

Pre-Feasibility Study for the Quesnel Multi-Centre

Prepared for:
City of Quesnel
Cariboo Regional District
Quesnel Community and Economic Development Corporation

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Executive Summary

The existing Arena #1, built in the 1950's is approaching the end of its safe and relatively efficient operation. A previous study in 2002 determined the facility had five years of remaining service life. Upgrades would only briefly extend operation and would cost up to \$5 million in current dollars.

A new replacement Multi-Centre facility with fixed seating for 1,600 (2,500 including floor seating) if designed and construction began in 2007, would be completed for the summer of 2009. Construction cost for the 65,000 SF (6040 SM) facility would be approximately \$13.6, for a total project cost of \$16.3 million in early 2007\$. The building would be configured (sideline seating) to allow for future end-zone expansion to 2,300 fixed seats.

Possibly included in the project or at least considered and master-planned for subsequent phasing would be a \$6.7 million 450-seat Performing Arts Centre and / or a 20,000 SF, \$6.3 million Museum (feasibility studies prepared by other consultants).

A facility of the scale of the Multi-Centre arena would cost about \$780,000 per year to operate, anticipating maximum revenues in the range of \$400,000, net operating subsidy would be approximately \$375,000 per annum. Amortization of the entire \$16.3 million would cost over \$1.1 million a year at current rates. Lifecycle costs would be above stated.

The Multi-Centre arena facility will accommodate four major functions:

- Millionaires hockey (30+ nights/season)
- 25 additional event nights (concerts, fairs and shows)
- Ice sport tournaments (6 weekends projected / year)
- Amateur sport rentals plus public use admissions.

Analysis of population trends suggests that by 2020, the under-19 population will decline by one-quarter (while the 65+ cohort will double from 10% to 20%) implying participation and demand for ice should decline. However, pent-up demand and emerging constituents such as female hockey suggest that the community might continue to sustain two ice sheets, but that the argument for developing a third sheet should be deferred. The recent introduction of indoor soccer will increase recreation opportunity, but the impact on hockey registrations will be minimal.

Beyond the direct impact of creating short-term construction jobs and long-term additional part-time / casual employment opportunities, the economic developments benefit to the community (not counting increased attendance to Millionaires games) would be the new annual infusion of over \$1.3 million gross in visitor spending (lodgings, meals and shopping) based

on 25 annual event bookings and 6 major hockey tournaments.

Three options have been identified for further evaluation and public input for the proposed Multi-Centre arena:

- Option A - Multi-Centre arena at the Library Site with Performing Arts centre (and future Museum) at Alex Fraser Park
- Option B - Multi-Centre arena co-located at Alex Fraser Park Site with the Performing Arts Centre (Museum to be located on a site to be determined)
- Option C - Multi-Centre arena located at Alex Fraser Park Site with the Performing Arts Centre to be built on the vacated Arena #1 site (Museum to be located on a site to be determined)
- Option D - Multi-Centre arena at the Library Site with Performing Arts centre at the Helen Dixon site (owned by SD28)

The greatest outstanding challenge will be determining the final location for the new Multi-Centre and consequently where the Performing Arts Centre and Museum will be master-planned. Two locations, Alex Fraser Park and the current Library location remain viable, each with opportunities and challenges.

The existing Arena #1 site has been disqualified for the Multi-Centre but could possibly support one of the other (phased) facilities. Three other sites were evaluated and discounted.

The next phase in the process will be a feasibility study to gauge the degree of public support for the project and, to assess site-specific technical requirements, building specific program and capital costing to higher degrees of certainty. The most optimistic opening of a new facility would be in time for the summer of 2009.

1.0 Introduction

Residents of Quesnel and the surrounding Regional District are at a crossroads. Decisions will need to be made in the near future to determine an appropriate strategy for replacing aged Arena #1, as well as at some point, adding new facilities apparently lacking in the community including a new 450-seat Performing Arts Centre and a new Museum. Other projects envisioned for the future include a new Gymnastics centre and a new Agriplex at Alex Fraser Park.

The existing Arena #1 was originally built in the 1950's (a second adjacent sheet added in the 1980's) is aging and is functionally and technically obsolete. A technical assessment study conducted in 2002 outlined a series of strategies for upgrading Arena #1 as well as proposing a new replacement facility seating 2,500.

The renovation strategies dealt with critical Building Code life safety and building systems upgrades, ranging from 16% to 30% of replacement value. These remedial actions address building systems facing eminent failure. Functional issues such as narrow bench seating, low seating capacity, small ill-equipped team rooms and inadequate concourse space were not addressed in the 2002 assessment. Each strategy in the 2002 study would only extend Arena #1 building life for a limited period of time.

Renovation strategies were priced at \$1.2 million to \$2.8 million which when escalated to 2007\$ (the earliest possible tender date if design began this year) the range increased from \$2.1 million to \$5.0 million, construction. Soft costs would add 20-30% to the amount.



Arena #1

The new replacement arena option in the 2002 study, forecasted to cost \$9.2 million, construction would be escalated to \$16.6 million in 2007\$ - over \$20.0 million in total project cost. Construction cost escalation for the last two years alone have averaged 1.5% per month due to materials and labour scarcity. From 2002 to 2007 costs have risen by almost two-thirds.

For the purposes of this study, Cannon Design assumed that a seating capacity of 2,500 was more than currently required, confirmed with meetings with ice user groups and tenants. A seating capacity of 1,600 was arrived at (a 50% increase over existing Arena #1 capacity), with the provision that the building could be easily added on to in the future increasing capacity to 2,300.

Gross building area would be reduced by about 30% from about 90,000 SF to 65,000 SF or 6040 SM. The scaled down project would be reduced to a more sustainable \$13.0 million construction or about \$16.0 million project.

Community Decision

The community will need to make four major decisions in order to go forward:

- What facility components will be included in the Multi-Centre
- How will the Multi-Centre facility be funded
- Where will the Multi-Centre facility be located
- What other types of facilities will be deferred to future phases

The matter of the second item is outside of the scope of this study. The third point, where the facility would be located is discussed in Section 6.0 of this report.

The first and fourth points are germane to the third point in so far as some of the site options could support co-location. Further, the vacated Arena #1 site would provide and development opportunity for either the future Performing Arts Centre, the Museum or other public building.

Note that co-location of the arena component of the Multi-Centre with another facility such as the Performing Arts Centre yields no economies of scale (i.e. shared lobby, washrooms, back-of-house spaces) as each will function as separate controlled spaces. The most successful example of co-locating a theatre and arena is the Dow Centre in Fort Saskatchewan, Alberta where the banquet facilities is the bridging function.

Also note that separate studies have been completed recently that identify need, program and budget for the Performing Arts Centre and the Museum facilities.

Purpose of This Study

Therefore, the mandate of this pre-feasibility study is to:

- Assess demand
- Ascertain the scale of magnitude of the project
- Determine the most appropriate site or sites for the facility, including potential for co-located facilities
- Forecast order-of-magnitude capital and operating costs
- Determine best practices that may influence delivery, management and operations
- Estimate economic benefit to the community this type of facility may yield

2.0 Demographics and Demand

The rationale for a new multi-purpose ice facility should be grounded in quantifiable demand. That demand is informed by:

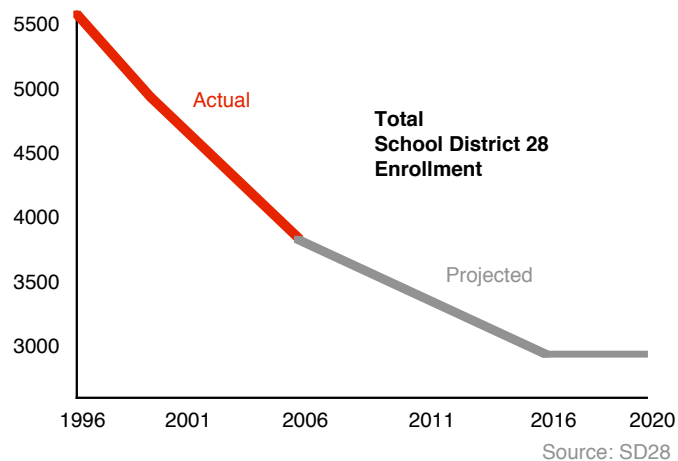
- Demographics (number of constituents), and
- Participation (percentage of constituents that will actually use the facility).

Additional influencing variables can come into play such as historical unmet or pent-up demand (cannot or will not use existing facilities) or the unique location factors (remote isolated location, or a culture of participation).

Population Trends in Quesnel and Area

Three major population trends will influence demand in the community in the coming years:

- The total number of school aged children according to SD 28 will decline precipitously by 25% from 2006 to 2020,
- The number of seniors (65 or over) will be almost doubling from 12% to 21% of total population during the same time period, and
- According to BC Stats, total population of Quesnel and area is projected to increase 10% by 2020 (Province: 19%), an estimate far too optimistic given local conditions



The implications are significant:

- 1 Fewer young families relative to the population as a whole. This trend is already in evidence as SD28 historical enrolments have declined 13% in the last five years alone.

- First Nations residents will experience higher birth rates relative to non-aboriginals.
- 2 The number of seniors aged 65 or older has doubled in the past two decades and will increase by more than an additional 50% by 2020. This will result in fewer occupants per household.
 - 3 The community median and average age will be older but the overall ratio of dependents to working age will remain at about 1:1.5. This should negate any negative impacts of reduced household incomes that a shift in dependency ratio would produce.
 - 4 External factors such as industry structural change and the pine beetle infestation will likely have an adverse affect on average household incomes that are currently in the range of \$50,000 per year. Economic diversification may mitigate this impact.
 - 5 The retention of seniors in the community for quality of life reasons will be positive to community vitality (and may in fact create a net migration of retirees) but have little if any influence on multi-centre demand.
 - 6 Ethnicity, which can impact and shift social and recreational choices is not a major variable as the immigrant and visible minority populations remain stable at around 10% each.

Ice Demand Variables

While the centre is intended to be multi-use by nature, its dimensions and spaces are largely driven by the largest form determinant. Ice hockey prescribes the building footprint and therefore ice demand has profound impact on future direction.

Therefore what constitutes ice demand is the key driver in determining the appropriate supply response.

Population influences and trends directly and indirectly impact demand. Noteworthy observations include:

- 1 Nationally, participation in hockey is decreasing at an increasing rate – in other words hockey registrations are declining more steeply than the declining numbers of children and youth.
- 2 The decline in minor hockey registrations (male) are seldom reflected in decreased utilization as hours are absorbed by existing users, or marginalized groups such as girl's and women's hockey, ringette, figure skating or adult hockey take up excess capacity.
- 3 Equating Quesnel and area's 7,000 households to the 450 minor hockey residents (assuming one participant per household) implies a maximum of 6% of households participate in ice hockey - figure skating, ringette and lacrosse pushing that figure to about 10%. Adult hockey

- typically constitutes double counting as opposed to additional demand.
- 4 In the absence of reliable historical registration numbers and based on conjecture, minor hockey registrations are down from peak levels approaching 550 in the past which loosely corresponds with the decline in <19 population.
 - 5 General planning standards in the recreation industry suggest an adequate supply response would be one ice sheet per 10,000 residents or one ice sheet per 600 minor hockey registrants (2 hours of 'prime' ice time per week per participant: one game and one shared-ice practice) utilizing 100% of prime time.
 - 6 Currently, minor hockey uses 56 hours per week of prime time and 15 hours of non-prime time. That translates into 4.5 hours per week per participant or, 3.0 hours per week based on full-ice sheet practices.
 - 7 A review of current ice booking schedules provided by the ice user groups suggest prime time (5-9PM Mo-Fr; 9AM-9PM Sa-Su) are 100% booked in Arenas #1 and #2. Shoulder or off-prime times (6AM-5PM and 9PM-11PM Mo-Fr; 6AM-9AM and 9PM-12:30AM Sa-Su) are effectively booked except for mid-day gaps in Arena #1 and large daytime gaps in Arena #2. Scheduling demonstrates access for other users such as public skate, figure skating and ringette. Adult hockey is almost entirely off-prime time bookings.
 - 8 The use of Arena #1 by the Quesnel Millionaires removes 30 evenings of time inventory each season, not counting play-off dates. Of these half tend to be Saturday or Sunday games and the remainder weeknight games. That translates into 2.5 lost (to users) weekend evenings per month and 2.5 lost weekday evenings per month or a total of 20 lost prime time hours per month or 12% of availability.
 - 9 New to Quesnel and area is the phenomenon of indoor soccer, a hybrid game played on an arena sized, artificial turf covered surface. The outdoor and indoor games of soccer have experienced phenomenal growth in participation (now leveling off nationally). Affordability, access and access for both genders has made the sport attractive but in most locales, not directly at the expense of hockey participation.
 - 10 A replacement facility will increase demand for non-ice user bookings, further reducing availability for traditional ice user groups. Given the inevitable decline in the under-19 population, it would be hard to justify a third Sub-Regional ice sheet at this time to offset this impact. However, trends suggest increased interest in adult, women's and senior's hockey may allow make a user-funded and self-sustaining "adult-oriented" third ice arena a viable business opportunity.

Non-Ice Demand Variables

Current non-ice uses of the arena are minimal owing to the obsolescence, poor climate controls and advanced deterioration of the aging facility.

Occasional shows, fairs, graduations and an annual indoor rodeo round out use of Arena #1, the spectator arena to be replaced.

A replacement facility, modern with state-of-the-art acoustics and technology will better accommodate as well as attract additional events including but not limited to:

- Arena concerts (usually a separate market than performing arts facilities and auditoriums)
- Conferences (local and regional) and small trade shows
- Convocations and graduations, college exam writing
- Fairs, markets, car shows
- Circus, rodeo, extreme sports (BMX, motocross), touring sports (basketball)
- Movie shoots and other rentals
- Summer camps

Most events in addition to event-day(s) will require set-up and tear-down days for the set up and removal of flooring and seating over the ice, set-up of stage and equipment and, clean up and removal. In effect, one event will translate into three days of interrupted scheduled use.

The economics of concert and performance necessitate touring circuits. Tours are built around size and availability of venues, efficient scheduling and compressed travel.

“Name” performer(s) and their drawing power determine potential gate revenues and consequently scale of venue selected.

