

Staff Report



Infrastructure Services Department

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REPORT TO: Community and Infrastructure Services Committee

DATE OF MEETING: March 25, 2024

SUBMITTED BY: Darren Becks, Director, Facilities Management, Infrastructure Services

PREPARED BY: Elin Moorlag Silk, Manager, Service Coordination & Improvement (CSD), Aaron Gingerich, Manager, Project Delivery (INS)

WARD(S) INVOLVED: All Wards

DATE OF REPORT: March 14, 2024

REPORT NO.: INS-2024-126

SUBJECT: Kitchener Indoor Recreation Complex – Target Cost and Design Update

RECOMMENDATION:

- 1. That, in order to better meet the current, future and diverse recreation needs of the community, the design of the Kitchener Indoor Recreation Complex (KIRC) be improved by making changes and adding amenities outlined in INS-2024-126, including but not limited to:**
 - A larger FIFA-sized indoor turf facility
 - A larger leisure/program pool
 - An elevated walking track
 - A second floor which includes viewing galleries for both pools
 - An indoor cricket batting cage
 - Increased landscaping surrounding the facility
- 2. That, the Kitchener Indoor Recreation Complex be built and operated as the City's first net-zero carbon facility, and as one of the most sustainable recreation facilities in Canada by, amongst other things:**
 - Targeting a very high level of energy efficiency and building performance through the use of geothermal heating and cooling
 - Adding solar panels to the roof of the facility
 - Pursuing certification under the Canada Green Building Council Zero Carbon Building Standard v3 – Design without the use of carbon offsets or renewable energy certificates
- 3. That the total budget for the Kitchener Indoor Recreation Complex be approved at \$143,820,000 (including non-refundable HST), and that additional debenture financing in the amount of \$47,915,000 be authorized for a term not to exceed 25 years (to be repaid from future development charge revenue).**

4. That staff be directed to execute the supplementary agreement with the IPD team signatories for the construction phase of the project.

REPORT HIGHLIGHTS:

- The purpose of this report is to present an updated and improved design for the Kitchener Indoor Recreation Complex (KIRC) which will be built at RBJ Schlegel park – and to seek Council’s support to proceed to construction phase of the project.
- With the addition of the KIRC, RBJ Schlegel Park will become one of Kitchener’s premier recreation destinations, providing a diverse selection of indoor and outdoor recreational opportunities for residents. The new facility will attract over 380,000 people per year.
- Key features of the improved facility include an aquatic centre with two pools and second floor viewing area, an indoor turf built to FIFA recommended standards that can be divided into four individual fields, a walking track, multi-purpose rooms for community use and dedicated team change rooms.
- The KIRC will be the City’s first net-zero carbon building and one of the most environmentally sustainable recreation facilities in Canada.
- By design, the KIRC will provide affordable recreation options for lower-income residents, and support the recreation needs of equity-deserving citizens.
- The facility is also being designed to be future-focused by including the design of a future gymnasium addition that will be shovel-ready to take advantage of future external funding opportunities/governmental grants.
- The total project cost is \$143,820,000 and will be funded through grants from other levels of government and DC revenue – meaning there will not be an impact on the tax base to build this facility. Debt issued to pay for the facility will be repaid through future DC revenues.

BACKGROUND:

Kitchener Indoor Recreation Complex (KIRC) at Schlegel Park

In 2019, the City’s Leisure Facilities Master Plan prioritized a new aquatic centre and indoor turf facility as the City’s **top two priorities** for indoor recreation, which was informed by a comprehensive review of facility use and demand, extensive community engagement, and projections of future growth based on Kitchener’s population trends.

On May 16, 2022, Council endorsed the business case (INS-2022-218) for the new aquatic and indoor turf facility to be located at RBJ Schlegel Park. As part of this business case, an energy analysis was completed and recommendations were made that focused on energy efficient and carbon reducing technology and systems as integral components of the KIRC design and build, including PV (solar) panels, geothermal, green roof and permeable paving. The analysis also considered the impact on the overall net operating cost of the facility and provided rough order of magnitude return on investment on the technology. Based on this analysis staff recommended that KIRC proceed with a net zero carbon design, which was previously endorsed by Council.

