



**CITY OF FORT SASKATCHEWAN
INDOOR RECREATION INFRASTRUCTURE SERVICE
LEVEL REVIEW**

PHASE 3: CONCEPT DEVELOPMENT

Final

September 26, 2023



**CITY OF
FORT SASKATCHEWAN
ALBERTA**

Fort Saskatchewan is located on Treaty 6 Territory and Métis Nation of Alberta Region 4. We are grateful to share this land with Indigenous Peoples, who have resided here since time immemorial.

– City of Fort Saskatchewan Land Acknowledgment



PREFACE



The purpose of this report is to provide the City of Fort Saskatchewan Council with information related to meeting the service levels for leisure and program aquatic programs of the Council approved Facility Program and identify what facilities offer the most efficient and effective opportunities for any proposed expansion at the Harbour Pool, at the Dow Centennial Centre and at both facilities concurrently.

The Facility Program is intended to meet current and future indoor aquatics needs in the community.

EXECUTIVE SUMMARY

The City of Fort Saskatchewan has undertaken an Indoor Recreation Infrastructure Service Level Review intended to inform City Council decision-making related to current and future indoor recreation facilities. This review process included three phases of work, first focusing on assessing the state of the current Harbour Pool and required investments to maintain existing service levels (Phase 1), then assessing current service levels for aquatics, arenas and fitness indoor recreation amenities (Phase 2) to develop a recommended Facility Program, and finally developing concept plans and costing (capital and operating) related to potential facility expansions concepts to meet the approved Facility Program (Phase 3). This Phase 3 report includes information related to the costs and impacts associated with meeting the approved recommended Facility Program components for indoor program and leisure aquatics services.

In order to achieve this end, three potential development scenarios were identified.

1. Expansion and renovation to the Harbour Pool
2. Renovation to the Harbour Pool and expansion at the Dow Centennial Centre
3. Expansion at the Dow Centennial Centre

For each of these scenarios a concept plan has been developed, Class 5 capital cost estimates have been provided, and potential operational budget forecasts (considered to be +/-40%) have been calculated. Other opportunities and constraints have been noted. The following table summarizes these details. It is important to note that higher levels of accuracy in capital and operational cost estimation will be achieved as the project progresses and prior to ultimate capital cost approval. In addition to the three concepts enhancing the aquatics service levels, the capital and operational costing of a complete Harbour Pool replacement to maintain existing services is included for comparative purposes. This is based on the findings of the the Harbour Pool assessment work done in Phase 1 including the potential debenture costs.

	Scenarios...			
	Like for Like Harbour Pool Replacement	1. Renovation and Expansion at the Harbour Pool	2. Renovation at the Harbour Pool and Expansion at the Dow Centennial Centre	3. Expansion at the Dow Centennial Centre
Service level enhancement	Partial	Yes	Yes	Yes
Capital construction cost (2023 Class 5; 15% new/30% reno contingency)	\$20,090,902	\$44,742,750	\$54,600,000	\$42,262,500
Site servicing and preparation (6%)	\$0	\$2,684,565	\$3,276,000	\$2,535,750
Fees (10%)	\$2,009,090	\$4,474,275	\$5,460,000	\$4,226,250
Overall project cost	\$22,099,992	\$51,901,590	\$63,336,000	\$49,024,500
Operational cost	\$1,675,338	\$3,349,252	\$4,292,899	\$3,285,460
Overall annual cost to the City*	\$3,299,085	\$7,205,123	\$ 8,946,849	\$6,940,521
Service disruption (estimated timing)	Yes (12-24 months)	Yes (24-36 months)	Yes (18-24 months)	No
Construction risk (%)	30%	30%	15%/30%	15%
Accessibility impact**	Low	Med	Med	High
Environmental impact**	Med	Med	Med	Med

*Includes debenture costs and reserve.

** It is important to note that accessibility and environmental sustainability considerations would be fulsomely identified and assessed during the detailed design process.

Based on the information outlined herein, Scenario #3: Expansion at the Dow Centennial Centre is the most cost efficient option based on the capital and operational cost estimates. In addition, this Scenario would also entail either repurposing or decommissioning of the existing Harbour Pool.

Scenario #3 entails the lowest capital cost of the three Scenarios reviewed (as well as the lowest capital construction risk) and has the greatest potential for operational cost efficiencies. It also renders the lowest 40-year Net Present Value (investment) and does not entail a service disruption.

If approval is given to proceed with any of the scenarios presented, recommended next steps for the project would be to:

- I. Share decisions made with community.
- II. Develop a funding / financing plan and secure capital project funding, including exploring applicable government grants.
- III. Confirm a project delivery approach and initiate a schematic and detailed design process.
- IV. Engage with the community and potential users as well as subject matter experts (such as the Lifesaving Society: Alberta and Northwest Territories Branch and The Steadward Centre For Personal & Physical Achievement) to ensure facility design evolves effectively.
- V. Develop a detailed operational business plan for the facility during the design process.
- VI. Develop and initiate a project fundraising and sponsorship strategy for the facility.
- VII. Develop a more thorough needs assessment and feasibility study for the re-purposing of Harbour Pool.



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1 INTRODUCTION AND METHODOLOGY

The City of Fort Saskatchewan invests in a variety of indoor recreation facilities to service the needs of its approximately 28,000 residents.

This document represents the third phase in a planning process initiated by City Council to assess the service levels for select indoor recreation amenities and provide more detailed planning on how to better meet identified needs through investment in infrastructure. Phase 1 of this process outlined the current state of the existing Harbour Pool and City's Council's approval of the Facility Program in Phase 2 directed further planning on enhancing current service levels for indoor leisure and indoor program aquatics services. Although other service areas (arenas, and fitness) were also reviewed, it was determined that only enhancing leisure and program aquatics warranted further exploration at this point in time. It is important to note that as market conditions change, so to may community need for different indoor recreation amenities. It is also important to note that the service level enhancements recommended include consideration of future population growth in the community.

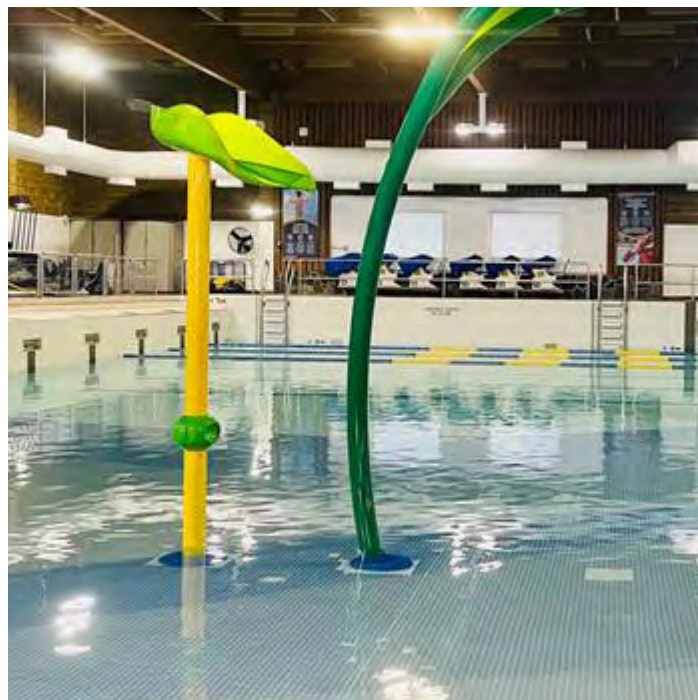
This phase of work is meant to look specifically at the costs and conceptual plans associated with investment in indoor aquatics. More specifically, it answers the following questions based on three scenarios:

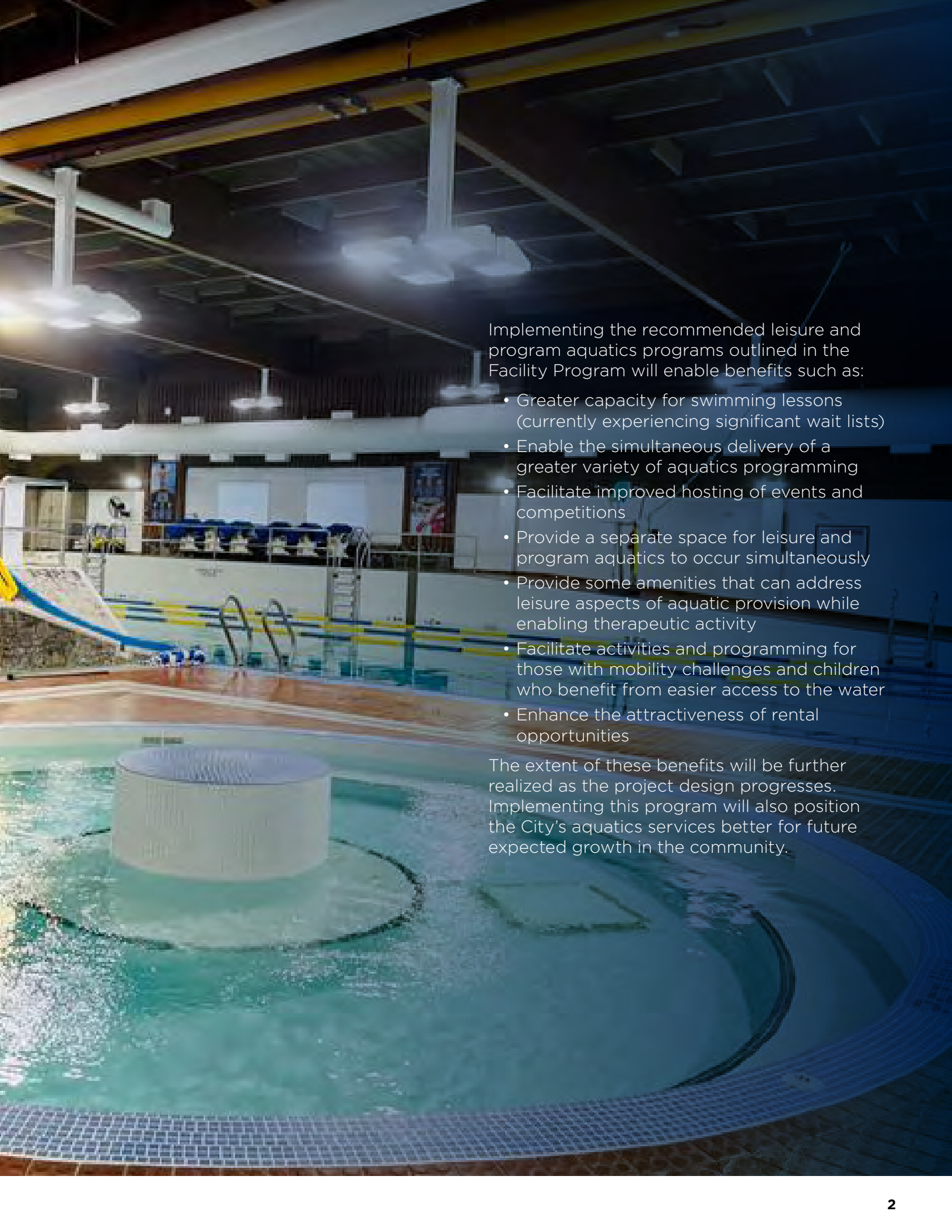
1. Can the Harbour Pool be expanded to accommodate the leisure and program aquatics program as presented in the Council approved Facility Program?
2. What would a concept delivered at Harbour Pool and the Dow Centennial Centre be for the overall aquatics program as presented in the Council approved Facility Program?
3. What would a concept delivered at the Dow Centennial Centre be for the overall aquatics program as presented in the Council approved Facility Program?

It is important to note that a high-level program (list of required spaces) for both leisure and program aquatics was outlined in the Facility Program approved by Council. More detail is provided herein related to:

- Concept plans based on a more detailed space program for leisure and program aquatics
- Capital cost estimates, including debt servicing and reserves
- Operating cost estimates
- Opportunities and constraints of each scenario
- Potential future repurposing of Harbour Pool should it not be an indoor aquatics venue

The intention of this report is to provide Council with the information it needs to make an informed decision about future investment in indoor aquatics.



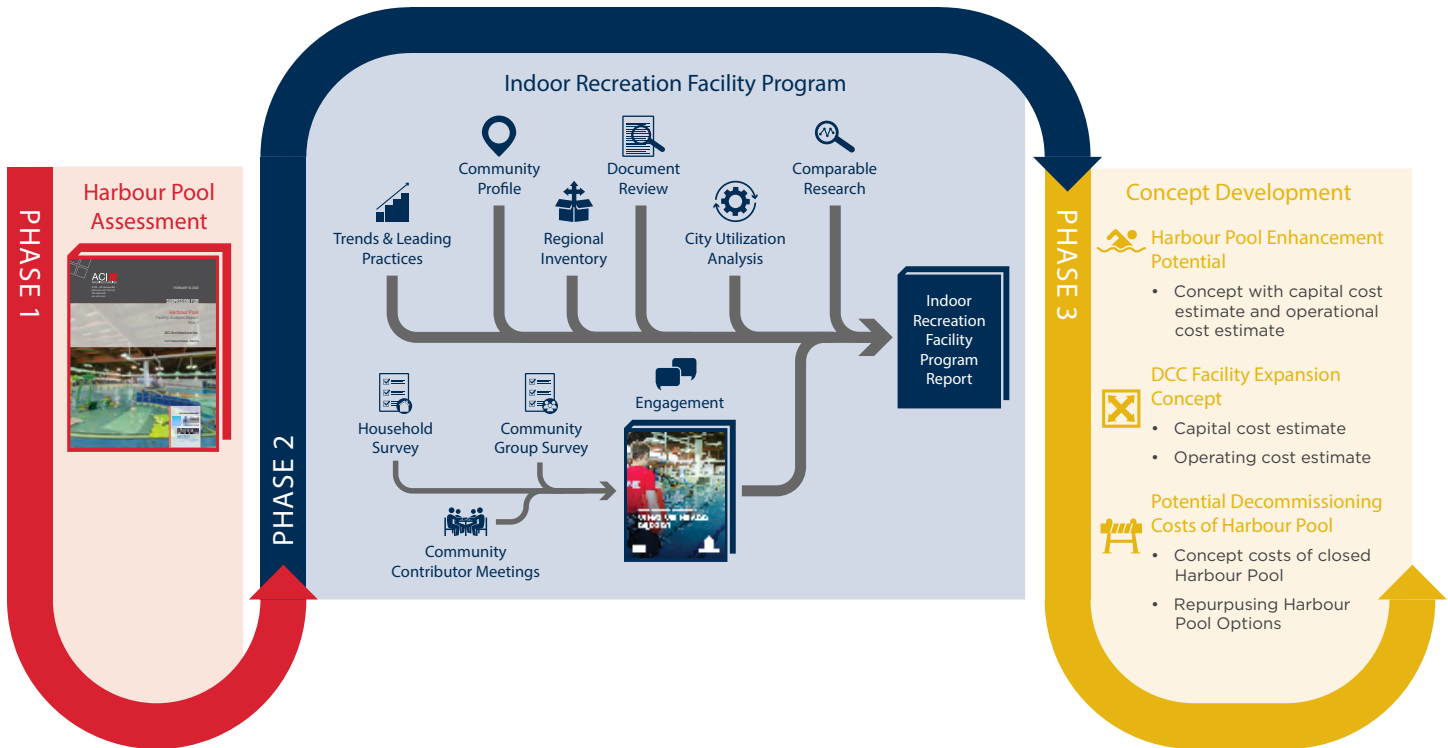


Implementing the recommended leisure and program aquatics programs outlined in the Facility Program will enable benefits such as:

- Greater capacity for swimming lessons (currently experiencing significant wait lists)
- Enable the simultaneous delivery of a greater variety of aquatics programming
- Facilitate improved hosting of events and competitions
- Provide a separate space for leisure and program aquatics to occur simultaneously
- Provide some amenities that can address leisure aspects of aquatic provision while enabling therapeutic activity
- Facilitate activities and programming for those with mobility challenges and children who benefit from easier access to the water
- Enhance the attractiveness of rental opportunities

The extent of these benefits will be further realized as the project design progresses. Implementing this program will also position the City's aquatics services better for future expected growth in the community.