These include:

	Capacity
• Coffee-house	<200
• Small concert hall	200 to 500
• Large concert hall / very small arena	500- 2,000
• Small Arena	<7,000
• Mid-size arena	<10,000
• Large arena	<20,000
• Stadium	>20,000

The Quesnel Multi-Centre would target attracting shows in the large concert hall / very small arena range. Further, Quesnel’s location on route between Prince George and Kamloops (which as public* facilities host on average two concerts per month) may offer an enticing stopover for small arena tours.

Footnote: public-private ventures such as in Kelowna and Victoria average four performances per month due to higher revenue expectations.

3.0 Supply Response and Existing Facilities

Currently, there are in Quesnel two ice arenas, a modest Performing Arts in a high school and a museum in an aging undersized building. The ice arenas include:

- Arena #1, built in the 1950's, spectator capacity 1,100, determined in 2002 to have 5 years remaining building life, though recent investment has been made in a new slab and ice mechanical components.
- Arena #2, adjacent to Arena #1 and constructed in the 1980's also includes a contiguous leisure skating ice pad at one end. Building condition fair. Building not in the scope of this study.

Ice user groups in Quesnel and area, as well as, the Quesnel Multi-Centre Society have advocated the need for three ice sheets. By industry standards, two is adequate for a community of this size and, anticipating declining population in the under-19 age groups, building a third ice sheet at this time would be with risk. Therefore, a third ice sheet is not included of the scope of this study.

Separate studies have been completed for a performing arts centre (22,000 SF and \$6.7 million in 2005\$) and separately for a new museum (20,000 SF and \$6.3 million in 2005\$). The demand, functional programming and financial analysis of these facilities were prepared by other consultants in separate studies and do not form part of this study.

Site Planning for All Three New Facilities

All three potential projects, the Multi-Centre (spectator arena, capacity 1,600), the Performing Arts Centre (capacity 450) and the Museum are considered in the site planning (Sections 5.0 and 6.0 of this report).

The eventual demolition of Arena #1 presents citing opportunities for one of these new facilities, excluding the Multi-Centre as the Arena #1 site is narrow and would not support expansion in the future.

A new Multi-Purpose arena would be in greater demand for non-ice uses which presents both opportunity for new attractions (and potential economic benefit to the community), but also will constrain access to ice times, limiting participation and reducing individual access.

4.0 Preliminary Space Program

The spacelist on the following page indicates preliminary area requirements for the Multi-Centre. Final area requirements will be determined in the next phase of the project, involving greater analysis and input from staff and users.

For site planning and cost estimating purposes, these values are valid and comparable to similar type and scale facilities referenced in Western Canada.

For planning purposes, the gross building area, assuming a spectator capacity of 1,600 would minimally be 65,000 SF or 6040 SM. Of this, 70% would be categorized as assigned area including for example ice surface, seating, meeting space and team rooms.

The remaining 30% are building factors that include circulation (including concourse), washrooms, mechanical spaces and building structure. Building factors increase and decrease proportionally in relation to assigned areas.

Assumption for planning include:

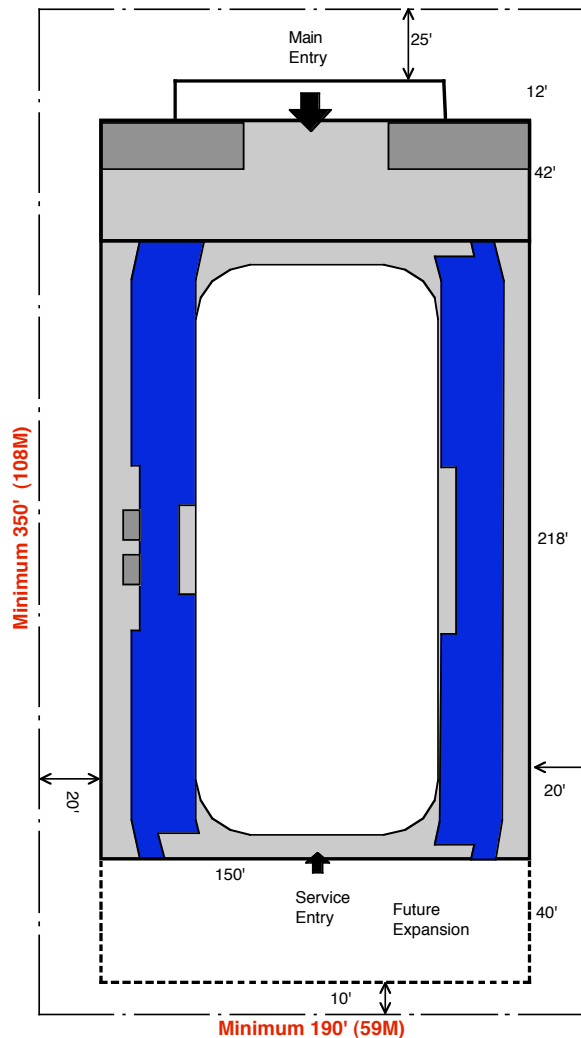
- All sideline seating allowing an open end for future expansion increasing seating capacity to 2,300; minimal structural span of 132' (40.6 metres)
- NHL-sized ice sheet, team rooms are sized to adult use with shower / WC
- Individual seats 22" wide and 33" from seat back to seat back
- Circulation is prescribed by Building Code and minimal for emergency exiting and presumes exterior egress on all sides; seating, ice width and concourse width prescribes a minimum 150' (46.2 metre) wide building
- Multi-Purpose space for 200 to 300 would be sub-dividable with movable wall systems; on-site catering kitchen not full banquet kitchen (which would add considerable cost); Note: where site is sufficiently large enough such as Alex Fraser Park, conference and banquet facilities have been treated as a separate and larger (capacity 500) additional component
- Mechanical systems allowance 5% for conventional HVAC systems

Multi-Centre Preliminary Space Program

	SF	SM
Spectator Level		
Spectator Seating for 1,600	8750	813
Concourse Circulation	8750	813
Washrooms (min. F 17, M9)	1300	121
Concessions	400	37
Retail	200	19
Press Booths	150	14
Sub-Total	19550	1816
Participant Level		
NHL-sized Ice Surface	17000	1579
Team benches and Boxes	500	46
Circulation and Trench	4000	372
Chiller, Condenser	1100	102
Ice Resurfacing and Pit	300	28
Team Rooms (5 Adult)	2750	255
Millionaires Locker	750	70
Millionaires Equipment	200	19
Millionaires Offices (2)	250	23
Refs Locker Room	350	33
Public Skate Change Area	1300	121
Public Washrooms	300	28
Skate Sharpening	250	23
First Aid	150	14
Facility Manager Office	125	12
Staff Lunchroom	150	14
Full-Height Storage	2000	186
Low Headroom Storage (under raked seating)	4000	372
Maintenance Shop	250	23
Waste Holding	25	2
Sub-Total	35750	3321
Community Component		
Multi-Purpose Conference Ctr. (cap. 2-300; sub-dividable)	4200	390
Catering Kitchen	300	28
Storage	200	19
Sub-Total	4700	437
Building Systems		
Building Mechanical 5%	3000	279
Walls and Structure 3%	2000	188
Gross Building Area	65000	6040
Net to Gross 1:1.45		

5.0 Site Requirements and Selection Criteria

A preliminary concept has been developed in order to test the suitability of a number of sites that were identified as under consideration.



The concept is merely intended to illustrate program and function, site fit and to assist in establishing a capital cost. It should not be interpreted as a floor plan at this time. A specific architectural plan will be developed for the selected site in the future that resolves all site-specific issues.

Presuming the narrow seating configuration that allows for future expansion, building footprint area would nominally require 40, 550 square feet (3770 square metres).

Including fire lane access, future expansion footprint and crush space in front of the building expands the critical footprint to 350' x 190' or 66,500 square feet (6,180 SM) or, about 1.5 acres (0.6 hectares). The area does not include parking, semi trailer turning radius and bus passenger drop off areas.

The concept presumes a level site (as most identified were) but could be adapted to a sloping site that would ease separate entrancing for spectators and for users.

Optimally, a facility of this scale would require 250 to 400 parking spaces (1 stall per 4-6) requiring an additional 3.2 acres (1.3 hectares) for a total site area of 4.7 acres or 1.9 hectares of land. Parking has not been factored into the downtown locations investigated.

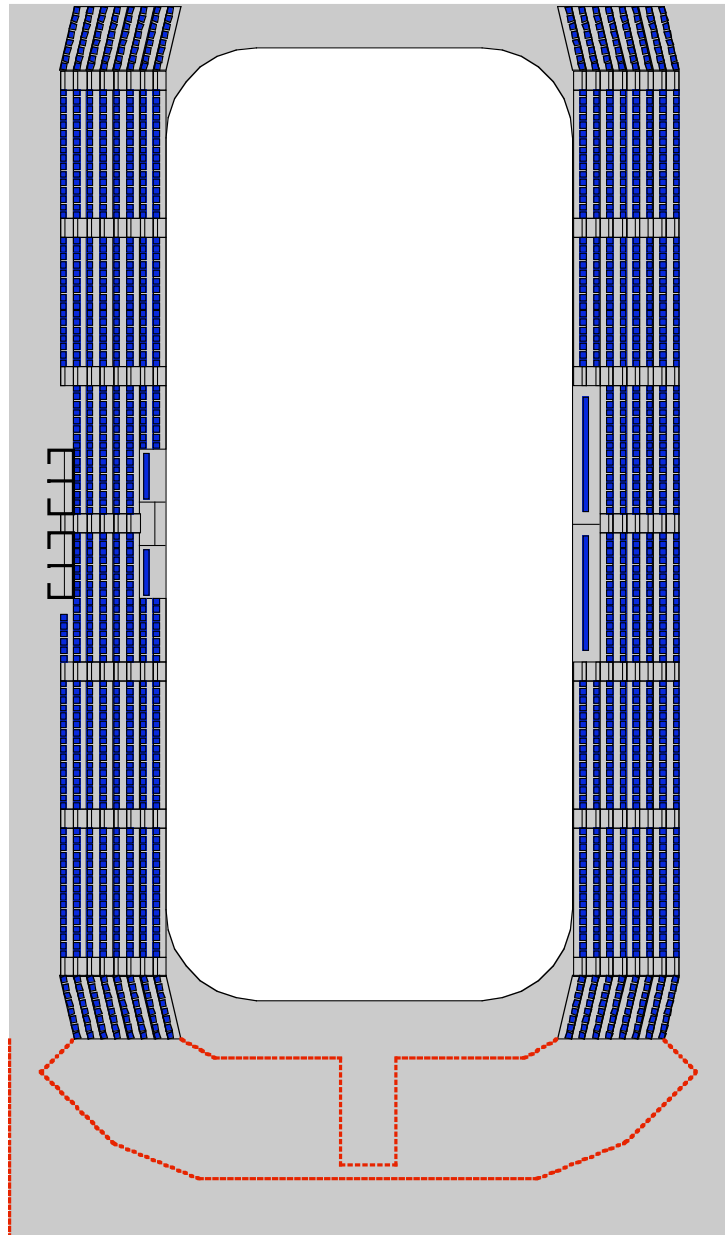
Massing Impact

The massing of the building is quite substantial and will tend to dwarf surrounding buildings of lesser scale. Its height (presumed the ice slab is at grade) would be a minimum 30' clear interior height with an additional 10' of structural truss depth (plus roof peak if roof is pitched), for an overall height of 40 feet or 12.3 metres.

Elevations will be windowless blank walls, except for the front elevation that could integrate lobby glazing. The impacts of these walls 220' x 40' could be mitigated by material changes, banding (joint lines) and murals to create a more neighbourly face.

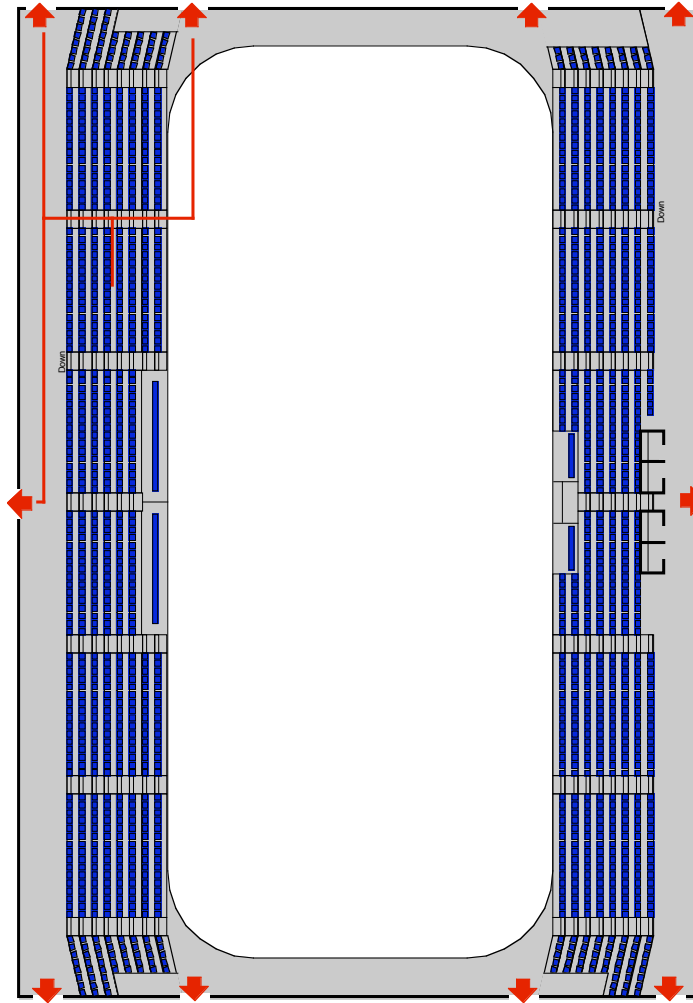
Seating Configuration, Span and Expansion

The most economical configuration for the Multi-Centre arena that allows for future expansion is a narrow building with all sideline seating, which allows for future expansion at one end. The 1,600 seat capacity is achieved in increments of eight rows, 16 seats between aisles. Clear structural span extends from behind the last row of seats on either side. Concourses behind the seating banks allow for unobtrusive top-loaded, rear exiting.