After releasing a Request for Proposal, in January 2023, for a design and construction team and after completing a rigorous procurement evaluation process, in August 2023, the City

entered into a multi-party legal agreement with the successful IPD project team. Since that time, the comprehensive design and costing for KIRC have been undertaken.

Integrated Project Delivery

The City is using Integrated Project Delivery (IPD) in the design and construction of the KIRC. Considering the size and complexity of the facility, IPD was considered the most suitable method to ensure project success and is providing the opportunity to utilize collaborative design and LEAN construction principles. Use of IPD in a new build is a project delivery method by which key parties responsible for the design, fabrication, and construction components of the project are unified through a single legal agreement. The IPD team selected to design and build the KIRC consists of 12 signatories, all working collaboratively as a team under one contract (general contractor, architect, mechanical, electrical, civil and structural engineers, aquatic contractor, mechanical, electrical and structural contractors, aquatic consultant, sustainability consultant, landscape architect, and city staff).

A legal agreement is signed between the IPD team and the owner (the city), which covers the *Validation* period, during which the concept, criteria, design, costing, overall timelines and construction sequencing of the project is completed. The Validation period then culminates with the first milestone of the project, the *Go/No Go* point, which sets a target cost and a profit/risk pool for all signatories. Once the Go/No Go process is complete and the design and target budget are approved, the project proceeds with detailed design, tendering, production and construction operations. Currently the KIRC project is at this crucial milestone in the IPD trajectory - the Go/No Go point.

IPD Financial Structure

The IPD model is highly structured with built-in metrics to increase accountability, predictability, productivity, and to remove waste. IPD projects operate as financially transparent and all profits are shared equally amongst the contract signatories, which means it is in the best interests of all parties to work together to keep costs down, which is typically seen through innovation, reduction of duplication and waste, and collective problem solving when issues arise. As a result, IPD projects demonstrate greater fiscal responsibility, which is a benefit to the taxpayer and increases both cost and schedule certainty.

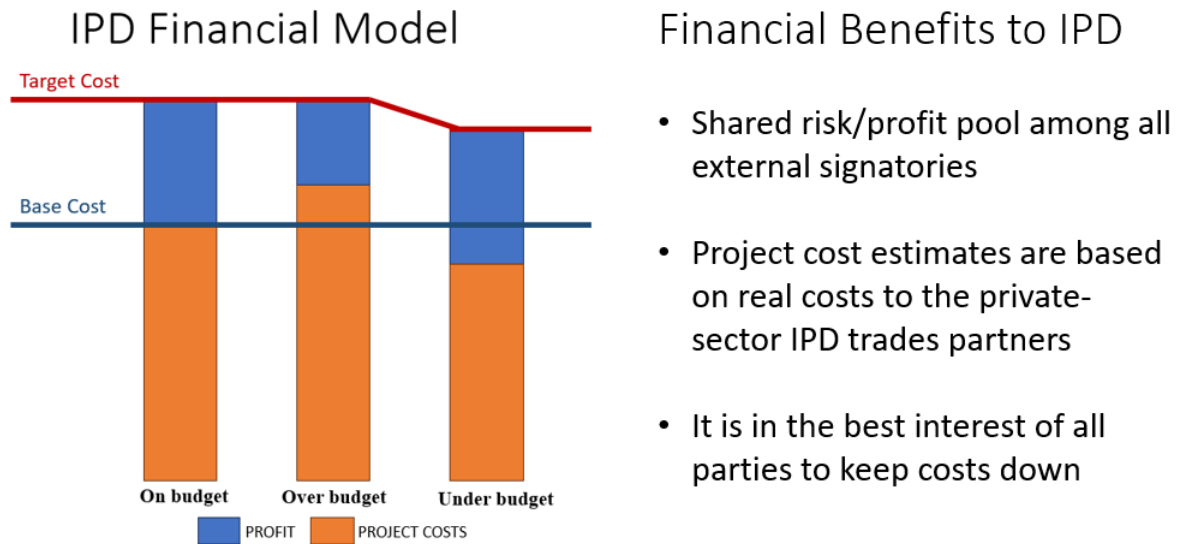
Greater cost certainty within IPD projects is ensured as project cost estimates in the planning phase are based on real costs from the private sector IPD partners and trades working directly on the project. This is a departure from the traditional approach to construction projects which use third-party estimates.