Indoor Recreation Infrastructure Service Level Process



Indoor Recreation Facility Review Process Overview

Phase 1 was focused on developing an updated understanding of the current state of the Harbour Pool. This assessment builds upon previously completed studies and includes a structural, mechanical, electrical, and aquatic assessment of the Harbour Pool completed by engineers and technical specialists. The findings from this assessment are presented under separate cover. The Harbour Pool Assessment report presents the current status of the infrastructure lifecycle of the Harbour Pool including projected costs to extend the lifecycle of the facility without considering any change to functionality or user experience.

Phase 2 encompassed extensive research ultimately leading to the recommended Indoor Recreation Facility Program for the City focusing on four in-scope indoor amenities.

Phase 3 includes the development of concept plans and greater levels of detail related to the costs and benefits of investing in the recommended Indoor Recreation Facility program developed in Phase 2.



1.1 Methodology

The methodology used in developing capital cost estimates found in this report entails concept planning at each site, including the approved recommended amenities (identified in the approved Facility Program). The extent of these benefits will be further realized as the project design progresses, and the space requirements for each. Unit construction cost rates, as observed in the current 2023 market, are applied to the space recommendations to render an estimated construction cost (Class 5; +50%/-30%). Allowances for other project costs are also provided.

In regards to operational cost estimation, initial references to existing operating budgets for similar facilities (Harbour Pool) have been used to extrapolate for larger / different spaces. Adjustments to staffing, materials, and utility costs have been adjusted from extrapolated amounts as warranted.

It is important to note that at this stage of project planning and design, referred to as Concept Planning, capital construction cost accuracy of +50%/-30% should be expected (Class 5 ASTM E2516-11). In addition to capital construction costs, a 6% allowance for site servicing and preparation (utility upgrades, access and egress, parking, landscaping, etc.) and a 10% allowance for fees associated with design (architecture and engineering, site testing, etc.) have also been estimated.

As well, operational cost estimation should also be considered to be +/-40% as exact project characteristics and operating market conditions are speculative at this stage. Also, important to note is that the operational revenues and cost estimates also assume the facility operating “at maturity” (with usage and associated revenues and expenses scaled up to a mature operating level) which is likely 3-5 years after opening. Advancing the design process will be necessary to understand the potential impacts of the types of amenities, layout, and potential leisure and program aquatics features in order to further refine the capital and operational costs.

2 INDOOR RECREATION FACILITY PROGRAM

The Facility Program report highlighted some functional deficiencies in both leisure and program aquatics associated with the Harbour Pool. It also outlined direction as to how to enhance service levels in the community for indoor aquatics should City Council decide to invest. The following table summarizes this material.

	Leisure Aquatics	Program Aquatics
Current state	<ul style="list-style-type: none"> Current leisure amenities at the Harbour Pool require some necessary reinvestment and modernization (see detail outlined in Phases 1 and 2). The current facility has functional limitations including a lack of leisure amenities and spray features and limited multi-use, complementary dry land spaces. 	<ul style="list-style-type: none"> Current program amenities at the Harbour Pool require some necessary reinvestment and modernization (see details outlined in Phases 1 and 2). The current facility has functional limitations including deck height in the main program/leisure tank, the 6 lane configuration, inability to accommodate multiple activities at one time, and limited multi-use, complementary dry land spaces.
Recommended program <i>*Found on pages 19 and 26 of the Phase 2 report</i>	<ul style="list-style-type: none"> A dedicated zero depth entry leisure tank (provided at the existing facility, but upgrades required). Leisure amenities and spray features (not provided sufficiently at the existing facility). A shallow depth tot/teach pool (provided at the existing facility, but upgrades required). A hot tub (provided at the existing facility, but upgrades required). Complementary dry land spaces (partially provided at the existing facility, but upgrades required). Preferably co-located with program aquatics. Meeting current standards and guidelines for accessibility and environmental sustainability. 	<ul style="list-style-type: none"> A dedicated 25 metre 8 lane program tank (partially provided at the existing facility but not dedicated). Complementary dry land spaces (partially provided at the existing facility). Preferably co-located with leisure. Meeting current standards and guidelines for accessibility and environmental sustainability.

In response to these high-level recommendations, the following table outlines a draft Master Program with more detail as to what types of space, functionality and sizing would be required to meet the program and leisure aquatic amenities intended to enhance the current state of indoor aquatics in the City.

Proposed New Indoor Aquatics Program			
ROOM NAME	PROGRAM AREA (ft ²)	PROGRAM AREA (m ²)	DESCRIPTION AND COMMENTS
<i>Natatorium – Wet activity space enabling different types of aquatics activities to occur as well operational support and some spectating.</i>			
Aquatics Area (Deck Area / Dry Area)	13842	1286	8-Lane Competitive Pool, 1 TOT pool with zero-entry, 1 Leisure Pool with zero-entry, 1 hot tub with zero-entry, diving area (1m springboard).
Bathing Area (Wet Area)	11614	1079	
Bleacher Viewing Area	1916	178	Pullout telescopic bleachers for viewing
Parent Viewing Area (Tot Pool)	549	51	Tables, chairs, guardrail separating aquatics area and viewing area, gated entry to aquatics area (accommodating up to approximately 30-40 people).
First Aid	151	14	Millwork, sink, bed, fridge.
Pool Staff / Life Guard	581	54	Millwork, desks, chairs, interior glazing for aquatics supervision
Pool Storage	1,076	100	Millwork for pool accessories, program equipment and leisure equipment
Sauna	151	14	Accommodating up to 10 users.
Slide Tower	1098	102	Indoor slide tower.
Steam Room	151	14	Accommodating up to 10 users.
Total Natatorium Area	30591	2842	
<i>Staff / Administration – Administrative support spaces.</i>			
Staff Change Room	926	86	Changing Partitions, lockers, showers, WC, lavatories.
Laundry	118	11	Washer/Dryer, millwork storage.
Staff Kitchen	452	42	Millwork, sink, kitchen equipment, tables, chairs.
Reception	323	30	Reception millwork, chairs, desk.
Meeting Room	592	55	Table, chairs and audio/visual capabilities.
Office 1	161	15	Millwork, chairs, desks.
Office 2	172	16	Millwork, chairs, desks.
Office 3	183	17	Millwork, chairs, desks.
Office / Administration at Reception	323	30	Millwork, chairs, desks.
Storage	151	14	Operational storage space.
Janitor	140	13	Janitor sink, millwork.
Total Staff / Administration Area	3541	329	
<i>Building Operations – Operational support spaces.</i>			
Mechanical / Electrical Room	7535	700	
Meter Room	97	9	
Total Building Operations Area	7535	700	
<i>Change Rooms – Space to enable participants to enter and exit the natatorium</i>			

Proposed New Indoor Aquatics Program			
ROOM NAME	PROGRAM AREA (ft ²)	PROGRAM AREA (m ²)	DESCRIPTION AND COMMENTS
Universal Barrier Free Changeroom	4295	399	Changing room partitions, lockers, showers, lavatories, , with barrier free options.
Total Change Room Area	4295	399	
Multipurpose – Dry land spaces to support and complement use of the natatorium.			
Multipurpose	1507	140	Table, chairs, millwork, sink, microwave, fridge, rentable space for birthday parties, etc., 75 occupancy capacity.
Total Multipurpose Area	1507	140	
Circulation – Spaces to enable traffic flow within the facility.			
Corridor 1	366	34	Circulation.
Corridor 2	786	73	Circulation.
Corridor 3	570	53	Circulation.
Lobby	1216	200	Tables, chairs / seating for waiting.
Stairs	151	26	Stairs to mechanical/electrical room for addition.
Vestibule (Main Entrance)	301	28	Main entrance, Boot racks.
Vestibule (Side Entrance Staff)	86	8	Side entrance, staff only.
Total Circulation Area	4542	422	
Overall Program Area	52011	4832	

This draft Master Program has been used to drive concept planning at:

1. The existing Harbour Pool site (through renovation and expansion)
2. Both the Harbour Pool and Dow Centennial Centre (through renovation and expansion)
3. The existing Dow Centennial Centre (through expansion)

It is important to note that there are some minor adjustments to the overall square footage of certain spaces depending on the build conditions (constraints or opportunities) at each site.