Life Safety

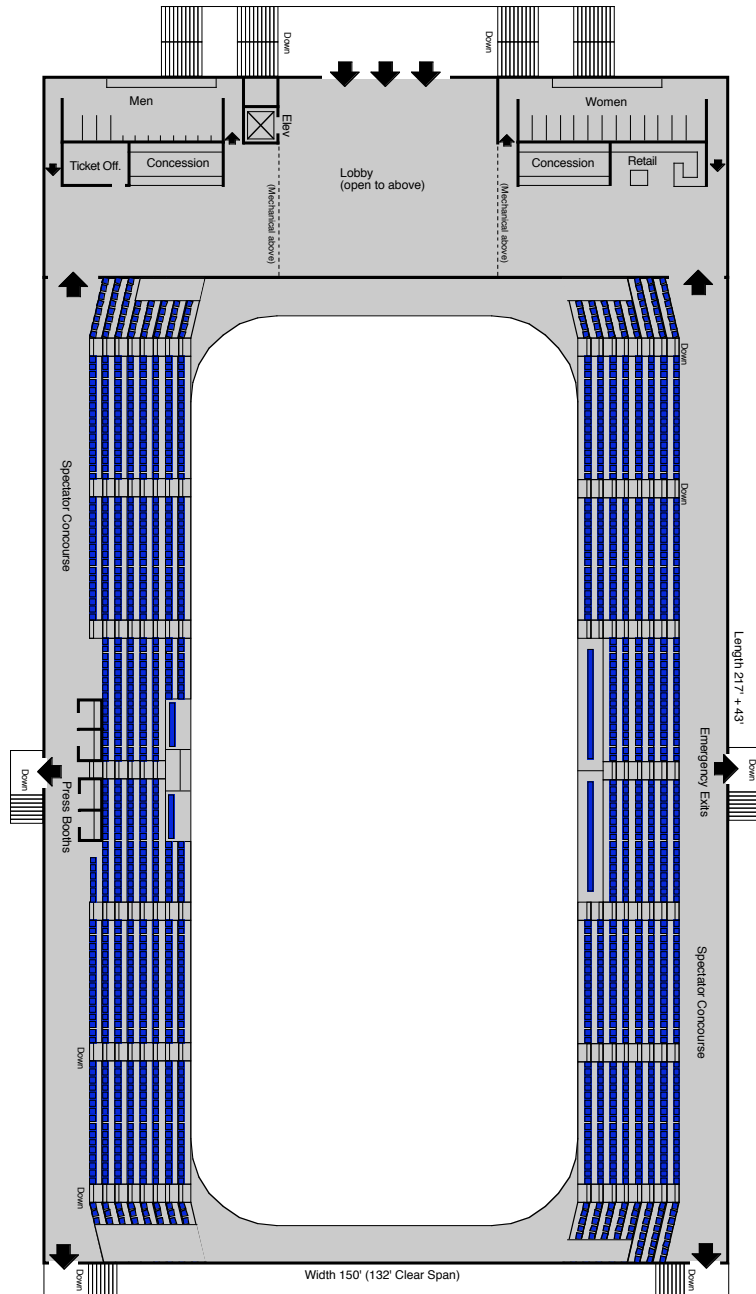
Concourse width is a function of occupant load, exiting distances and number and placement of egress points. Spectators must be able to exit from two directions to a limiting distance of 40 metres. Presuming mid-point exits (the building does not directly abut another building), concourse widths can be kept to 3 metres adding only 6 metres or 20 feet to building critical width. This makes the larger-capacity building only slightly wider than the existing Arena #1.



Multi-Centre Preliminary Concept Layout

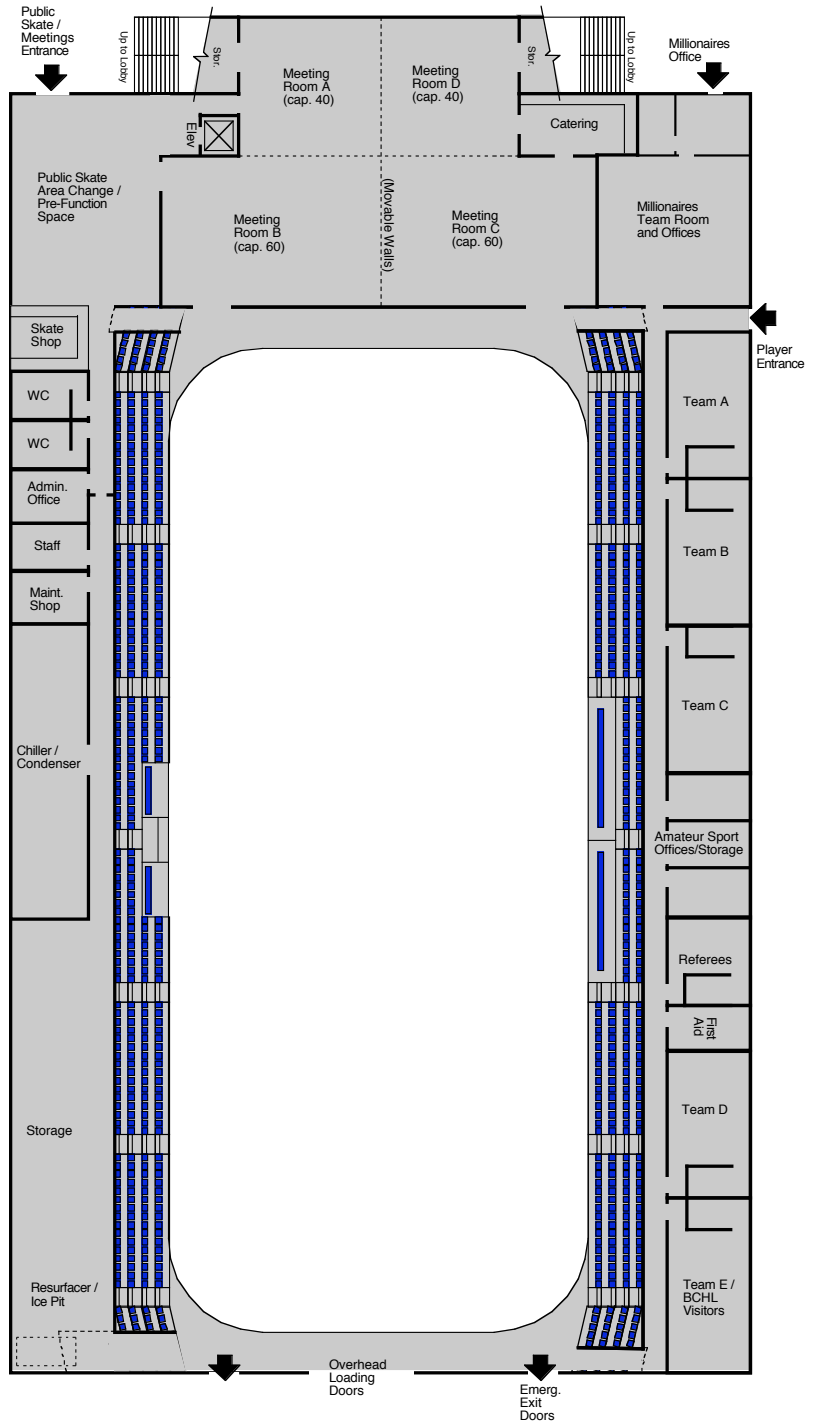
Spectator Level - Key features:

- Spectator separation and control; top-loaded seating
- Entrancing from one end, exiting minimum five points
- Individual seats with 33" clearance between rows
- Two large concession points; min. 26 washroom stalls



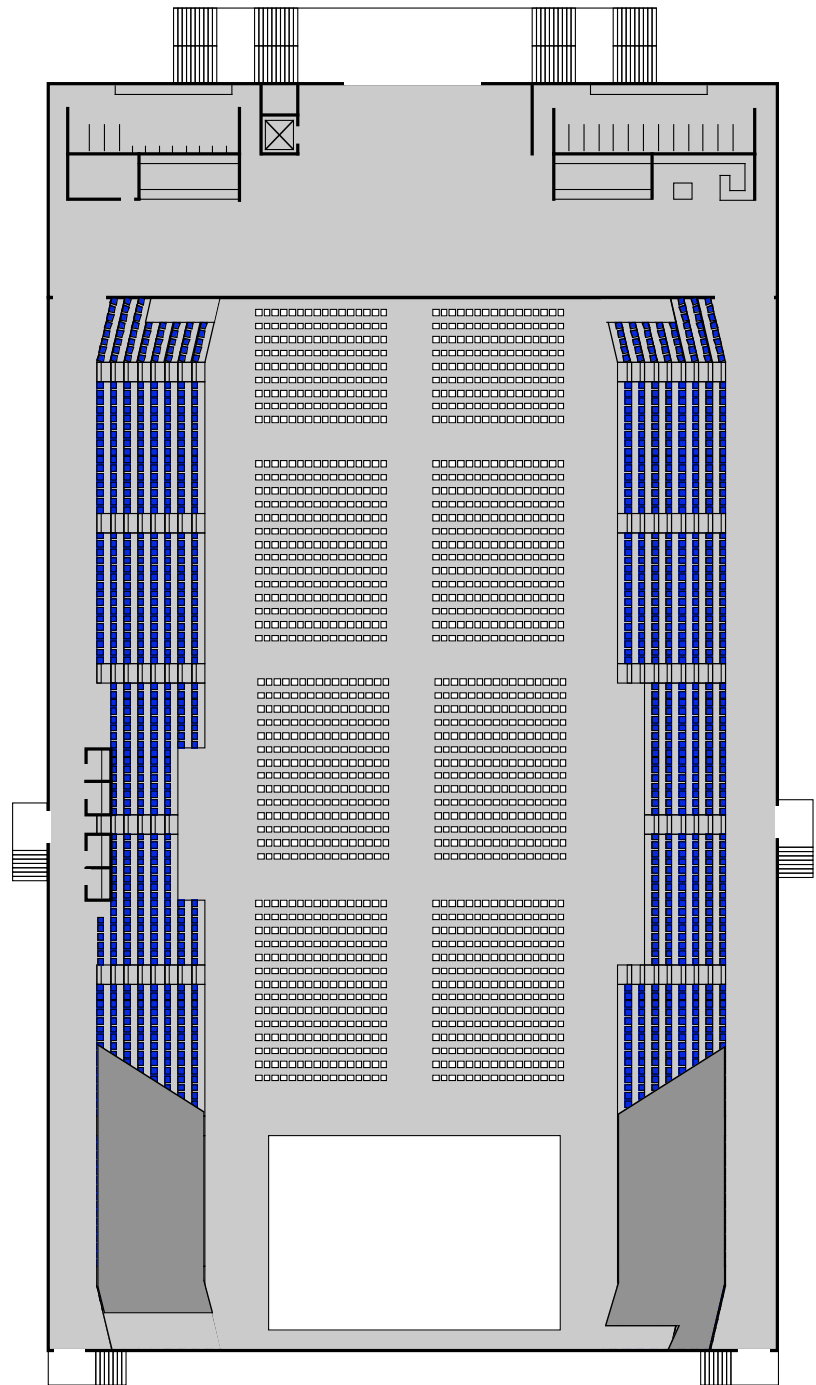
Participant Level - Key features:

- Banquet / meeting room space for 200 - 300
- Entrancing from one end, exiting minimum five points
- NHL-size ice and large team benches
- 6 team rooms including Millionaires suite
- Public skate change, offices, storage and support
- Direct entrances for users