Greater schedule certainty within IPD projects is ensured by having all IPD partners work as a single team, which allows for much more collaboration and integration of construction sequencing and overall timelines.

As illustrated in the figure below, once the project base cost and target cost (including profit) has been set, the cost to the owner does not increase even if the project goes over budget. The profit pool is shared amongst the external IPD signatories, which becomes smaller if the project goes over budget and increases if the project comes in under budget. Given the financial structure of the IPD model, there is significant incentive for the IPD team to work

together to keep the project costs stable and/or drive the costs down through continuous innovation and efficiencies.

Figure 1: Integrated Project Delivery (IPD)



To support the project and advance the collective learning and effectiveness of the team, the city had engaged an IPD Coach through a competitive procurement process. Should Council support the recommendations contained herein, the IPD Coach's scope of work would extend to the end of the project.

REPORT:

Community Benefits

The vision for this Indoor Recreation Complex has consistently been focused on creating a facility that will serve as Kitchener's premier recreation destination while also being an inclusive and welcoming space for all community members. Throughout the conceptualization of KIRC, extensive public engagement was conducted in order to ensure this facility would meet the needs of the community and be able to respond to anticipated population growth. Now in the final stages of design, many community benefits have been identified as part of the design and build of the Kitchener Indoor Recreation Complex, which include the following:

1. Meets Current & Future Community Needs

- The aquatic centre and indoor turf were identified by City Council as the top two indoor recreation priorities in the 2019 LFMP.
- City pools are currently operating at 98% capacity, many programs continue to have long waitlists, and there is no capacity to create new programming.
- The City's only indoor facility (Budd Park) is 1/5th the size of the KIRC fieldhouse, limiting programming at the facility by sport groups.

- KIRC will provide office space for Kitchener Soccer Club to administer their indoor and outdoor programs, which has over 5,600 registered players and continues to grow.
- It is estimated that 380,000 people will utilize KIRC in the first year, which is expected to increase in subsequent years.
- The indoor turf at KIRC will be the only FIFA recommended standard size in the Region, and only 1 of 5 across the province.
- KIRC is being designed for future needs and growth – including the infrastructure and drawings for a gymnasium (phase 2) as a ‘shovel-ready’ project.

2. *Supports the Recreation Needs of Equity-Deserving Residents*

- KIRC will provide greater diversity of recreation options for residents – fieldhouse can be used for soccer, cricket, football, lacrosse, rugby, field hockey, or track and field.
- Provides more affordable recreation options for lower-income residents (e.g. swimming and soccer).
- Walking track supports a significant need of older adults.
- The new aquatic centre will allow the City the space required to provide more directed programming to new Canadians at all indoor pools across the City.

3. *Supports Recreation as a Family Experience*

- KIRC is being built with user experience as a top priority in order to ensure parents and family members of all generations feel welcome in the facility.
- It will have a second-floor family and spectator viewing gallery over the pools, along with a “parent pen” off the pool deck.
- The walking track around the fieldhouse will serve as a spectator area for parents and family members at specified times and during specific events.

4. *Supports the Sustainability Goals for a Greener City*

- KIRC will be one of the most environmentally sustainable recreation facilities in Canada.
- It will be the City’s first net-zero carbon building, and only the second building in Waterloo Region to be built to this standard (without purchasing carbon offsets).
- Designed with geothermal heating and cooling, significantly reducing the building’s carbon footprint.
- Through use of PV (solar) panels, 22 tonnes of carbon will be offset annually through the 560kW solar energy system. These panels will also save the City approximately \$100,000 per year in operating costs.

KIRC Design

To begin the Validation phase, the IPD project team reviewed the city’s original business case in detail and identified several additional design components that were required in the facility, as well as several enhancements based on best practices and the subject matter expertise of IPD team members who have been involved in building similar facilities in the past.

