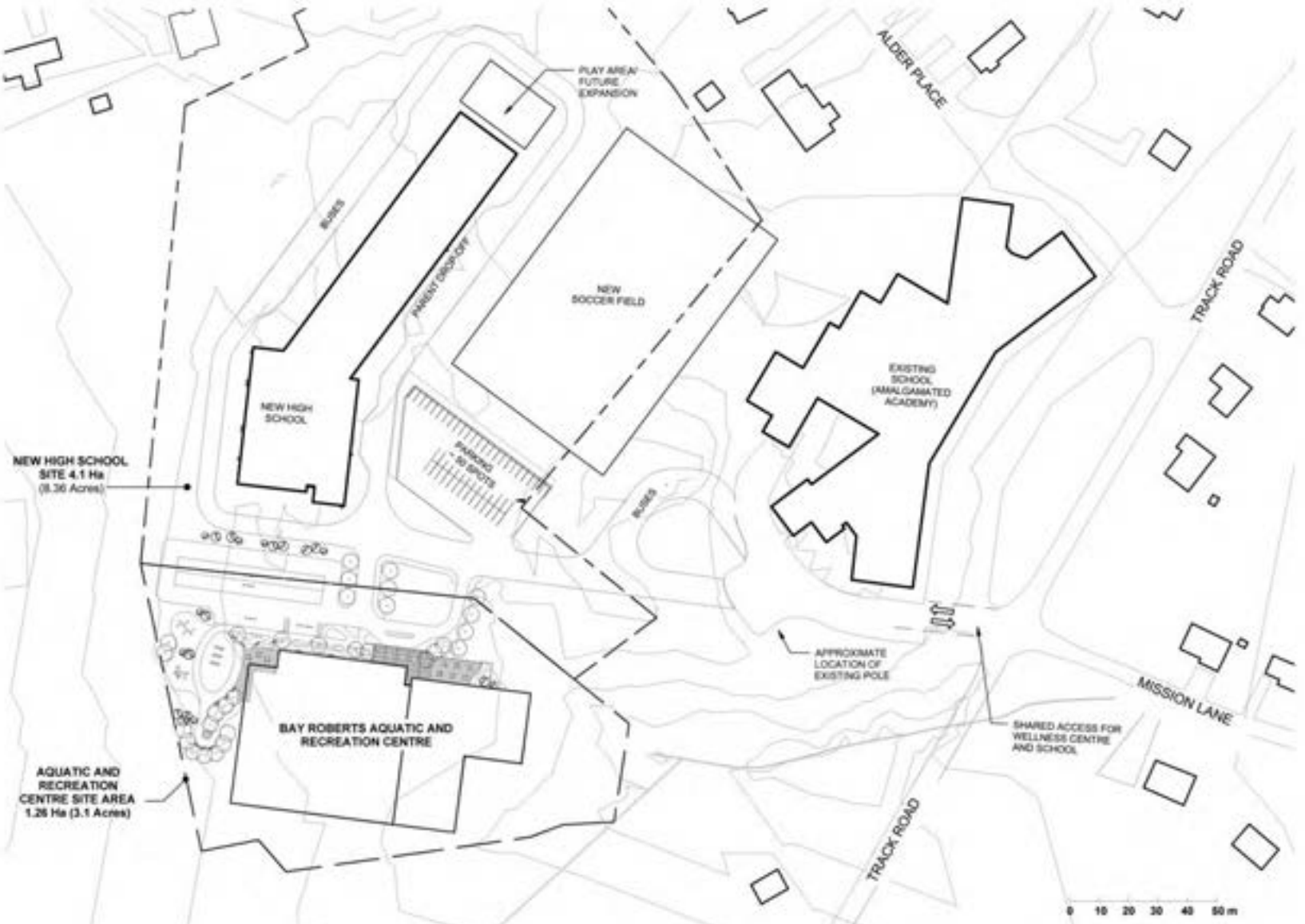
The chosen site behind Amalgamated Academy comprises a total of 3.1 acres and was donated by Mr. Eric Jarrett. During discussions of how this land would be acquired, it became apparent that an adjacent portion of land to the east was under investigation by the Provincial Department of Education as a future site for a new high school. The site planning exercise for the Aquatic and Recreation Centre thus had to take into account considerations of the new High School.

In early 2015 the project team met with the consulting Architects for the new High School, Fougere Menchenton Architects of St. John's, to confirm the exact boundary and layout of their design. By late spring 2015 the boundary had been confirmed and a final site plan chosen by the Department of Education for its new School. In the summer of 2015, Tract Consulting and Philip Pratt Architect prepared some site plan options for the Centre that were based on close coordination with Fougere Menchenton as well as the Best Practices discussed above. The larger site context and a conceptual Site Plan approved by the Town are shown on the next two pages. Following that is a conceptual rendering of the Bay Roberts Aquatic and Recreation Centre (with the Gymnasium Expansion) shown in a larger site context, with outlines of the new and existing Schools adjacent to it. This rendering is intended to give an idea of the proposed spatial relationships and circulation between buildings on the site.