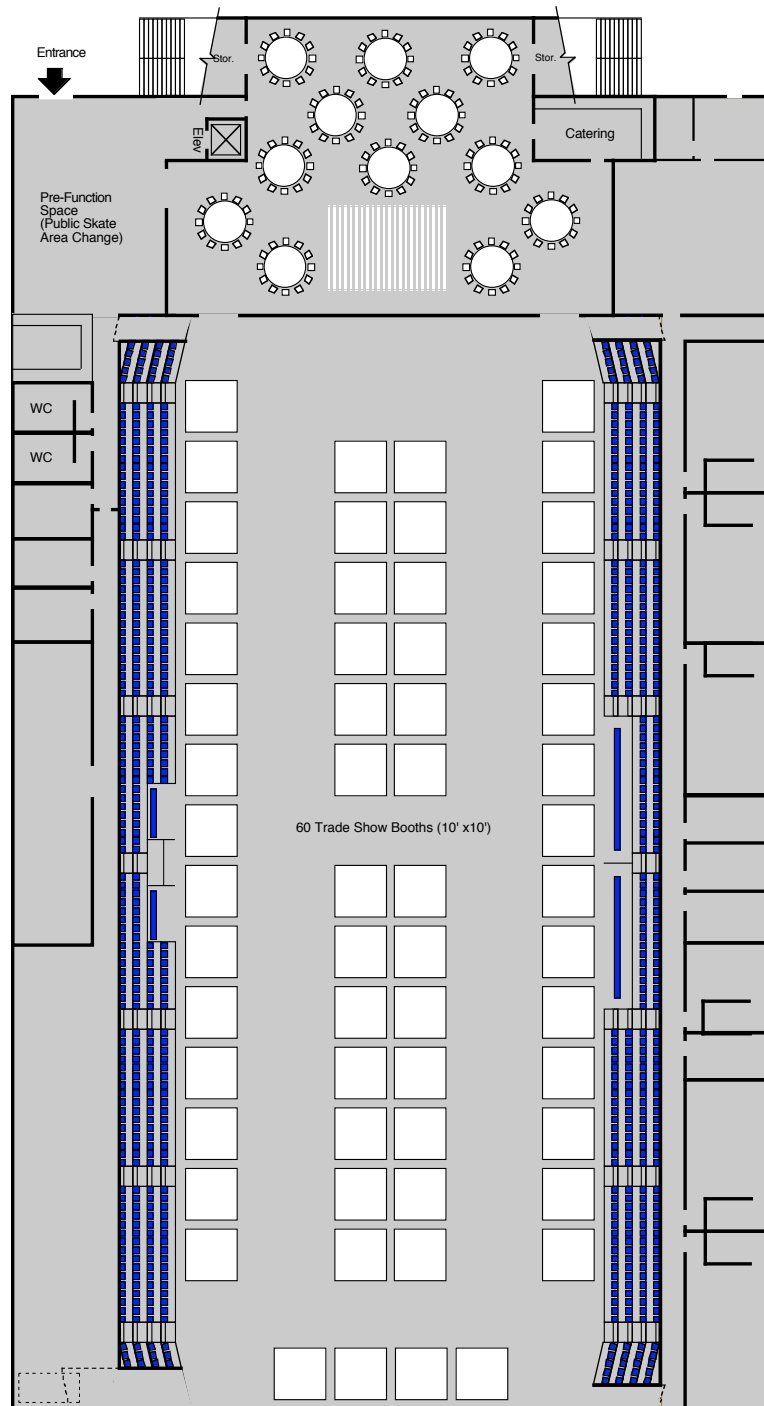
Concert and Performance Configuration

Seating capacity 2,500, including seats lost to sightlines



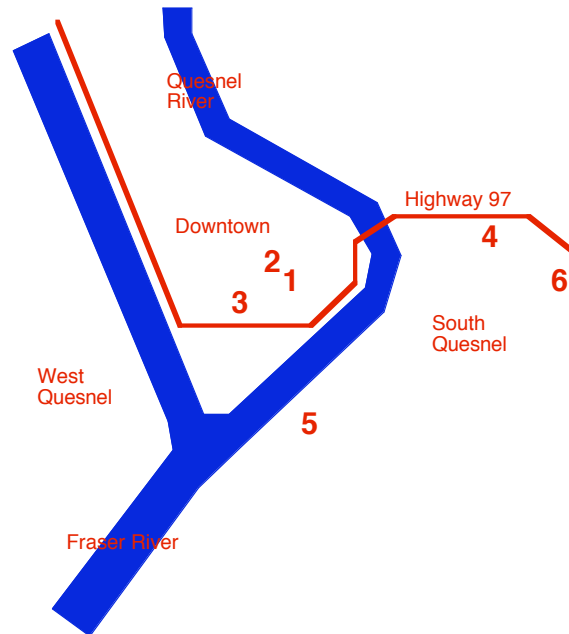
Conference / Trade Show / Banquet Configuration

Sixty trade show booths; banquet seating for 300-500



6.0 Site Options

A series of sites were identified at the outset of the study that might merit consideration for locating the Multi-Centre and in some cases, accommodate co-location with the Performing Arts Centre or Museum. Given the building footprint of almost 1.5 acres and a parking demand of between 250 to 400 cars, few locations except for Alex Fraser Park or acquired raw land could accommodate co-location.



The six major sites considered included three downtown locations, two near downtown and one possibly at the outskirts of the urban core. These include:

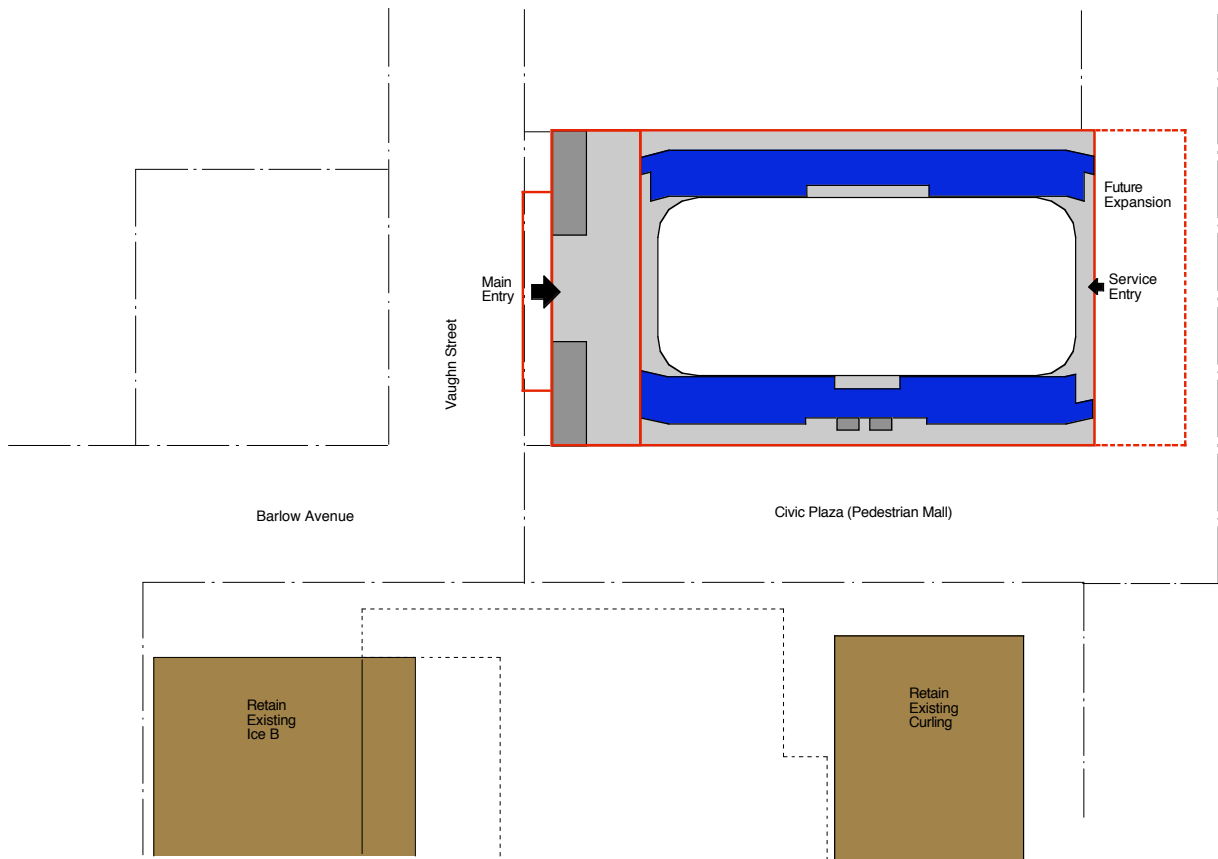
- 1 Existing Arena #1 Site, Barlow Avenue
- 2 Library Existing Site, Barlow and Vaughn
- 3 Helen Dixon Site, Carson and McLean
- 4 Alex Fraser Park, North Star Road
- 5 West Fraser Timber Park, South Quesnel
- 6 Generic "Greenfield" Site, likely south-east Quesnel

Three options proved to be worthy of further consideration for the Multi-Centre arena:

- Option A - Multi-Centre arena at the Library Site with Performing Arts centre (and future Museum) at Alex Fraser Park
- Option B - Multi-Centre arena co-located at Alex Fraser Park Site with the Performing Arts Centre (Museum to be located on a site to be determined)
- Option C - Multi-Centre arena located at Alex Fraser Park Site with the Performing Arts Centre to be built on the vacated Arena #1 site (Museum to be located on a site to be determined)
- Option D - Multi-Centre arena at the Library Site with Performing Arts centre at Helen Dixon site (owned by SD28)

Option A – Multi-Centre Arena at Vacated Library Site

The first alternative of merit would foresee the new multi-purpose arena facility located on the Library site with the future Performing Arts Centre being added to the recreation centre at Alex Fraser Park. Arena #1 would be demolished and the site used for about 80 parking spaces.



Total Construction Cost:

- Multi-Centre Arena (construction) \$13.6 million
 - Demolish Arena #1, 80 new parking stalls \$500,000
 - Performing Arts Centre (at Alex Fraser Park) \$6.7 million*
 - 100 new parking stalls at Alex Fraser Park \$200,000
- Total Construction: **\$21.0 million**
- (Estimated Project Cost with 25% soft costs: \$26.3 million)

Advantages:

- The new facility would be a Downtown catalyst, generating more conference and trade show opportunities due to proximity to hotels and restaurants
- Operational savings of proximity to Arena #2 (primarily shared staff)
- No interruption to users and tenants due to loss of ice when Arena #1 is decommissioned

Disadvantages:

- A much larger and taller building in the precinct than its predecessor
- Downtown parking issues not resolved, even with added stalls
- Contingent on availability of the Library site in a timely way

Option B – Multi-Centre Arena Co-Located at Alex Fraser

The second alternative envisions placing the new multi-purpose arena facility at Alex Fraser Park, in conjunction with a new Performing Arts Centre and potentially a yet-to-be defined conference and banquet facility. Arena #1 would be demolished and the site used for about 80 parking spaces.

Total Construction Cost:

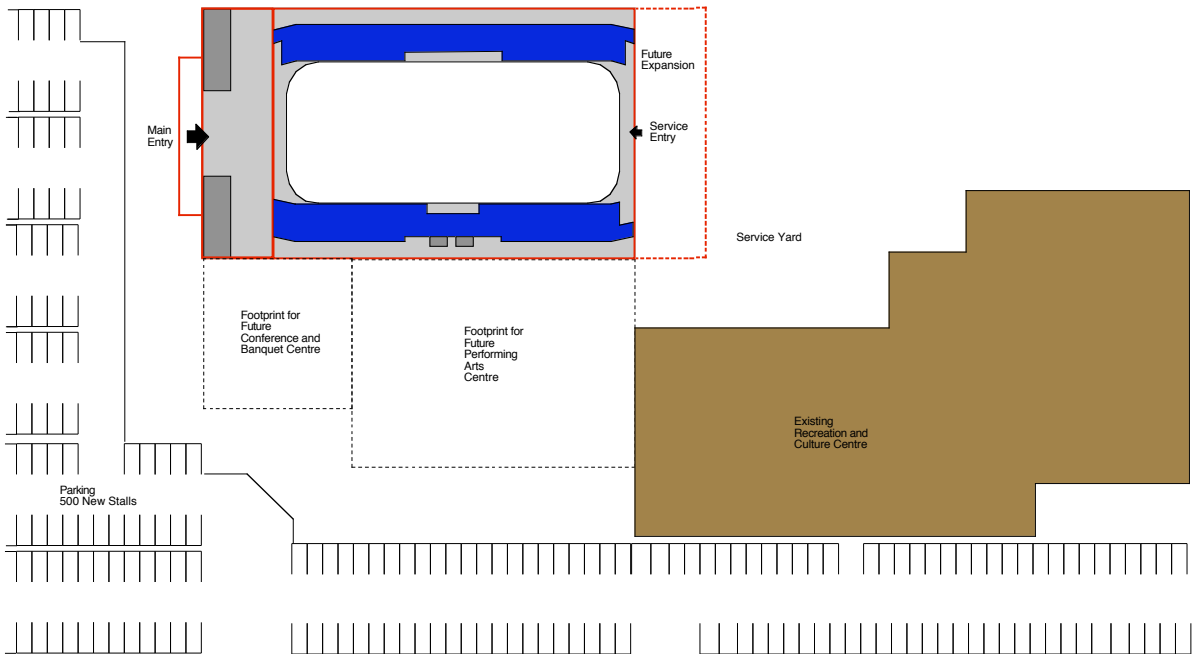
- Multi-Centre Arena (construction) \$13.6 million
 - Performing Arts Centre (at Alex Fraser Park) \$6.7 million*
 - 500 new parking stalls at Alex Fraser Park \$1.0 million
 - Demolish Arena #1, 80 new parking stalls \$500,000
- Sub-total Construction: **\$21.8 million**
- Conference and Banquet Centre \$3.0 million
- Total Construction: **\$24.8 million**
- (Estimated Project Cost with 25% soft costs: \$31.0 million)

Advantages:

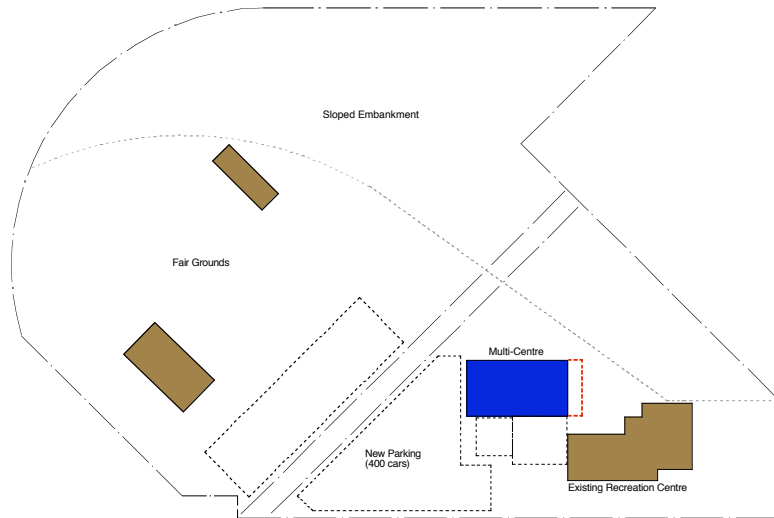
- The new facility would be significant addition to existing recreation and agricultural fair facilities, generating more activity on the site and possibly with the College
- Some operational savings due proximity to the recreation Centre (primarily shared custodial and program staff)
- No interruption to users and tenants due to loss of ice when Arena #1 is decommissioned
- Three new facilities would compliment fair and rodeo infrastructure
- The Performing Arts Centre or the Recreation Centre would yield the benefits of heat exchange with the spectator arena, capturing excess heat and energy discharged in the refrigeration process

Disadvantages:

- The new facility would draw conference and related hospitality business away from Downtown and its critical mass of hotels and restaurants
- Distance from Downtown (though abundant parking would mitigate some issues)
- Entire complex set closer to the road forces parking farther from the entrance (most of it on the far side of the easement that diagonally traverses the site)
- Major conference and full-service banquet facilities for 500 would like add 10,000 SF and over \$3 million to the project assuming full commercial kitchen



The site map on the following page illustrates the larger impacts to the site including the approximate parking footprint.



Option C – Multi-Centre Arena Located at Alex Fraser

The third alternative worthy of further analysis would see the new multi-purpose arena facility at Alex Fraser Park and, the new Performing Arts Centre located Downtown on the vacated Arena #1 site with possibly the Museum on the vacated Library site, creating a cultural precinct. The Alex Fraser site would be large enough for a long-term future Arena #2 replacement (creating additional parking Downtown) or an Arena #3 addition.