3 CONCEPT OPTIONS

The following concept images, capital cost estimates and operating cost estimates outline the impacts associated with each development scenario. Background detail can be found in the Appendix related to capital and operational cost estimation. As a baseline comparison, these scenarios are compared to the current Harbour Pool operation in the Appendix with estimates for debenture servicing to enable a “like for like” comparison.

3.1 Scenario #1: Renovation and Expansion at the Harbour Pool

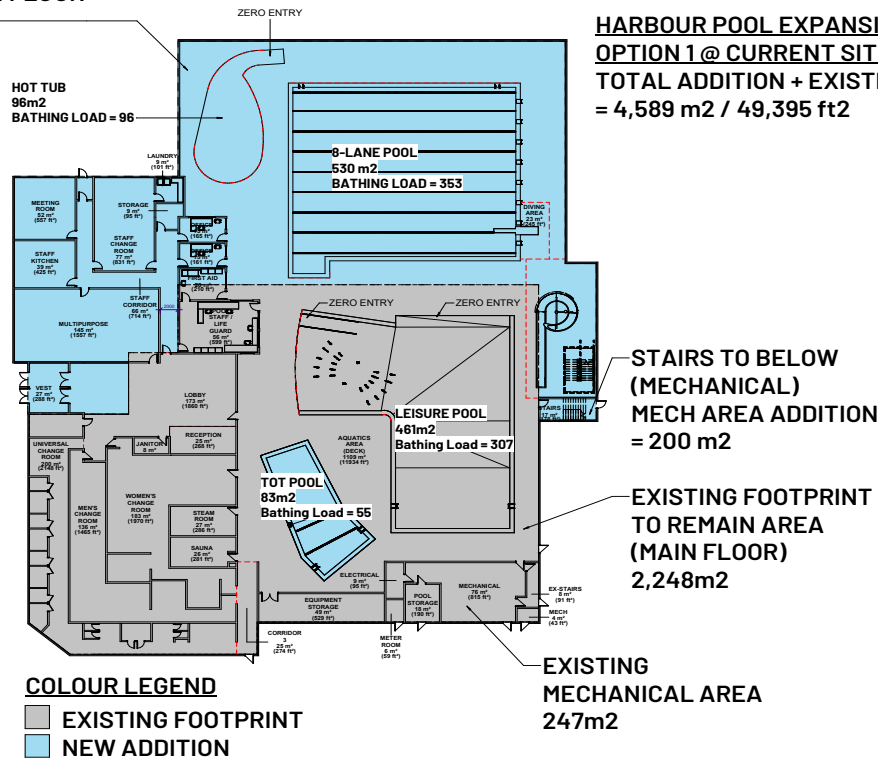
Site



HARBOUR POOL EXPANSION ON EXISTING SITE
NTS

Floor Plan

ADDITION AREA MAIN FLOOR
1,894m²



Capital construction cost (+50%/-30%): \$44,742,750 (construction cost including 30% contingency) plus approximately \$2,684,565 for site servicing and preparation (6% of construction cost) and \$4,474,275 for fees (10% of construction) for a **total of \$51,901,590 in 2023 construction dollars.**

Operational impact* (+/-40%): \$3,349,252

**assumes "at maturity" facility operations which will ultimately take time to build up to, which is likely 3-5 years after opening.*

Overall annual cost** (+/-40%): \$7,205,123

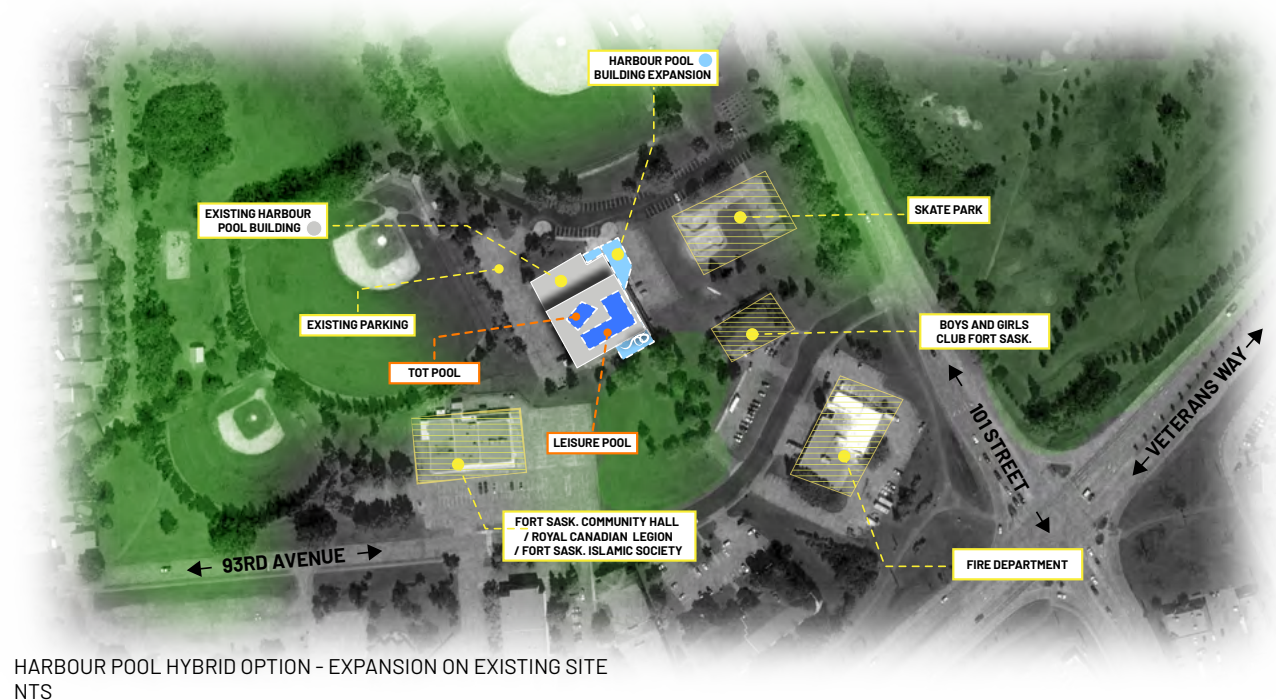
***includes operational impact above as well as debenture servicing and life cycle reserve contributions.*

Opportunities and constraints:

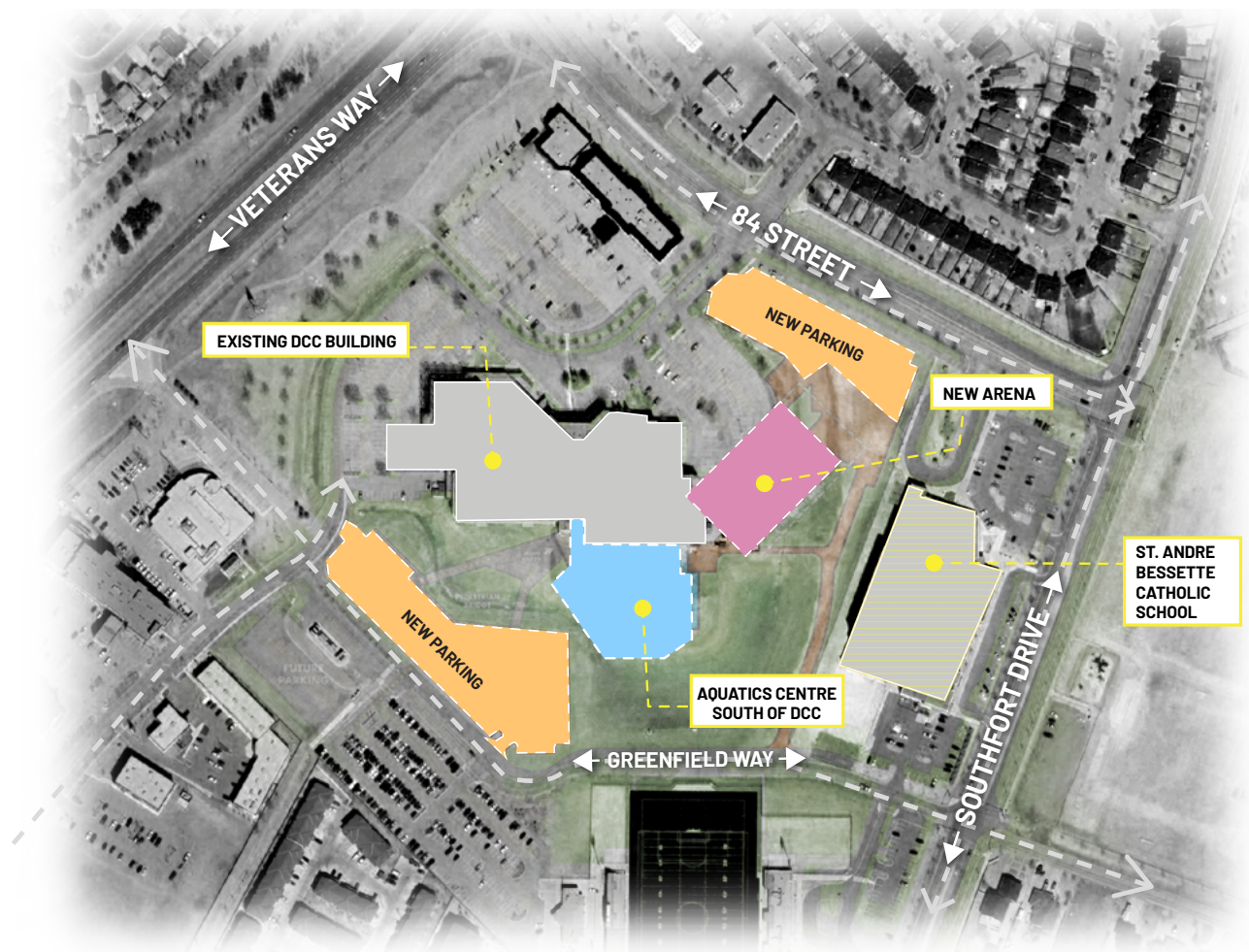
- Would render a significant service level enhancement.
- Would entail reinvestment into an existing 40 year old facility and would include some design constraints associated with existing facility.
- Would entail construction cost risk associated with renovation (30%) versus building new (15%).
- Would include a significant service disruption (24-36 months without all indoor aquatics service).
- Would render enhanced accessibility and environmental sustainability of the facility and would minimize embodied carbon.
- Will entail parking limitations on site and decreased access for deliveries and garbage collection.

3.2 Scenario #2: Renovation at the Harbour Pool and Expansion at the Dow Centennial Centre

Site plan - Harbour Pool and DCC: South



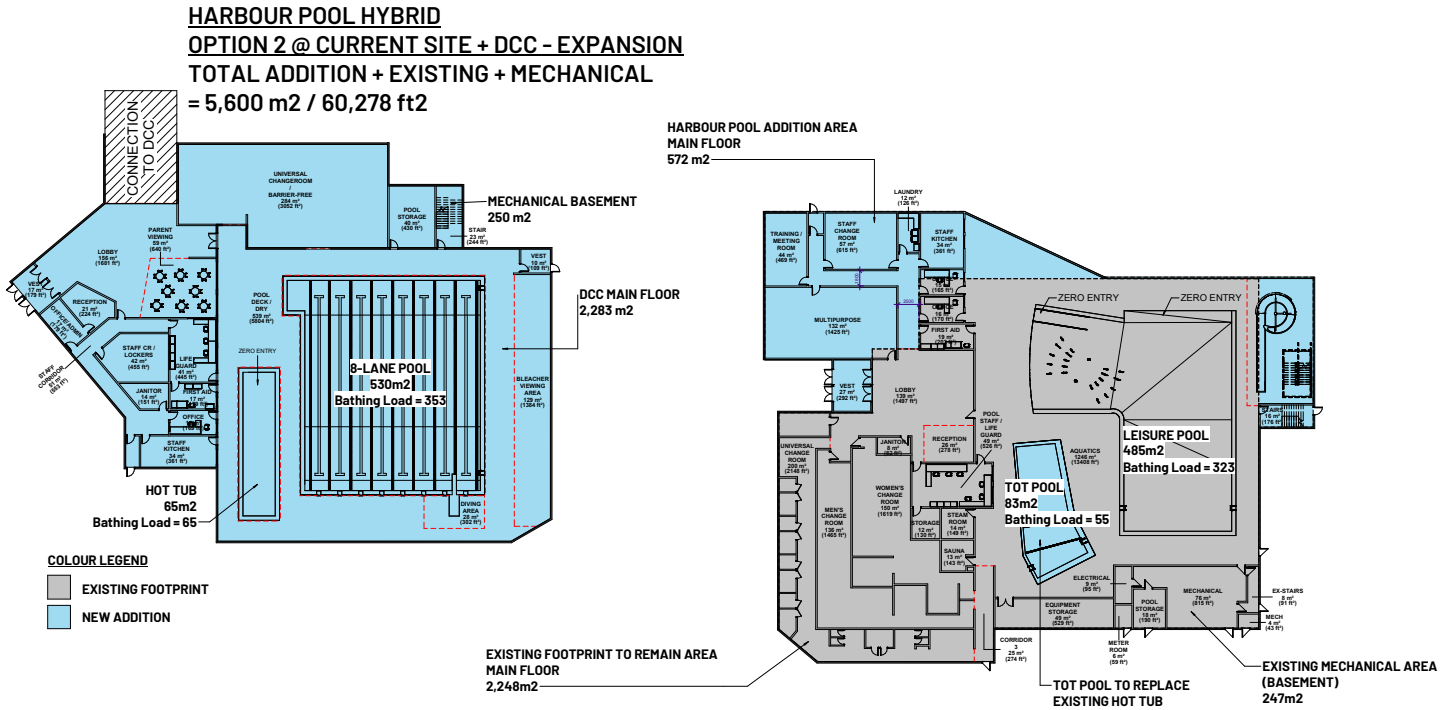
For Scenario #2, two potential site options have been shown at the DCC site: East and South. The accompanying cost estimates are indicative of the South option which is slightly more expensive than the East option. Should this scenario be chosen, more detailed analysis will need to be undertaken to determine which option is best to pursue.



HARBOUR POOL HYBRID OPTION - EXPANSION ON DCC SOUTH SITE
NTS

As can be seen there is a placeholder for a future new arena. Although not immediate, the Facility Program highlighted the need for a new arena in the future, which may occur at the DCC site.

Floor plan - Harbour Pool and DCC: South



Capital construction cost (+50%/-30%): \$54,600,000 (construction cost including 15%/30% contingency) plus approximately \$3,276,000 for site servicing and preparation (6% of construction cost) and \$5,460,000 for fees (10% of construction) for a **total of \$63,336,000 in 2023 construction dollars**

Operational impact* (+/-40%): \$4,292,899

**assumes "at maturity" facility operations which will ultimately take time to build up to, which is likely 3-5 years after opening.*

Overall annual cost** (+/-40%): \$ \$8,946,849

***includes operational impact above as well as debenture servicing and life cycle reserve contributions.*

Opportunities and constraints:

- Would render a significant service level enhancement.
- Would entail reinvestment into an existing 40 year old facility and would include some design constraints associated with existing facility.
- Would entail construction cost risk associated with renovation (30%) and building new (15%).
- Would include a service disruption (18-24 months without leisure or program aquatics service during this time period).
- Would render enhanced accessibility and environmental sustainability characteristics and would minimize embodied carbon.
- Would entail staffing two separate indoor aquatics sites.