The current design reflects an enhanced, two-phase approach for KIRC that better meets the needs of the City's residents. City staff are recommending this enhanced two-phase design which includes the following:

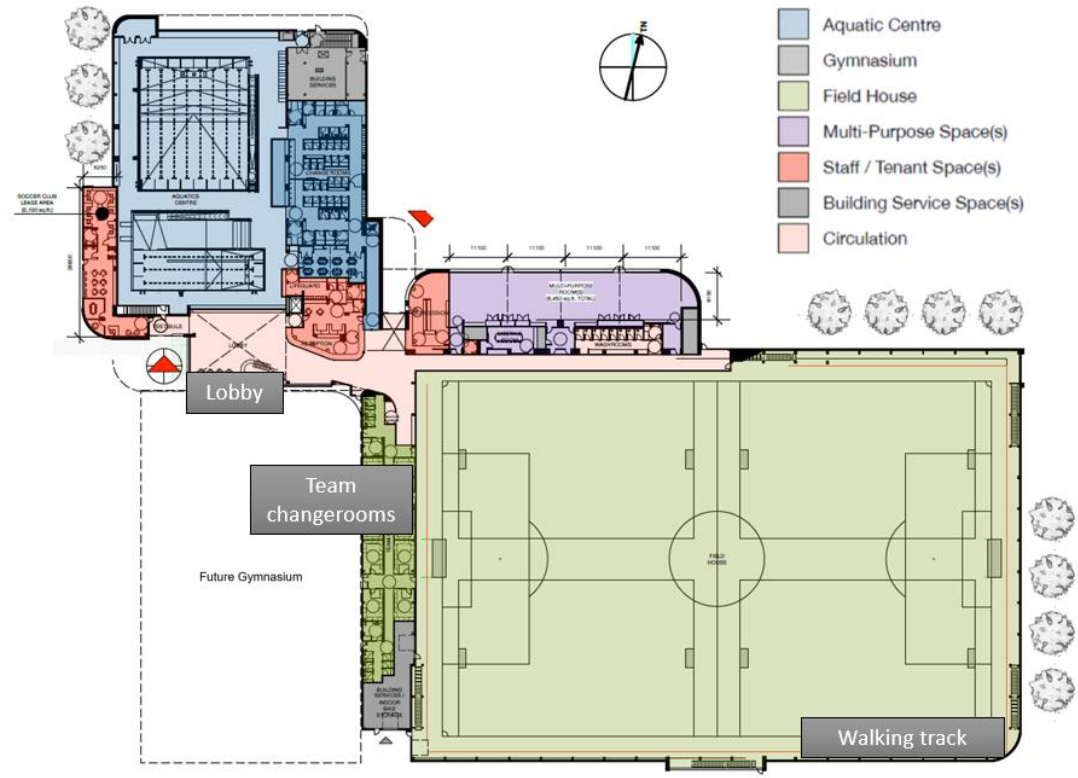
Phase 1 (2024-2026) – Facility will include all elements from the original council-approved business case (e.g. pool, indoor turf, some community space) plus several enhancements, including:

- A larger aquatics centre with 2 pools.
- A larger FIFA standard size turf fieldhouse (which can be divided into 4).
- Added an elevated walking track around the outside perimeter of the turf field.
- Added an indoor cricket batting cage.
- Added second floor for viewing areas over the pools.
- Added solar panels – upfront costs offset by significant annual operating savings.
- Increased size and amount of multipurpose rooms.
- Redesigned layout for better user experience and more efficient operations.
- Added & improved amenities have increased the size of the facility by 75%.
- Added infrastructure and drawings for Phase 2 (gymnasium).

Phase 2 (TBD)– This phase would be built later and would include the addition of a gymnasium to meet the fast-growing demand for court and gym space for sports such as basketball, badminton, volleyball and pickleball. Included in Phase 1 of the project will be the completion of detailed designs for Phase 2 to allow the City to have a shovel-ready project for future federal or provincial funding opportunities.

Illustrated in the figures to follow are the proposed design layout and site map of the Kitchener Indoor Recreation Facility.