Total Construction Cost:

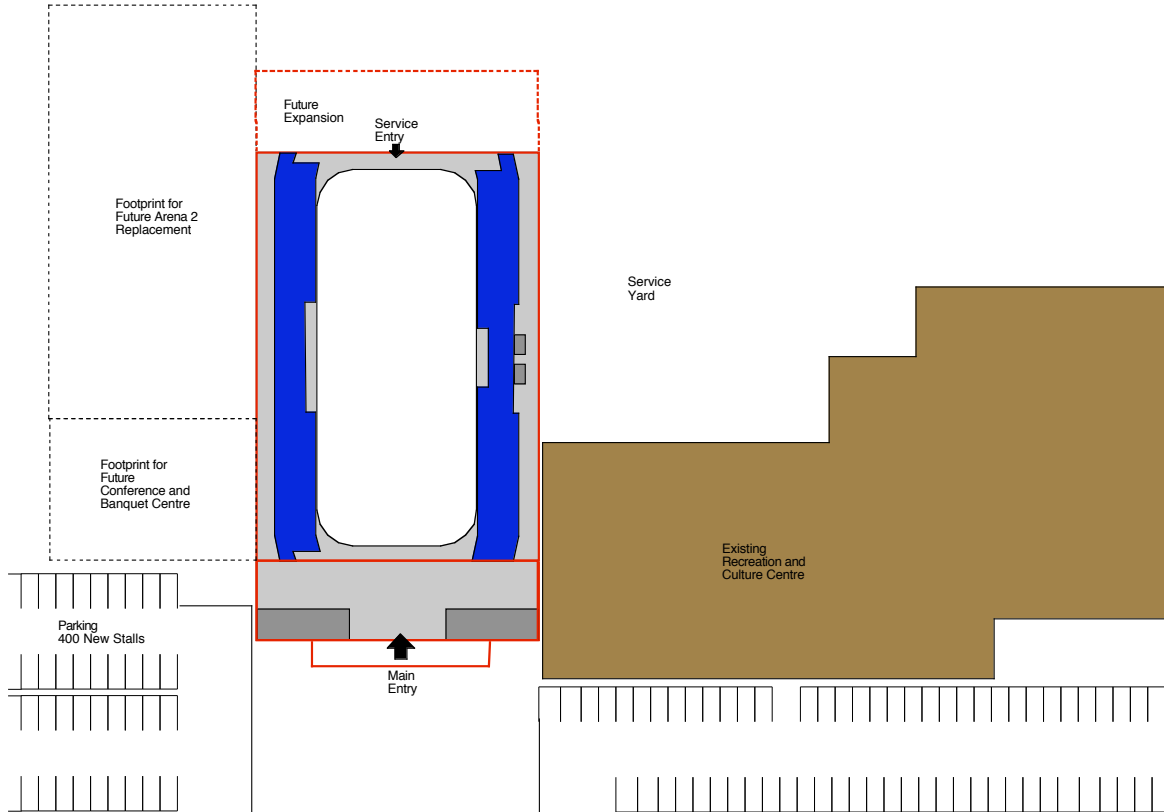
• Multi-Centre Arena (construction)	\$13.6 million
• 400 new parking stalls at Alex Fraser Park	\$800,000
• Demolish Arena #1	\$300,000
• Performing Arts Centre (at Arena #1 site)	\$6.7 million*
• 80 new parking stalls at vacated Library site	\$200,000
Sub-Total Construction:	\$21.6 million
• Conference / Banquet Centre (at Alex Fraser)	\$3.0 million
• Museum at vacated Library site (w/o parking)	\$6.3 million*
Total Construction:	\$30.7 million
(Estimated Project Cost with 25% soft costs: \$38.4 million)	

Advantages:

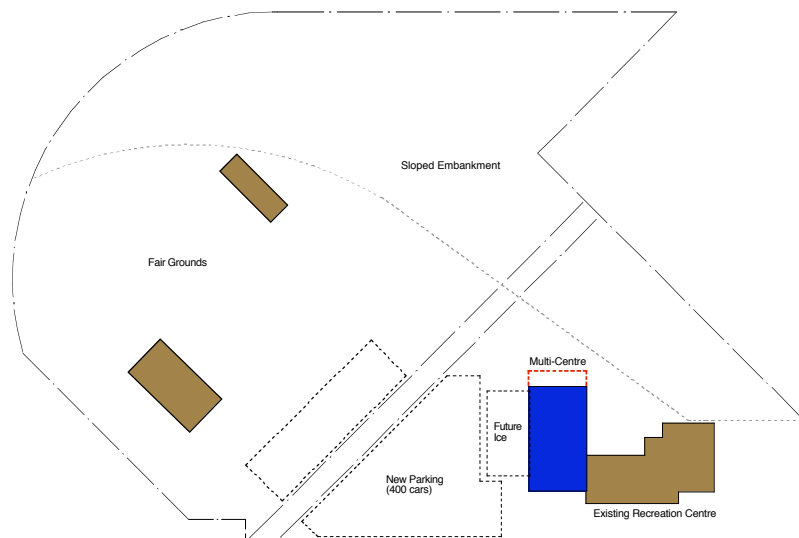
- The new arena at Alex Fraser Park would increase activity at that site while the cultural facilities would be a Downtown catalyst, taking advantage of proximity to hotels and restaurants
- Some operational savings at both locations (primarily shared custodial and maintenance staff)
- No interruption to users and tenants due to loss of ice when Arena #1 is decommissioned

Disadvantages:

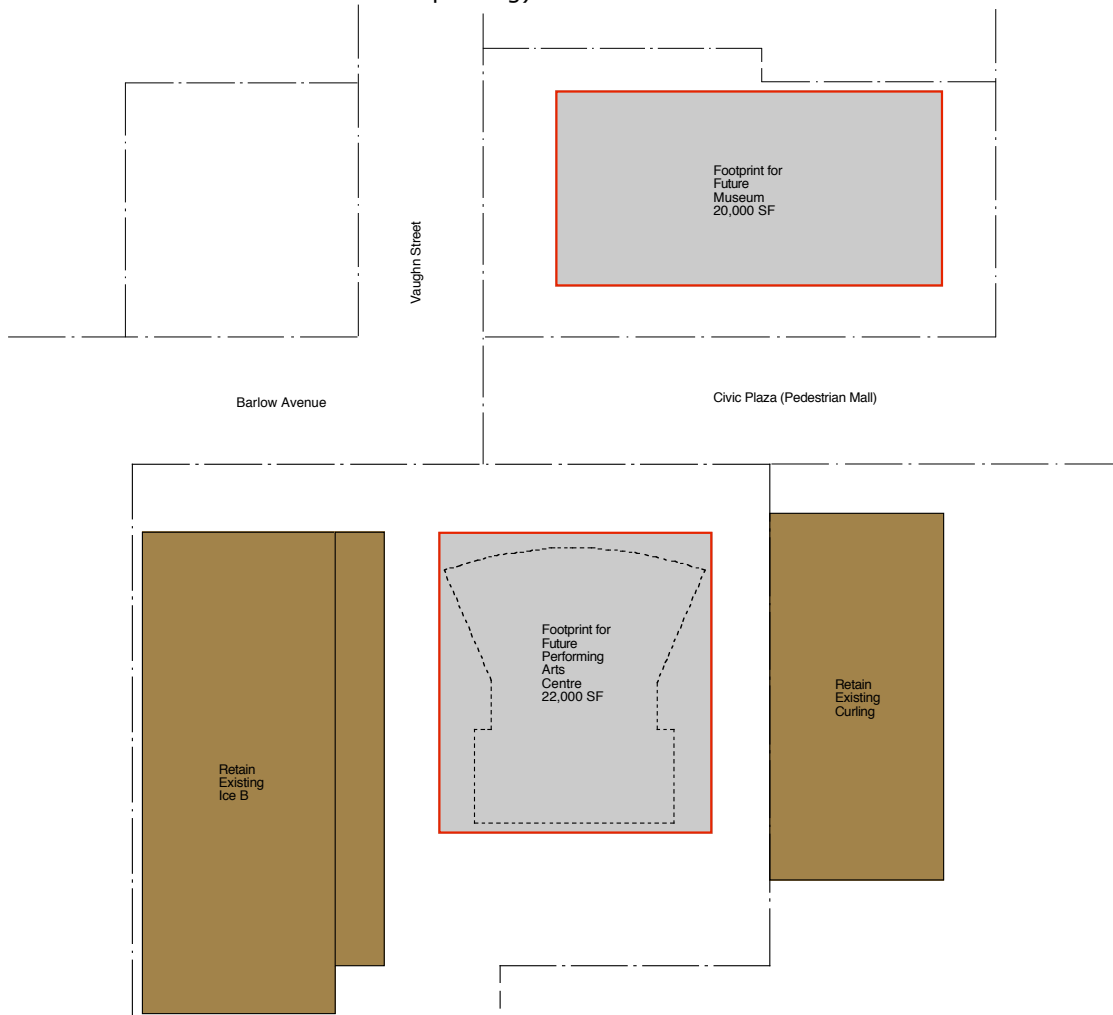
- Distance from Downtown (though abundant parking would mitigate some issues)
- Parking set farther from the entrance due to easement
- Downtown parking issues not resolved
- Contingent on availability of the Library site in a timely way



The site plan below illustrates the larger site impacts including parking.



The Downtown site would become a cultural and recreation precinct (note: both facilities may possibly be combined into a larger single building on the arena site, freeing residual area for parking).

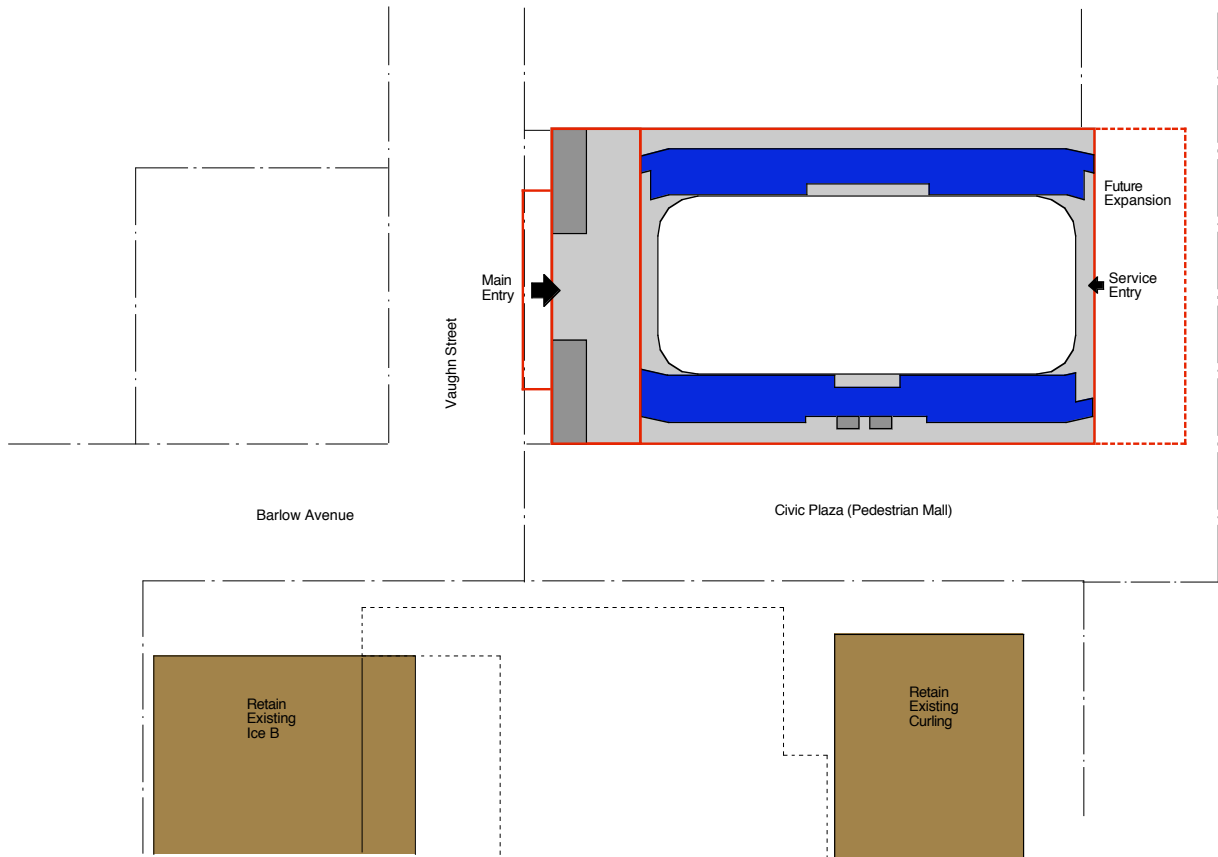


- *Indicates budgets in 2005\$ estimated by other sources.

Option D – Multi-Centre Arena at Vacated Library Site with Performing Arts Centre at Helen Dixon Site

The fourth option, a hybrid of the first, sees the new multi-purpose arena facility located on the Library site with the future Performing Arts Centre being located at the Helen Dixon site, a property currently owned by School District 28. Arena #1 would be demolished and the site used for about 80 parking spaces.

The diagram below illustrates the new arena component on the Library site. On the following page is a diagram showing the Performing Arts Centre on the Helen Dixon site, including the site's capacity to satisfy most of its parking requirements.