3.3 Scenario #3: Expansion at the Dow Centennial Centre

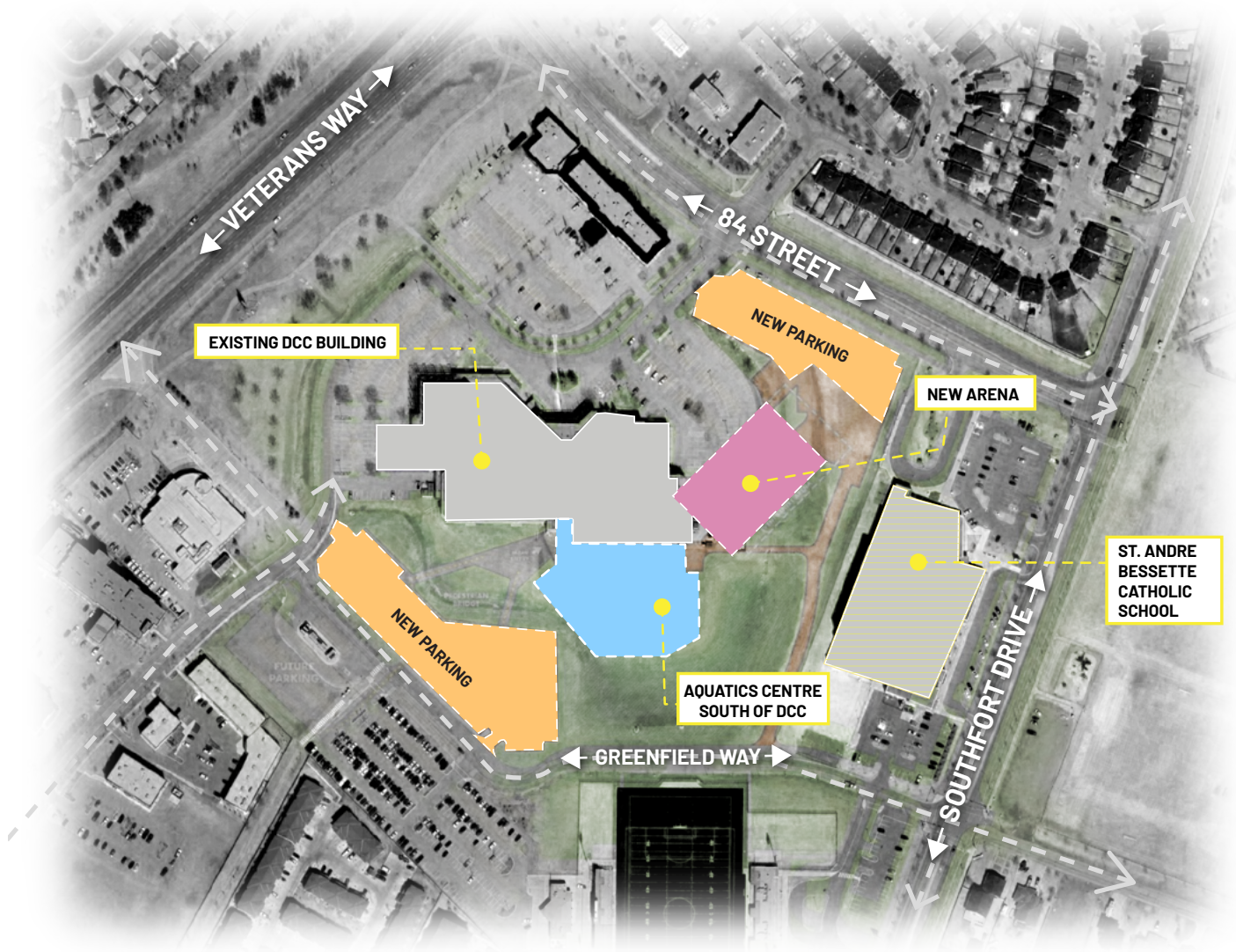
For Scenario #3, two potential site options have been shown at the DCC site: East and South. The accompanying cost estimates are indicative of the South option which is slightly more expensive than the East option. Should this scenario be chosen, more detailed analysis will need to be undertaken to determine which option is best to pursue.

Site – East



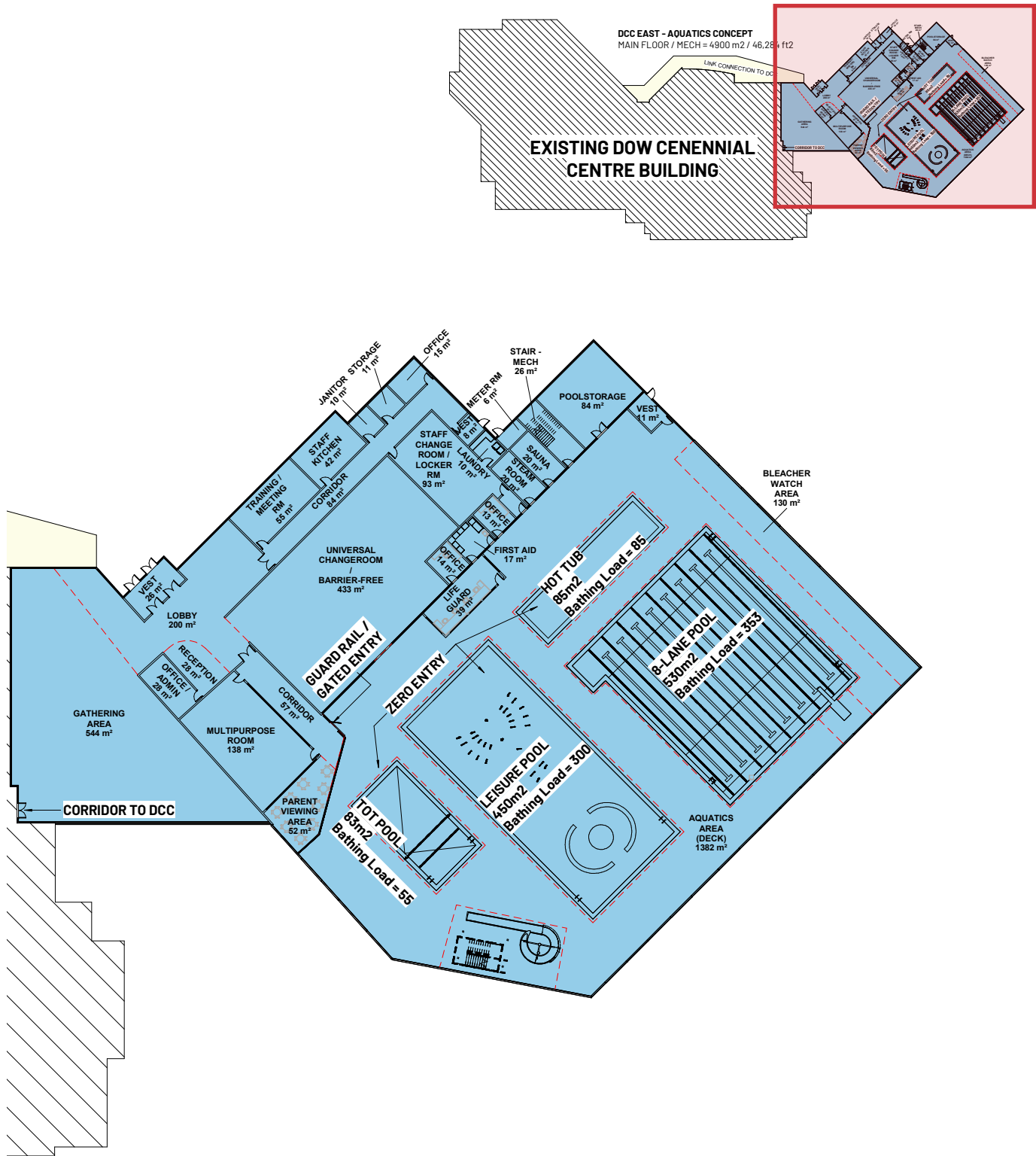
As can be seen there is a placeholder for a future new arena. Although not immediate, the Facility Program highlighted the need for a new arena in the future, which may occur at the DCC site.