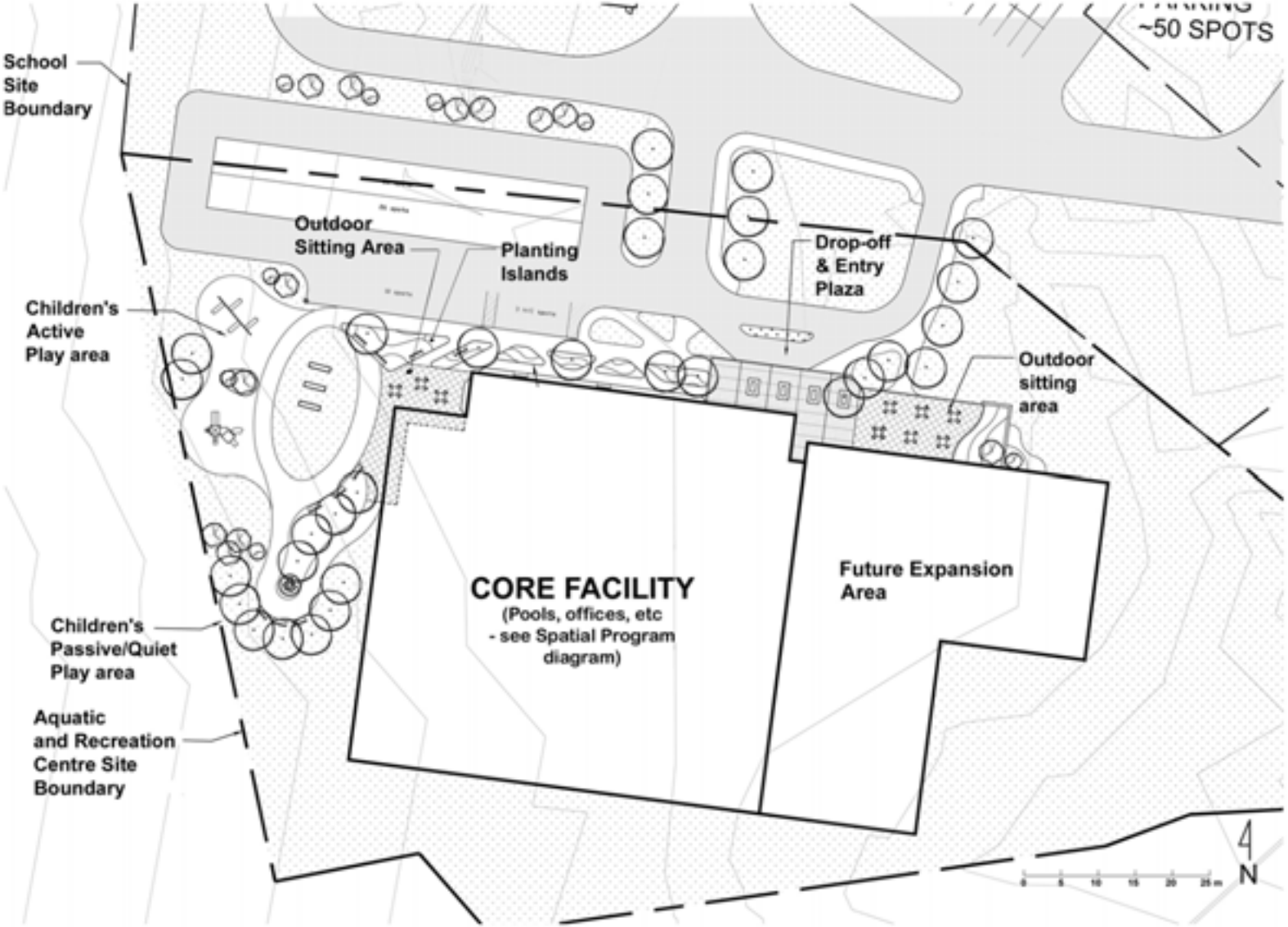
Parking

The team determined a parking count of 65 spaces at a minimum based on programmatic loads and the town's requirements for indoor assembly uses (Note that this count is based on use of the Aquatic portion of the Centre only and not the future Gymnasium). Since the peak use periods for the High School and the

Bay Roberts Aquatic and Recreation Centre: Larger Site Context



Bay Roberts Aquatic and Recreation Centre: Proposed Site Plan



Bay Roberts Aquatic and Recreation Centre Conceptual Rendering: Larger Site Context

Centre will be for the most part mutually exclusive, it is likely that the parking lot in the high school (50 spaces) will act as overflow parking for the Centre. Nonetheless, major evening events will also need active coordination with all of the schools and their hosting of major events.

Parking stalls for persons with a disability and families with pre-school children are located as close as possible to the entrance of the Bay Roberts Aquatic and Recreation Centre. A drop-off loop at the front entrance has been provided and designed to ensure an individual car can't impede flow though the loop.

Detailed design considerations in future stages should consider accessible entry pathways and automated doors at the entry loop, bicycle pathways and parking and snow clearing.

Future Expansion

The conceptual design of the building and the site has taken into account an expansion area to the south for the future Gymnasium. Future detailed design will need to consider corridor linkages to this area. Additional parking space may also need to be sought.