Total Construction Cost:

- Multi-Centre Arena (construction) \$13.6 million
- Demolish Arena #1, 80 new parking stalls \$500,000
- Performing Arts Centre (at Helen Dixon) \$6.7 million*
- 90 new parking stalls at Helen Dixon \$180,000

Total Construction: **\$21.0 million**

(Estimated Project Cost with 25% soft costs: \$26.3 million
not including land acquisition costs)

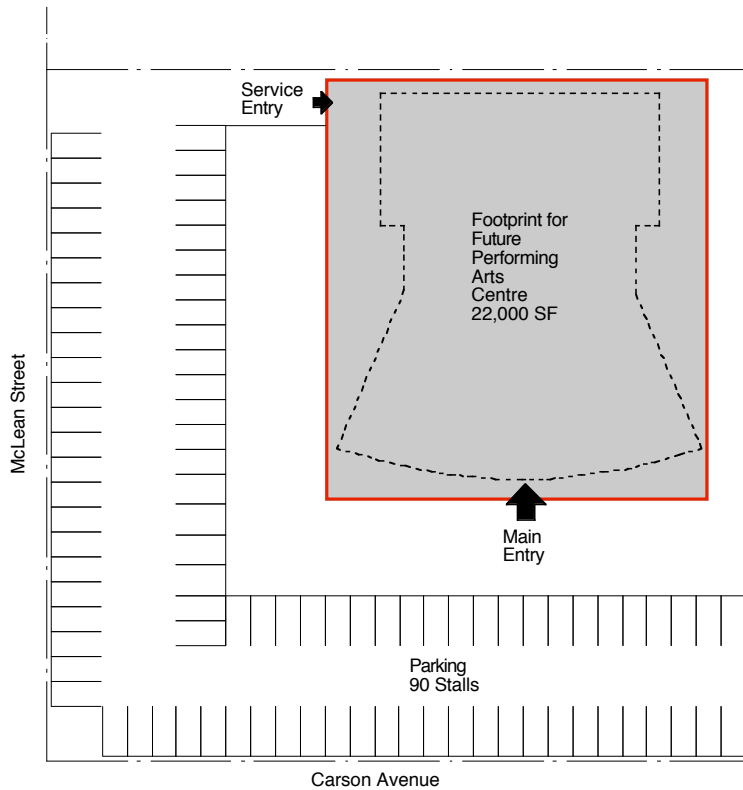
Advantages:

- The separate new facilities would each be a Downtown catalyst, the arena generating conference and trade show opportunities due to proximity to hotels and restaurants
- Operational savings of proximity to Arena #2 (primarily shared staff) and possible shared staff with the Performing Arts Centre
- No interruption to users and tenants due to loss of ice when Arena #1 is decommissioned
- The Performing Arts Centre site could also host community events like festivals and farmer's market

- By stacking, the Helen Dixon site could possibly support both the Performing Arts Centre (above grade) and the Museum (below grade) at the expense of on-site parking

Disadvantages:

- A much larger and taller building in the precinct than its predecessor
- While the Performing Arts Centre site could be almost self-sufficient for parking, arena Downtown parking issues not resolved even with added stalls
- Contingent on availability of the Library site in a timely way
- Contingent on acquiring the Helen Dixon site from SD28

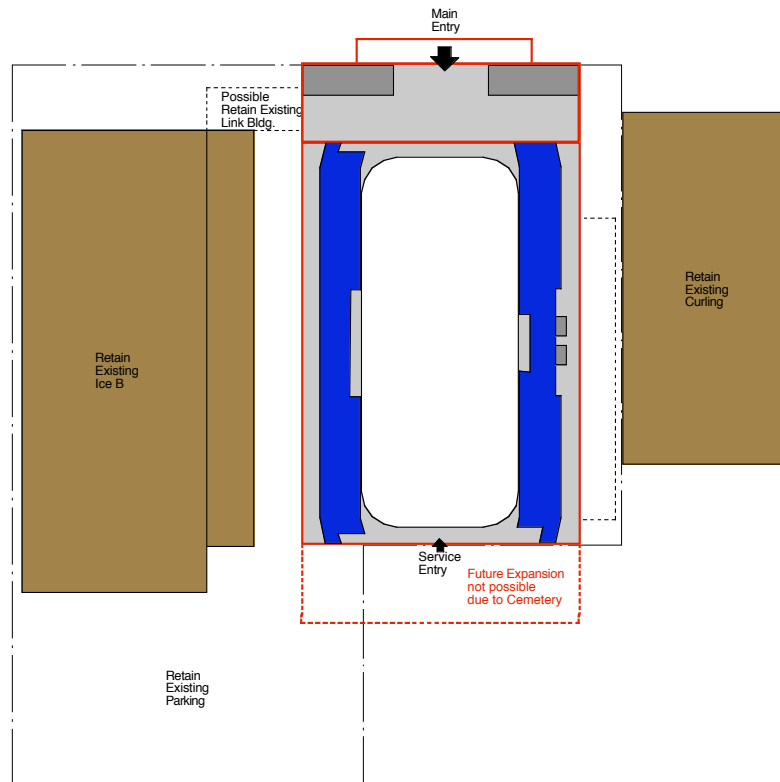


Discarded Options

A series of options were considered and found to present significant challenges or compromises. For record purposes these options have illustrated and summarized.

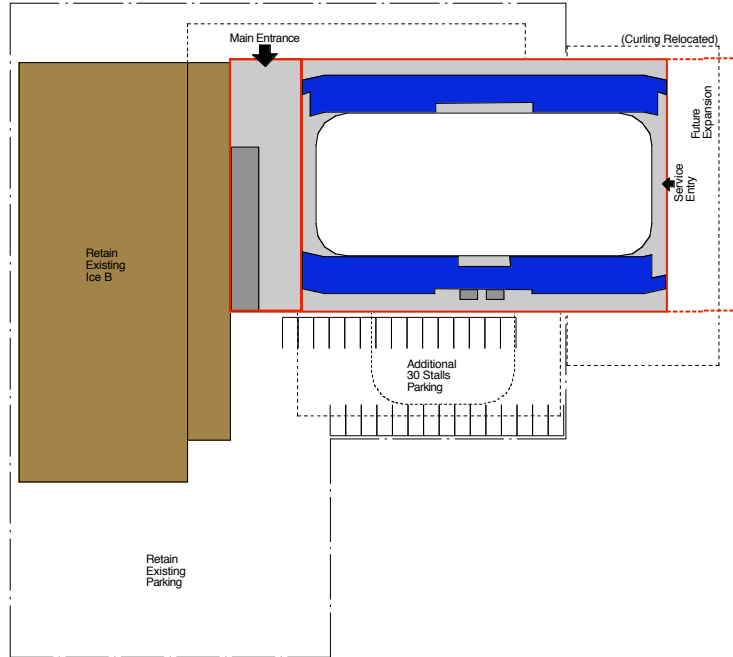
Arena #1 Site Option 1

This option considered building the new arena on the existing Arena #1 site. Two major problems became apparent; first, Quesnel would be without a spectator arena for one to two hockey seasons during demolition and new construction. The second, expansion (south) would not be due the cemetery. Parking issues unresolved even using the then demolished Library site (70 stalls). Performing Arts Centre and Museum would be located at Alex Fraser.



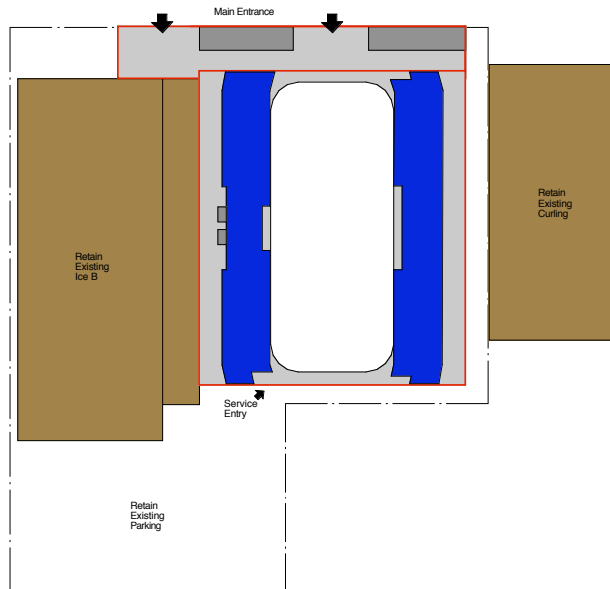
Arena #1 Site Option 2

This option considered building the new arena on the existing Arena #1 and Curling Club sites, which allowed for expansion but would necessitate a replacement curling facility be built (like at a cost of about \$4-\$5 million). The loss of an ice sheet would also pose challenges to users and the Millionaires team and development would have to be deferred until curling facilities were first built elsewhere. Parking issues unresolved even using Library site. Performing Arts Centre and Museum would be located at Alex Fraser.



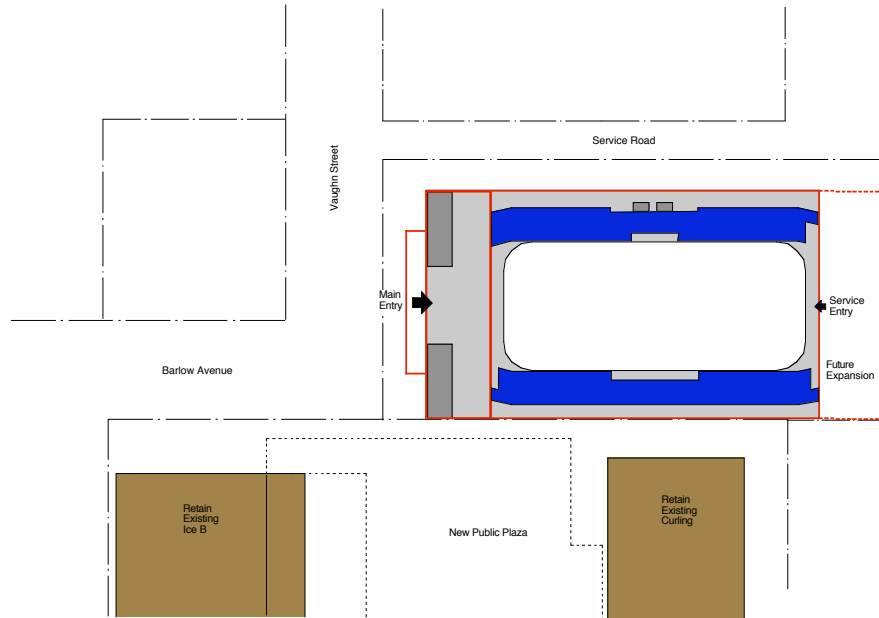
Arena #1 Site Option 3

The option looked at building on the Arena #1 site without encroaching on the adjacent cemetery. This would only be possible if the arena were built out to 2,300 seats in the first phase (a larger wider building, no longer requiring an end-zone addition) costing in excess of \$20 million. The loss of an ice sheet would also pose challenges to users and the Millionaires team. Parking issues unresolved even using Library site. Performing Arts Centre and Museum would be located at Alex Fraser.



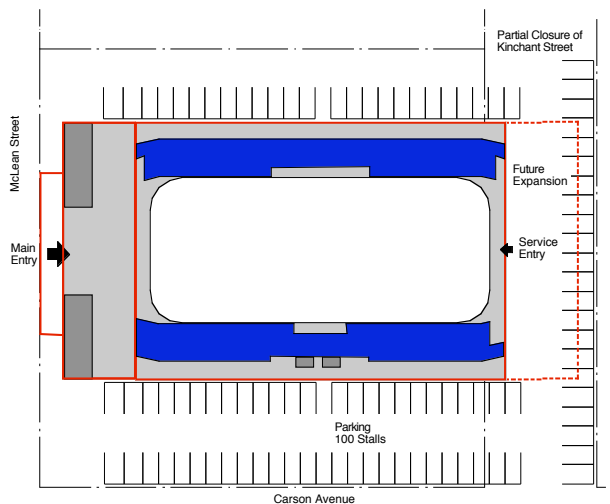
Library Site Option 2

The building would be placed closer to the existing Curling Club and farther away from neighbouring residential. The scheme relegated curling to a remote and obscure corner of the precinct. Parking issues unresolved even using vacated Arena #1 site (80 stalls). Performing Arts Centre and Museum would be located at Alex Fraser.



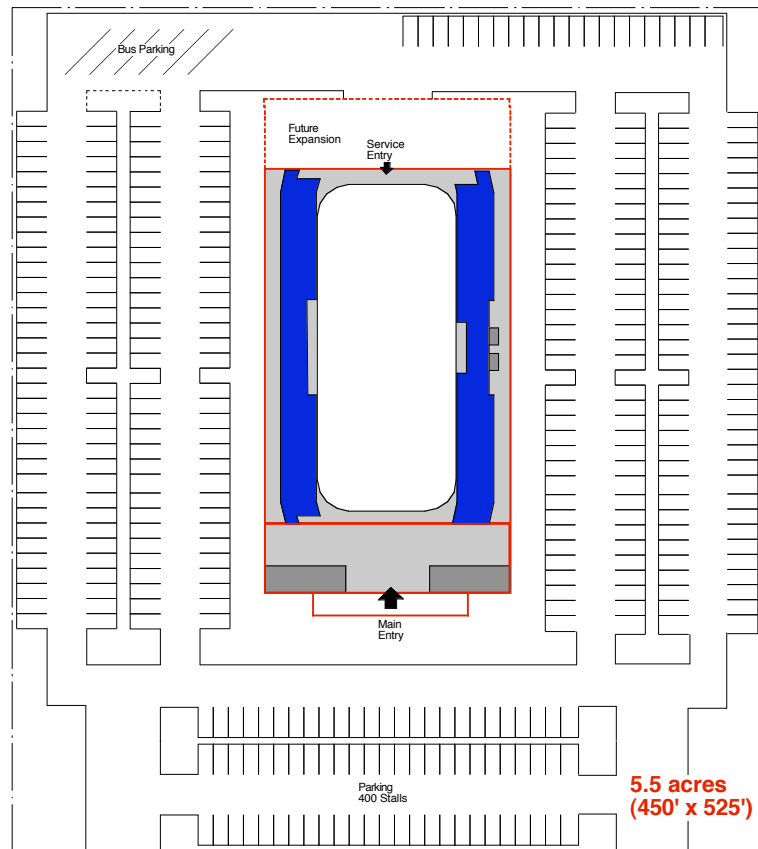
Helen Dixon Site Option

The site is too small and constrained and would necessitate a road closure even for the first phase. The property would have to be acquired at a cost from SD 28. Parking issues similar to the existing arena precinct a block away. Performing Arts Centre and Museum would be located at Alex Fraser.



"Greenfield" Option

The site would be fairly remote and removed from amenities such as hotels and restaurants likely in the south-east commercial precinct area. A property of at least 5.5 acres would have to be acquired - adding the Performing Arts Centre or the Museum to the site would add about 2.0 acres each to the acquisition parcel. Site development costs will be considerably higher and, road changes and traffic controls would have to be added at a cost.