Site - South

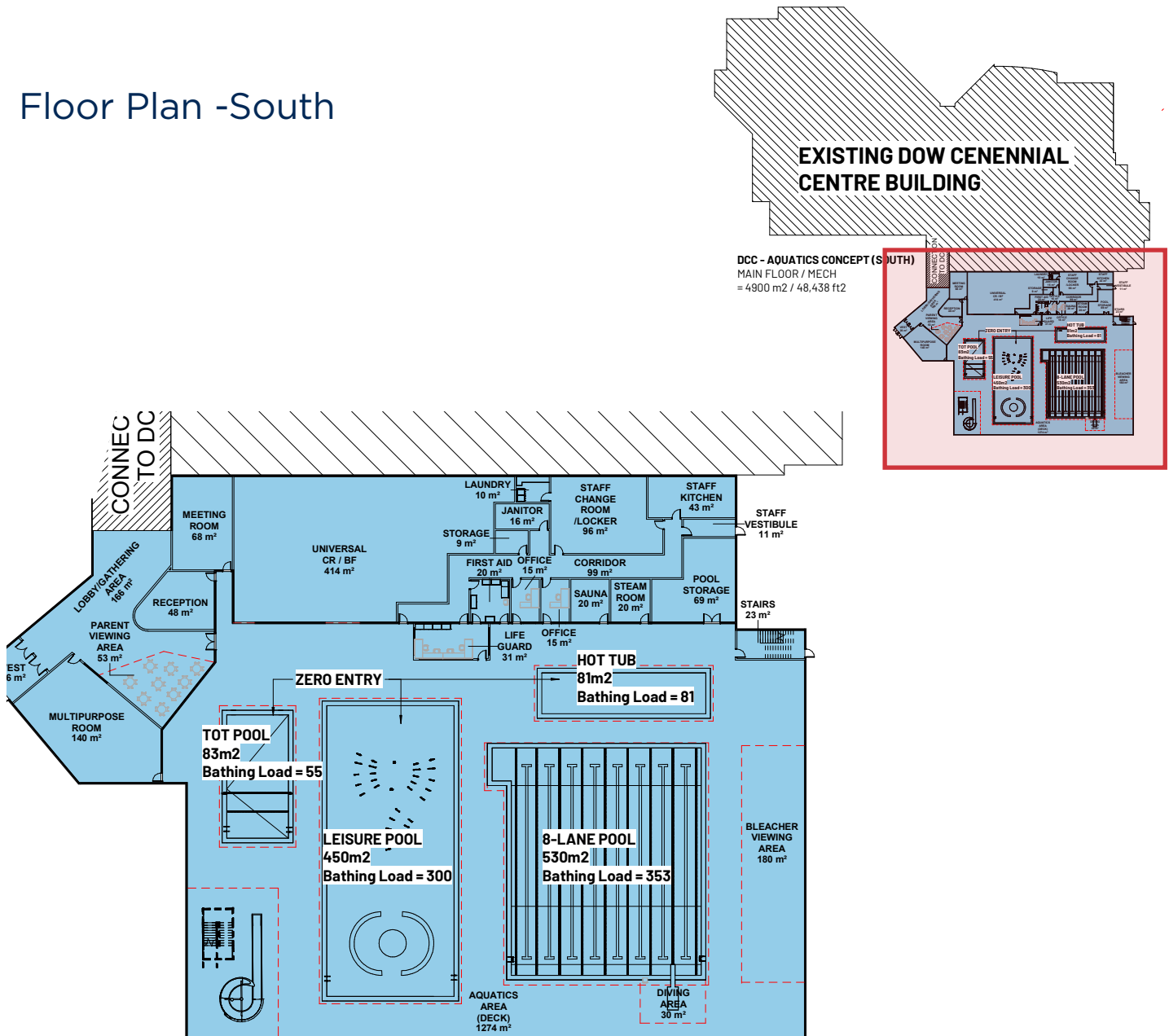


As can be seen there is a placeholder for a future new arena. Although not immediate, the Facility Program highlighted the need for a new arena in the future, which may occur at the DCC site.

Floor Plan - East



Floor Plan -South



Capital construction cost (+50%/-30%): \$42,262,500 (construction cost including 15% contingency) plus approximately \$2, 535,750 for site servicing and preparation (6% of construction cost) and \$4,226,250 for fees (10% of construction) for a **total of \$49,024,500 in 2023 construction dollars. (South Option Costing)**

Operational impact* (+/-40%): \$3,285,460

*assumes "at maturity" facility operations which will ultimately take time to build up to, which is likely 3-5 years after opening.

Overall annual cost** (+/-40%): \$6,940,521

**includes operational impact above as well as debenture servicing and life cycle reserve contributions.

Opportunities and constraints:

- Would render a significant service level enhancement.
- Would entail new construction and entail minimal limitations due to existing constraints.
- Would only entail construction cost risk associated with building new (15%).
- Would avoid service disruption.
- Would render enhanced accessibility and environmental sustainability characteristics and would add embodied carbon.
- Would entail limited/no parking limitations on site.

Harbour Pool Repurposing

Scenario #3 would present an opportunity to repurpose the existing Harbour Pool facility and site. Should indoor aquatics be relocated to the DCC, the existing facility envelope, mechanical system (non-aquatics elements), and support amenities could be repurposed to meet other community needs.

Some other communities in Alberta have gone through similar situations and have repurposed decommissioned pools into facilities such as gymnasias and meeting facilities, and community resource centres (offices and meeting spaces).

Although there were no immediate needs identified in Phase 2 that could be addressed in the repurposing of Harbour Pool, a more thorough needs assessment and feasibility study should be completed if Scenario #3 should proceed. For the purposes of this report, it has been confirmed at a high level that the Harbour Pool could be repurposed and that this type of approach has been successful in other communities to achieve a variety of purposes.

Repurposing of the Harbour Pool as an aquatics facility to bring the building to a state that could be used as a potential community asset would cost approximately \$2-3 million.

Potential decommissioning costs for the facility would be approximately \$500,000 which would include grading the site, capping off underground utilities and general site remediation in addition to the demolition and removal of materials.

Whitecourt Community Resource Centre



3.4 Scenario Summary

For each of these scenarios a concept plan has been developed, Class 5 capital cost estimates have been provided, and potential operational budget forecasts (considered to be +/-40%) have been calculated. Other opportunities and constraints have been noted. The following table summarizes these details. It is important to note that higher levels of accuracy in capital and operational cost estimation will be achieved as the project progresses and prior to ultimate capital cost approval. In addition to the three concepts enhancing the aquatics service levels, the capital and operational costing of a complete Harbour Pool replacement to maintain existing services is included for comparative purposes. This is based on the findings of the the Harbour Pool assessment work done in Phase 1 including the potential debenture costs.

	Scenarios...			
	Like for Like Harbour Pool Replacement	1. Renovation and Expansion at the Harbour Pool	2. Renovation at the Harbour Pool and Expansion at the Dow Centennial Centre	3. Expansion at the Dow Centennial Centre
Service level enhancement	Partial	Yes	Yes	Yes
Capital construction cost (2023 Class 5; 15% new/30% reno contingency)	\$20,090,902	\$44,742,750	\$54,600,000	\$42,262,500
Site servicing and preparation (6%)	\$0	\$2,684,565	\$3,276,000	\$2,535,750
Fees (10%)	\$2,009,090	\$4,474,275	\$5,460,000	\$4,226,250
Overall project cost	\$22,099,992	\$51,901,590	\$63,336,000	\$49,024,500
Operational cost	\$1,675,338	\$3,349,252	\$4,292,899	\$3,285,460
Overall annual cost to the City*	\$3,299,085	\$7,205,123	\$8,946,849	\$6,940,521
Service disruption (estimated timing)	Yes (12-24 months)	Yes (24-36 months)	Yes (18-24 months)	No
Construction risk (%)	30%	30%	15%/30%	15%
Accessibility impact**	Low	Med	Med	High
Environmental impact**	Med	Med	Med	Med

*Includes debenture costs and reserve.

**It is important to note that accessibility and environmental sustainability considerations would be fulsomely identified and assessed during the detailed design process.

It is important to note that should Harbour Pool be renovated in any way, the expected life expectancy would be approximately 40 years (under normal maintenance procedures and environmental conditions) after which replacement will be required. This would be similar to a new build as the extent of the renovation proposed is substantial.