Other options were considered and discounted for reasons including: the acquisition window was too far into the future, other relatively new public facilities would have to be removed or, that parking problems were insurmountable. In most cases a compact building footprint could be made to fit.

7.0 Capital and Operating Cost Estimates

The capital cost identified herein is a program stage order-of-magnitude estimate only, and based on unit comparative data for like facilities built in the province in recent years.

More accurate costing will be available in each successive phase of the project. Design and pre-tender cost estimates will be informed by quantifiable areas, identified materials and decided construction delivery method.

Forecasting construction costs is difficult at this time. The cost of construction has escalated in British Columbia at a rate of 1.5% per month each month for the past two years.

Many similar facilities to the Multi-Centre built between 2001 and 2003, when indexed to 2007\$, would cost almost two-thirds more.

Based on historical costs and recent trends of escalation, facilities similar to this one built about four years ago at a cost of about \$120 / square foot, if tendered in 2007, would cost over \$190 / square foot or \$2,050 / square metre for lower-end institutional quality construction.

Some of these comparable examples include Salmon Arm's Sunwave, Victoria's Bear Mountain, 100 Mile House's South Cariboo Arena, among others.

Facility	Yr.	SFArea*	Seats	Unit\$
Sunwave	2001	65000	1500	\$120
Bear Mountain	2003	78000	2300	\$120
S. Cariboo	2003	45000	600	\$130
Cranbrook	2000	120000	4100	\$170
Vernon	2001	900000	3100	\$180

*estimated

The construction cost estimate on the following page treats each component as an assigned area plus its pro-rated share of building envelope, internal partitions, walls and columns and HVAC mechanical. Elements such as the ice pad includes chattels such as dashboards and glass, as well as roof and structure overhead, mechanical ducting, and portion of HVAC systems.

Construction budget for the 1,600 seat, 65,000 SF (6040 SM) building would be approximately \$13.6 million in early 2007\$. Assuming an additional 20-30% for design fees, contingency allowance and other soft costs the total project cost would be \$16.3 million to \$17.7 million, not including parking, land acquisition costs if applicable, demolition (and potential hazardous waste abatement) of Arena #1.

A safe contingency would be to index this amount by an additional minimum 15% per year for each year beyond 2007, at least until 2010.

Area by Type*	Gross Area Pro-Rated	Unit Cost	Cost
Lobby Space	3240	\$250	\$810,000
Spectator Seating Bowl and Seating	9450	\$250	\$2,362,500
Upper Level Concourse	6210	\$200	\$1,242,000
Washrooms, Concessions	1835	\$275	\$504,625
Retail, Press Booths	380	\$150	\$57,000
Ice Pad, Dasherboards and Glass	18360	\$175	\$3,213,000
Bench Areas	540	\$200	\$108,000
Lower Level Circulation	3240	\$150	\$486,000
Ice Mechanical and Resurfacing	2590	\$200	\$518,000
Team Rooms	4160	\$275	\$1,144,000
Washrooms	325	\$275	\$89,375
Support Spaces	3115	\$150	\$467,250
Storage	6695	\$100	\$669,500
Multi-Purpose Conference	4535	\$175	\$793,625
Catering Kitchen	325	\$250	\$81,250
	Gross Area Total	65000	
	Construction		\$12,546,125
	Blended Unit Construction	\$193	
	FF & E 2%		\$250,923
	Site Servicing Allowance**		\$500,000
	Site Development		\$250,000
	Total Construction Budget***		\$13,547,048

*Including pro-rated envelope, partitions, structure and mechanical

** Allowance only, actual amount will vary by site

*** Does not include parking

Building for energy efficiency adds a modest cost premium (over the stated amount above), generally in the 2% to 5% range with a payback period of seven years. Given that most buildings are designed to last 40 to 50 years, the operating cost savings can be tremendous.

Over the life of a building, operating costs can be 4-5 times capital cost (in current dollars). In addition, designing to meet green- building standards such as LEED, may yield grant money to offset construction cost premiums.

The use of structural wood, due the rapid escalation in the world price of steel, has become a cost competitive construction alternative especially poignant in a context where the local economy is the timber industry. In addition to its pleasing appearance wood offers acoustic properties that aid in sound absorption.

Note: A catering kitchen has been included in the multi-purpose component in lieu of a full commercial preparation kitchen that would four times larger and would add almost \$0.5 million to the capital cost. It is assumed the local hospitality industry would have catering capability.

Operating Costs

Generally, buildings of this type in this climate region coupled with British Columbia's energy rates can be expected to cost \$12 / square foot (\$130 / square metre) to operate. This amounts to an annual budget of at least \$780,000, a portion recovered through user fees and the balance through subsidy.

Note: This assumption is based on conventional design and construction for institutional quality buildings. Green building initiatives (i.e. LEED and other programs) typically would add 2-5% to the cost of construction but after a five to seven year payback period, would significantly reduce energy consumption annually for the remainder of building life (40-50 years).

This would include normal energy consumption for heating cooling and lighting, custodial and routine maintenance, security, operations staffing (5 full-time staff and based on a municipal staff model) – basically everything needed to open the doors for business each day.

Program staff such as instructors and supervisors would be recovered through program costs. Ticket-takers, event security and concession staff costs are recovered on a fee for service basis to facility renters.

Some of these costs could be expected to vary due to local factors. Staffing economies may vary as well with site options (i.e. co-location at Alex Fraser Park may share staff with the existing recreation centre).

Major building systems have predictable life spans. Manufacturers and engineers can develop models that allow accurate forecasting of systems replacement for budgeting purposes. Generally speaking, the major systems can be expected to last:

- Interior finishes 10 years
- Exterior envelope and roof 15-20 years
- Mechanical systems 25-30 years
- Structure 40 years

In some cases, municipalities and districts will add to annual operating budgets, 2% to 3% of the value of construction (\$270,000 / year in this case) to create a sinking fund that accrues interest and covers major expenditures routinely.

Pro Forma Projection

Actual pro-forma performance will vary dramatically depending on assumptions, such as governance, management model, labour rates, market rental rates and actual delivered event bookings.

Additional research will be necessary and a separate business plan study in subsequent phases of this process will create a deeper and more accurate financial picture. For conceptual modeling purposes the following is a thumbnail model of potential sources of revenues (likely at higher than

current rates) measured against comparative fixed annual operating costs. Pricing affects demand and further analysis will be required to determine impacts.

Revenues from user rentals (probable maximum):

• Prime time ice	1200 hrs. x \$75	\$90,000
• Adult off-prime	400 hrs. x \$135	\$55,000
• Early / daytime	800 hrs. x \$75	\$60,000
• Summer dryfloor	1200 hrs. x \$50	\$60,000

Event venue rentals (based on \$2/seat plus staff):

• 30 Millionaires game nights rental	\$40,000
• 25 event days / nights x \$4,000	\$100,000

Meeting / Banquet (space rental only maximum)

• 1200 hrs. meeting / banquet x \$30	\$40,000
--------------------------------------	----------

Annual Revenue Target	\$405,000
Annual Operating	-\$780,000
Net Annual Subsidy	-\$375,000

In addition, up to 350,000 people will pass through the doors annually (estimated 50 per every user hour and 1,600 per event night). Food and beverage could add significantly to revenues (especially if the location is remote).

It is not uncommon in comparable facilities to yield net revenue of \$0.25 to \$.50 per visitor for beverage snack service and over \$1.00 to \$2.00 per head for full-meal and or liquor service.

Corporate naming rights, wall and rink board advertising revenues can also contribute to annual revenue streams, likely in the range of under \$50,000 per year.

Amortization

The amortized capital debt of \$16.3 million would be divided by the tax base and repaid over a period of 25 years. Assuming an average interest rate of 5% per year, the annual principal and interest repayment would be \$1.15 million per year.

Each 1% above 5% would add \$120,000 to the annual repayment amount. Each additional \$1.0 million borrowed would add \$60,000 to the base annual amount.

8.0 Best Practices Summary Profile

Governance and management approach are two of the most significant elements in determining how a multi-purpose arena type facility will be run.

The most common forms of facility governance can come in the form of:

- Public owned, governed and operated
- Public owned, arm's-length operated by a board or not-for-profit society
- Public-private partnership

Public-Owned and Operated Model

The public owned and operated model (current Arena #1 and #2) assures all control as well as all obligations and risk in the hands of the public entity. Terms and conditions between funding partners may be revisited or restructured for a new facility to reflect current variables.

Estimates for operating budgets in the previous section presumes this first model, based on partial factual data available and the use of comparative data from similar scale and age facilities in other jurisdictions in the province.

Alternate Source Delivery or ASD is an option, whereby only the management and operations aspects of the facility are contracted out. This delivery method is becoming more commonplace in British Columbia for pool facilities and some arenas as a means of limiting operating costs and maximizing revenues, though seldom entirely eliminating deficits.

Public owner-operated model examples:

- City of Kamloops (Sportmart) Arena
- City of Vernon Multiplex
- Township of Langley Arena
- City of Prince George Multiplex
- Juan de Fuca Bear Mountain Arena (Western Communities)
- District of Saanich Pearkes Arenas

Public owner, contracted operations examples:

- City of Surrey Aquatic Centres
- City of Chilliwack Prospera Centre
- City of Abbotsford Aquatic Centres
- City of Armstrong Aquatic Centre
- 100-Mile House Arena
- Salt Spring Island Commission Aquatic Centre

Public-Owned, Arm's Length Governed

A second model, of public ownership (and on-going obligations for long-term and lifecycle maintenance) coupled with community involvement offers opportunity to both parties and occasionally challenges as well.

The board, either elected or selected (to represent constituent interests) determines annual budgets, staffing, programming and facility operation. Budget accountability and personal liability that are typical board obligations influencing decisions that the public 'owner' may not necessarily agree with. Program directions and priorities may also be influenced by bias or vested interest. Operational choices such as operating schedules or fee and rental rates may conflict with Sub Regional Recreation service objectives or place other facilities still within the public domain at a competitive disadvantage.

Alternate Source Delivery is an option more readily available in this structure, allowing management and operations to be contracted to private enterprises.

Examples:

- Cardel Centre, Calgary
- Westside Regional Recreation Centre, Calgary
- South Fish Creek Recreation Centre, Calgary
- Family Leisure Centre, Calgary
- Huntington Hills recreation Centre, Calgary
- City of Richmond Arenas Complex

Public-Private Partnership (3P) Agreements

The 'raison de etre' or motivation in the private sector is profit. This is achieved by minimizing risk, minimizing cost and maximizing revenues. The public sector has a fundamentally different mandate but not without accountability, typically it is to provide universally accessible services (i.e. without cost barriers) to the greatest number of residents.

Public-Private agreements can be a successful vehicle for timely delivery, controlled construction costs and capped operating shortfalls. The building will not however be a public facility. It will be regulated and restricted like any commercial enterprise – access will come at a cost.

Most 3P agreements are structured as 25, 30 or 40 year agreements (BC Property Transfer Tax implications vary with each) with the public partner maintaining ownership of the land and the private partner leasing the land and 'owning' and operating the building. In effect, the public partner becomes the 'investor' or 'landlord' or the 'sponsor' (and there are legal obligatory distinctions).

At the end of the agreement the depreciated asset is handed over to the public partner. Long-term maintenance is often the responsibility of the public partner as private partner may structure agreements limiting their risk to short term building issues. The issue of 'normal wear and tear' can become an ominously large grey area.

Other agreements place the burden of responsibility on the private partner to at the end of 30-years (or other agreed) hand over an equivalent to new building.

The inter-party agreement or contract will determine the success for each partner. Absolutely every aspect of the agreement has to be clearly articulated including milestones, considerations, obligations, deliverables, collateralization, default and remedies. A built-in dispute resolution mechanism will be essential as over time, people, perceptions and conditions will change.

An established private partner can provide credibility to a project, but that partner will also have experience of previous situations to negotiating a favourable and risk-limiting agreement. The public partner's best ally in structuring an agreement, are public sector peers in other jurisdictions who will share their acquired expertise in this constantly changing game.

Clear performance parameters, measures and default remedies must be spelled out in the contractual agreement. The challenge comes in what the legal community refers to as 'meeting of the minds' or both parties referring to the same article in the same intended way.

Financing is another major issue. Typically, the private partner will be expected to secure their own financing with the public partner agreeing to an annual subsidy (an assured revenue stream for the private partner) for the purchase of community ice time.

Public partners will have the means of borrowing at typically lower rates than a business, and the private partner may attempt to lever the public partner to extend its debt theoretically lowering the end cost.

Examples:

- Victoria Save-On-Foods Memorial Arena
- City of Burnaby Canlan 8-Rinks
- District of Maple Ridge Planet Ice Arenas
- City of Coquitlam Planet Ice Arenas
- Kelowna Propera Place
- City of Chilliwack Prospera Place

Governance and Management Alternatives Matrix

The matrix below summarizes some of the opportunities and challenges associated with different models for structuring and operating facilities that traditionally were exclusively delivered by the public sector. Information has been based on available public records, media and anecdotal information and is merely intended to broadly illustrate the different perspectives and summarize the opportunity costs with each direction.

Some of the categories noted present an opportunity for direct operational cost savings (which after contractor profit is subtracted) and could result in reduced annual net operating subsidy. Values can only be expressed as ranges owing to the confidential nature of each public-private or public-contracted arrangement as well as each business agreement being specific and unique to the parties and situations involved.

	Public-Owned / Operated	Public-Owned / Contracted Management	Arm's Length Governance / Contracted Management	Public-Private Partnership
Constituent Involvement				
Elected Officials	• High access	• High access	• Med. access	• High access
Recreation Staff	• High access	• Low access	• Med. access	• Low access
General Public	• High access	• Med. access	• High access	• Low access
Access to Information	• Med. access	• Low access	• Med. access	• Low access
Finances				
Ability to Raise Capital	• Low risk	• Low risk	• Medium risk	• Varies, high risk
Borrowing and Credit	• Low risk	• Low risk	• Higher risk	• Varies, high risk
Records Management	• High priority	• High priority	• High priority	• High priority
Liability	• Med. priority	• Med. priority	• High priority	• High priority
Construction				
Quality of Building	• High priority	n/a	• High priority	• Lowest cost
Energy Efficient Design	• Med. Priority	• Operational savings	• High priority	• Value engineered
Tendering & Construction	• Qualifications driven	n/a	• Qualifications driven	• Price driven
Meeting Milestones	• Med. Priority	n/a	• Med. Priority	• Med. priority
Operations				
Maintenance Standards	• High standards	• Med. standards	• Med. standards	• Low standards
Attention to Lifecycle	• Low priority	• Low priority	• High priority	• Low priority
Staffing Levels	• Optimum level	• Economical level	• Economical level	• Economical level
Risk Management	• High priority	• Med. priority	• High priority	• Med. priority
Programming				
Marketing	• Passive	• Aggressive	• Aggressive	• Aggressive
Program Offerings	• Diverse	• Demand driven	• Demand driven	• Profitability
Scheduling	• Budget driven	• Maximized		
Pricing	• Policy driven			
Construction Savings	Baseline	Not applicable	Minor savings	Up to 1/5 reduction, less profit
Net Operating Savings	Baseline	Up to 1/4 reduction, less profit*	Up to 1/4 reduction, less profit*	Up to 1/3 reduction, less profit*
Pricing	Baseline	Market rates: 25% higher	Higher market: 50% higher	Premium market: 50-100% higher

* order-of-magnitude estimate only, privileged confidential information

Operations Best Practices

Arenas in Canada are often more than just an ice facility. The notion of 'sports for all' promotes health, communication and quality of life through sport.

The social and physical dividends extend from the very young to the mature adult and increasingly to both sexes. Be it as an athlete, a novice learning or as a spectator, the arena is a large part of community identity self-image and community gathering.

To that end, diversity in arena programming is both practical and symbolic. Conversely the ability and certainty to pay of the organized and intensive hockey use subsidizes and offsets the cost to the lower participation activities, including ringette, figure skating, learn to skate and public skate.

Overall admissions and rental rates have to reflect what the market will bear. The market however has to acknowledge the real cost of supplying services, meaning historical rates may be artificially low because there wasn't an asset of value that could be sold at higher rates. The bar has to be reset with a new arena to reflect sustainable operation (something a private service provider wouldn't hesitate to address).

Adult hockey users especially can and should be expected to pay more. As the under-19 population declines (and assuming participation rate remains constant) adults will have increased access to prime time which will increase revenues for the same time period and ease the burden to other groups.

Managing the Conflicts of Multi-Use

The most significant operating conflict for multi-use facilities are the erratic impacts of special (ticketed) events on the uniform scheduling of community rentals and access.

A one evening concert can cost 2.5 to 3 days of downtime between covering the ice and setup and, teardown. Given that the new Multi-Centre may host two to four events per month (occasionally sequentially) this could result in the loss of five to twelve regularly scheduled nights per month.

The benefit of hosting such events, usually targeting residents and visitors, has to be weighed against the costs especially the lost ice time impacting residents.

Technical Best Practices

The basic elements of a well-functioning facility are for the most part good decisions made in the design phase including:

- Insulated walls and ceilings Avoiding indoor 'rain'
- Efficient refrigeration plant Re-use exhaust heat
- Mechanical ventilation Air quality, humidity
- Efficient heating system Recycled energy
- Air dehumidification Moisture damage

Keeping these building systems in good working order and well maintained is the best approach. Modern buildings systems are calculated, modeled and studied before built setting performance specification that only periodically need to be calibrated. Deferred maintenance with modern technologies is indeed 'penny wise pound foolish'.

Aside from maintenance standards, underperforming modern buildings are usually the result of compromise in construction quality (usually budget driven), improper installation or under-designed building systems by someone unfamiliar with the building type.

The cost of energy over time will only increase, which is incentive to integrate energy recovery and heat exchange systems into the design of arenas. Ideally, heating demand and hot water heating can and should be totally recovered from the refrigeration process.

Most arenas require 900 MWH of externally produced electricity (almost half allocated to the ice plant) and 200 MWH of heat. The process of refrigeration produces about 1300 MWH of energy, 1600 MWH recovered for heating the entire building including significant spectator areas and, about 800 MWH of surplus heat being expelled or redirected to adjacent facilities (i.e. a swimming pool).

LEED and other green-building initiatives can be integrated at modest cost premiums and relatively short payback periods to:

- Reduce excess heat gain / loss
- Capture indirect daylighting to reduce electrical dependency
- Recycle grey water and black water for site irrigation
- Integrate holistic approaches to managing construction and demolition waste
- Use locally available materials such as wood, reducing shipping costs and inherent environmental impact
- Recycle elements of the old building, reducing cost and disposal
- Developing a constant temperature thermal mass using waste heat under the ice slab (as opposed to costlier heating and insulation) to prevent permafrost-like heaving. This type of system adds about \$50,000 to the cost with an energy payback of less than three years.

Lighting systems offer many choices, each with pros and cons. Fluorescent systems offer energy efficiency and medium life; Metal halide long life but poorer energy efficiency; high pressure sodium excellent colour rendition, life and energy efficiency; and, halogen relatively short life and lesser energy efficiency.

Acoustics need to be engineered to allow clarity of amplified music and spoken word and block white noise such as mechanical systems. Reverberation should be limited <3S. Acoustic modeling should be a part of every design process and influence the form, materials and use of sound-absorptive baffles. The quality of the sound system selected will be

unavoidably conspicuous for the life of the facility and should not be compromised.

Operating costs generally break down into the following categories:

- Staff 50%
- Energy 27%
- Maintenance 8%
- Overheads 8%
- Water 3%
- Sewage 3%

The main advantage of co-location with a second arena ice sheet, aside from potentially sharing a resurfacing machine, is the opportunity to economize in staffing shared between two rinks. Some additional economies may result in shared maintenance and repair equipment.

Co-location may also reduce overall operating costs for energy as excess heat can be channeled from the arena to another component like a pool or auditorium.

9.0 Economic Development Impacts Summary Profile

The economic impacts to Quesnel and area of the construction fall into one of five categories:

Direct

- Construction jobs building the facility
- Additional jobs created operating the facility

Indirect

- New tourism and new real spending in the community
- Increase in service sector jobs (primarily the food and beverage and, hospitality)
- Multiplier impacts of new housing and services to support the families of the net new jobs created

Direct Impacts

Construction of the new facility will take 18-months to two years, followed by the demolition of the old arena. A project of this scale could be expected to create between 30 to 60 person-years of skilled and semi-skilled labour for construction valued in the range of \$5.0 million (funded by taxation or reallocation of existing dollars in the community). Positions will be filled locally or labour imported during specific phases of the work, each yielding different multipliers.

It is unlikely that the new facility will create new fulltime employment above Arena #1 operations staff redeployed. Newer facilities require less repair, maintenance and technologies less supervision. Net new labour may (if not drawn from the pool of existing recreation staff) be added in casual labourers for facility event conversions from and back to ice.

Part-time job opportunities will increase as the new facility will need more ticket-takers, concession staff and ushers owing to the ability to move more spectators through quicker (supportable by the economies of 500 more seats than existing), and due to more events.

Indirect Impacts

Net tourism and new real spending brought into Quesnel and area will more difficult to forecast. At least some part can be attributed to a 'substitution effect' (i.e. spending on new activities such as a concert, replaces previous existing activities, such as going out for dinner and a movie). Another portion could be attributed to 'double counting' (visitors may have other agendas bringing them to Quesnel such as shopping at the 'big box stores', using local services such as health or visiting friends and relatives).

Event hosting may bring new revenues to Quesnel, but possibly at a cost to somewhere else. For example, there exist a fixed quantity of hockey tournaments, figure skating competitions and other types of meets, meaning attracting an events is to take it away from another community. Arguably, it also means a repatriation of local residents' travel dollars spent elsewhere.

In addition to a roughly 50% increase in seating capacity in the new venue, at least 25 new event nights can be expected above the current 30 home dates (plus potential play-off dates) of the Millionaires hockey club. The 25 annual date number is based on comparative historical booking averages for publicly-owned and operated spectator facilities in B.C. which tend to host 2 to 2.5 non-hockey major events per month (the more aggressive privately operated venues have greater 'buying power' through economies of scale and are usually located in denser populated areas, attracting 4 to 6 event nights per month).

These events may include:

- Concerts (either small-market venue circuits or opportunistic stop-overs between larger scale venues in Kamloops and Prince George)
- Family entertainment shows (circus, ice capades, bmx/motocross spectacles)
- Fairs, car shows, home shows, swap meets and farmer's markets (summer)
- Convocations and graduations
- Corporate rentals (major employer Christmas parties)
- Conferences and large meetings such as governmental, school or health authorities, or labour, religious or political organizations
- Oktoberfest, food or wine tasting events

Most of these events will draw relatively few visitors outside of the Quesnel catchment area, as many performances and spectacles will also be making stops hours away in Kamloops and Prince George. Conservatively assuming 10% of a 2,500 concert gate are out-of-catchment overnight visitors spending \$300 per couple, Multi-Centre events above BCJHL hockey could generate \$700,000 to \$900,000 of new gross revenues, less current draw in the old arena.

In addition to the approximately over 50 event nights annually, other types of events would be hosted (impacting regular scheduled rentals, but) attracting outside revenues include hockey and ringette tournaments, lacrosse in summer, figure skating competitions and other types of meets.

A reasonable target might be one weekend tournament per month during the winter season (October to March). The maximum a 2-ice sheet weekend tournament (Multi-Centre and Arena #2) would see is 250-300 participants (16 teams), with coaches, family and friends generating about an equal number hotel-bed nights (virtually 100% of the 300-room hotel capacity in Quesnel). Assuming \$500 per family per weekend (for two nights lodging, food, shopping, gas, event registration), six events could generate over \$750,000.

Realistically a figure under \$400,000 would be more likely achievable.

Assessing the benefits

The economic benefits of a spectator arena facility, or Multi-Centre are real and legitimate, but are often overstated or oversold. Much of the promised economic benefits can't be directly quantified or are a part of the aforementioned substitution effect.

An almost virtual certainty is these types of facilities rarely ever repay construction costs and at best have a neutral cash flow. One of the main arguments for this type of development is the creation of a new 'spending magnet' or community loss-leader.

Numerous studies across North America for all types and levels of sport teams that anchor these facilities (or often justify their development) have concluded, sport teams provide negligible direct and indirect benefits. At its best the sports team is engendering a sense of pride and interest extending well beyond the paid ticket-holders.

The biggest challenge to these types of facilities is the argument of alternative uses of public funds (convention facilities, recreations centres, public works). What is the highest and best use of scarce resources?

Aside from sports and concerts, the niche of conferences (meeting space and banquet) and even trade shows are a relatively small market in the relatively remote and isolated area of Quesnel. To some extent, hosting these events may be perceived as an unpopular intrusion in to private sector domain, competing with local hotels and hospitality providers.

And what of the public good that these types of facilities profess to generate? Much of the benefits these venues create will be funneled into the lower-wage service sector industries such as food and beverage and lodgings (studies suggest the service sector constitutes about 10% of the labour force but only 3% of total wages).

One perspective shoring the public good argues for the intangible benefit that of the creation of a community gathering place, a place where everyone has privilege and where one sees their neighbours. Civic pride is hard to measure, but gestures of faith in the long-term sustainability of the community are powerful statements.

Lastly, the location of the facility will affect its ability to enable economic benefits. The more central the location, the greater synergy with the entertainment and retail district. These facilities grow in support of anchor facilities and add extended hours vitality to the precinct, an end in itself.

The more remote a location, the facility will sit in isolation dependent of vehicle transportation to create limited pockets

of activity. Downtown businesses will have lost a key attraction (though at times a parking problem).

Clearly, a downtown location will yield a higher multiplier effect, supporting nearby hotels and restaurants, but may also stimulate other downtown redevelopment and acting as an urban renewal catalyst. The standard and quality of subsequent development would be compelled to meet the challenge laid down by the downtown anchor. Major new downtown development often results in increased property values as well.

Locating downtown has a powerful symbolic value as well, making a statement of commitment to the future in the epicenter of the populated area. These commitments by local government illustrate that downtown is a viable and exciting, vibrant and functional place.

10.0 Preliminary Conclusions and Next Steps

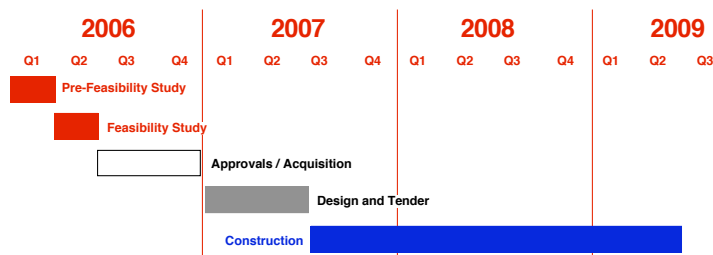
The residents of the Quesnel, city and regional district, will be placed in a position of decision-making in the near future. Residents will have to decide what is the appropriate level of capital expenditure the community can reasonably sustain and who will participate in that debt obligation.

The scale of project begins at over \$16 million for the Multi-Centre arena component alone, costing up to \$1.2 million annually in debt repayment (for 25 years) and almost \$800,000 per year in operating costs (before revenues). Further, major lifecycle maintenance costs will begin in about 10 years and peak at about 25 years. How the facility will be managed and operated will need to be decided.

A new 450-seat Performing Arts Centre of 22,000 SF estimated at \$6.7 million construction in current dollars. The Performing Arts group is currently in initiating a business plan study to augment a feasibility report completed last year. The Museum Society is advocating a new \$6.3 million purpose-built facility, about 20,000 SF in area, and continues its due diligence. A new Gymnastics Centre is needed in Quesnel, its location and funding to be determined (one unique option for the centre is co-location with the new Soccer Centre).

Which components will be included in the first phase, and where will each be located are among the pressing questions.

Residents will also have to decide where the Multi-Centre facility best belongs. This study has isolated basically two reasonable building sites and discounted four other sites including the footprint of the existing Arena #1. Further consultation and technical study will be required to determine the ultimate location.



The next phase of the project will be a feasibility study to gauge support and assess site-specific technical requirements and building specific program and capital costing to a higher degree of accuracy. A conceptual timeline above suggests the most optimistic opening of a new facility would be in time for the summer of 2009.