3.5 Net Present Value Analysis

In an attempt to depict the long-term financial implications of each scenario a Net Present Value Analysis has been conducted.

This is based on some important assumptions, listed as follows:

Assumptions	
Longevity of Harbour Pool after replacement (years)	40
Longevity of New Build at DCC (years)	40
Construction cost inflation (annual %)	5%
Value of money (annual %)	3%
Financing term (years)	30
Financing rate (annual %)	5.63%*
Annual reserve allocation. Estimate based on current City protocols	\$500,000

* Rate on August 31, 2023

The main reason for the differences in the Net Present Analysis outcome is the different capital and operating costs projections for each scenario as well as the expected service level disruptions over the first 2-4 years of the forecasted cash flows (i.e. the investment is lower for those scenarios that have service level disruptions as there are no operational costs incurred in years that facilities are closed).

The net present value (NPV) method of evaluating investments adds the present value of all cash inflows and subtracts the present value of all cash outflows. The term discounted cash flows is also used to describe the NPV method. In the previous section, we described how to find the present value of a cash flow. The term net in net present value means to combine the present value of all cash flows related to an investment or the life of a facility (both positive and negative).
<https://2012books.lardbucket.org/books/accounting-for-managers/s12-02-net-present-value.html>

The following table summarizes the Net Present Value (NPV) of each scenario over a 40 year time frame taking into account the capital, operating, financing and reserve budgeting cost impacts.

Summary	Net Present Value (Investment) if initiated in 2024	Net Present Value (Investment) if initiated in 2027
Scenario #1: Harbour Pool Renovation and Expansion	-\$207,545,899	-\$213,976,180
Scenario #2: Harbour Pool Renovation and DCC Expansion	-\$258,649,526	-\$265,092,410
Scenario #3: DCC Expansion	-\$204,529,453	-\$210,644,693

As can be seen, the lowest net present value, represented as a negative number (investment) is Scenario #3 at -\$204,529,453 if the project is initiated in 2024. Scenario #2 has a 26% higher investment requirement and Scenario #1 is 1% higher.



4 CONCLUSION AND NEXT STEPS

The purpose of this report was to provide City of Fort Saskatchewan Council with options related to meeting current and future indoor aquatics service levels at the Harbour Pool, at the Dow Centennial Centre and at both facilities concurrently. This work was done as part of a larger indoor recreation facility review process that looked at Aquatics (program and leisure), Arenas, and Fitness amenities that the City currently invests in.

Should City Council decide invest in enhancing indoor aquatics services, it is recommended that Scenario #3: indoor aquatics at the Dow Centennial Centre Site and either repurposing or completely decommissioning the existing Harbour Pool.

Scenario 3 is recommended as it:

1. Entails the lowest capital cost of the three Scenarios reviewed (as well as the lowest capital construction risk),
2. Has the greatest potential for operational cost efficiencies,
3. Renders the lowest 40-year Net Present Value (investment),
4. Doesn't entail a service level disruption,
5. Provides the most opportunity for enhanced accessibility, and

Should City Council decide to explore repurposing the Harbour Pool it also provides opportunity for other community needs to be met as per the Council approved Facility Program or other past City planning exercises.

If approval is given to proceed with Scenario #3, next steps associated with the project would be to:

- I. Share decisions made with community.
- II. Develop a funding / financing plan and secure capital project funding, including exploring applicable government grants.
- III. Confirm a project delivery approach and initiate a schematic and detailed design process.
- IV. Engage with the community and potential users as well as subject matter experts (such as the Lifesaving Society: Alberta and Northwest Territories Branch and The Steadward Centre For Personal & Physical Achievement) to ensure facility design evolves effectively.
- V. Develop a detailed operational business plan for the facility during the design process.
- VI. Develop and initiate a project fundraising and sponsorship strategy for the facility.
- VII. Develop a more thorough needs assessment and feasibility study for the repurposing of Harbour Pool.

5 APPENDICES

Capital Budget Estimate

These scenarios would address the following interdependencies and conditions based on best practices and current lessons learned on potential code updates, barrier free accessibility and inclusive upgrades (for renovation and expansion options), program upgrades, and risk capital of 30% (for found conditions, cost escalation and supply chain risk) or 15% on a new build. It is important to note that at this stage of project planning and design, referred to as Concept Planning, capital construction cost accuracy of +50%/-30% should be expected (Class 5 ASTM E2516-11).

Scenario	Overall Building Footprint Area	Unit Cost \$7500 per square metre	Capital Risk Construction Contingency (New Building 15% / Existing/ Found Conditions 30%)	Site Servicing and Site Preparation (6% of construction cost)	Construction and Consultant Fees (10% of construction cost)	Total Estimate Cost (2023)
1. Renovation and Expansion at the Harbour Pool	4,589 m2	\$34,417,500	\$10,325,250	\$2,684,565	\$4,474,275	\$51,901,590
2. Renovation at the Harbour Pool and Expansion at the Dow Centennial Centre	5,600 m2	\$42,000,000	\$12,600,000	\$3,276,000	\$5,460,000	\$63,336,000
3. Expansion at the Dow Centennial Centre	4,900 m2	\$36,750,000	\$5,512,500	\$2,535,750	\$4,226,250	\$49,024,500

Operational Budget Forecast

The following table summarizes forecasted operational budget figures for each of the three scenarios. These estimates should be considered +/-40% at this stage of planning and are meant to depict the increase in operational costs for achieving a better level of service for indoor aquatics (compared to the current state) as well as show relative differences between each scenario. Assumptions are also provided.

	Like for Like Harbour Pool Replacement	Scenario #1: Harbour Pool Expansion and Renovation	Scenario #2: Harbour Pool Renovation and DCC Expansion		Scenario #3: DCC Expansion
Operating revenues	\$567,157	\$1,224,792	\$612,396	\$612,396	\$1,224,792
Operating expenses					
Salaries, Wages, and Benefits	\$1,498,859	\$3,031,426	\$1,818,543	\$1,818,543	\$2,907,895
Training and Development	\$18,165	\$36,693	\$22,005	\$22,005	\$35,121
General Administration	\$20,302	\$42,512	\$25,737	\$25,737	\$44,142
Advertising and Printing	\$11,800	\$25,482	\$15,548	\$15,548	\$27,209
Contracted Services	\$264,947	\$572,161	\$349,107	\$349,107	\$610,937
Materials and Supplies	\$245,220	\$529,485	\$322,720	\$322,720	\$525,874
Utilities	\$183,201	\$336,284	\$205,186	\$205,186	\$359,075
Total operating expenses	\$2,242,495	\$4,574,044	\$2,758,846	\$2,758,846	\$4,510,252
Net Operating Cost to City	-\$1,675,338	-\$3,349,252	-\$2,146,450	-\$2,146,450	-\$3,285,460
Operating Cost Recovery	25.3%	26.8%	22.2%	22.2%	27.2%
Debenture	\$1,542,497	\$3,622,538	\$2,210,308	\$2,210,308	\$3,421,727
Life cycle reserve contribution	\$81,250	\$233,333	\$116,667	\$116,667	\$233,333
Total annual cost to the City	\$3,299,085	\$7,205,123	\$4,473,424	\$4,473,424	\$6,940,521

The primary assumptions made in calculating these figures are as follows:

- Where possible, grossing up of revenues and expenses based on increases in square footage relative to the current operation has occurred.
- Management salaries are the same for each scenario and are factored at 1.25 times the current operation.
- All scenarios include a 15% reduction in utility costs (after square footage gross up) based on expected efficiencies.
- A 5% reduction in some expenses (such as office supplies and customer service staff) for Scenario #3 has been included to reflect expected economies of scale at a larger facility.
- The operational revenues are estimated to be “at maturity” which is likely 3-5 years after opening.
- The debenture payment assumes 30 year term at 5.36% on August 31, 2023.
- The life cycle reserve contribution is based on applying the City’s current reserve budgeting protocols to each scenario.

Although this estimate provides some clarity around expected operational costs, it is important to note that further detailed forecasting will occur during later stages of design, should the project proceed.