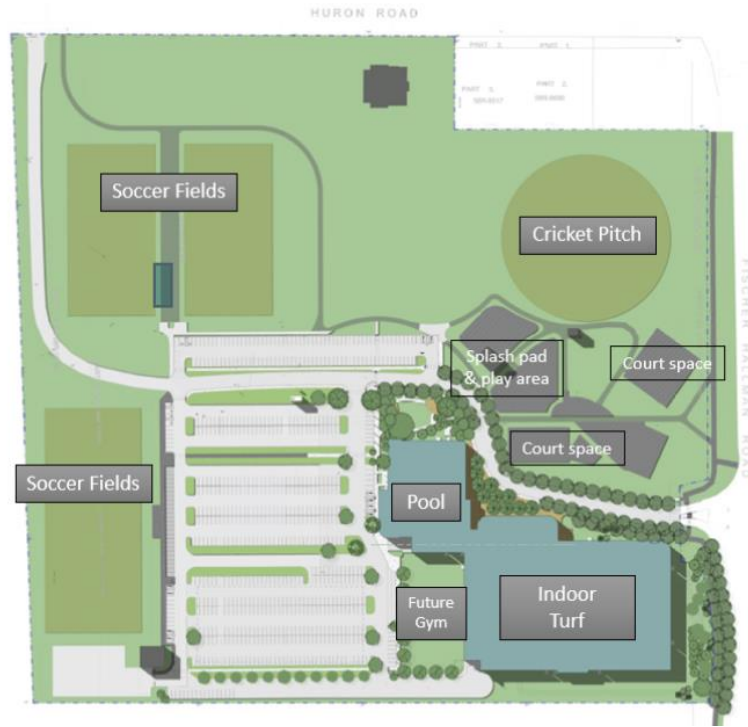
Figure 2: Kitchener Indoor Recreation Complex Layout



This enhanced design of the facility will provide more people in the community a better chance to participate in recreation opportunities, and will generate many recreation and revenue benefits, including:

- The addition of the second floor will provide better sight lines for viewers to watch participants when they are taking swim classes or playing sports (e.g. soccer, cricket); it also moves observers up off the playing and swimming surface, which is best practice.
- Increasing the size of turf will provide more space for programming based on community need. The larger field can be divided into four separate playing areas vs. three which means more people can use the field at one time. This additional playing area will futureproof the facility as the community continues to grow and more residents need this type of facility over the coming decades.
- The larger turf will also increase revenue generation for the City, which is estimated to bring in \$1.4M annually (33% more than estimated revenue for smaller turf size).
- The walking track will be open to the public to use at times, while at other times it will be rented out to sports groups for training.
- The facility will generate revenue as a tournament destination, which will have positive economic impacts for the community overall.
- The gymnasium (Phase 2) will be the City's first facility of this kind, with competition standards, for basketball, volleyball, badminton, and pickleball. There is only one other municipally owned facility of this type within Waterloo region.

Figure 3: Indoor & Outdoor Amenities at RBJ Schlegel Park



Contained in the pages to follow are renderings of the exterior and interior of the building based on the recommended design and target cost for the Kitchener Indoor Recreation Complex.

Exterior - Main Entrance



Exterior – View from the park



Main Lobby



Pool Deck



Fieldhouse



Walking Track



Sustainability Elements of KIRC

Once built, **the KIRC will be the City's first-ever net-zero carbon building and one of the most environmentally sustainable recreation facilities in Canada.** The KIRC project is pursuing certification under the Canada Green Building Council Zero Carbon Building Standard v3 – Design (ZCB – Design). At a high level this process prioritizes reducing loads through passive strategies first followed by the implementation of efficient technologies. The use of renewables are considered only after the efficient building strategies are established. The purchasing of carbon offsets is a last option to meet certification.

To achieve the requirements of ZCB - Design, the building design targets a very high level of energy efficiency and building performance. To minimize heating and cooling loads, the project design currently features a high-performance building envelope including increased insulation on exterior wall and roof assemblies. Further, the building window-to-wall ratio has been optimized to provide natural lighting in occupied spaces while minimizing heat loss.

The building loads are met by a highly efficient mechanical system which eliminates on-site combustion through a geothermal heat exchange system. The geoexchange system provides both space heating and cooling and domestic hot water heating.

The project will also implement a solar PV system to meet the requirements of the ZCB Design standard. Initially the project targeted a flexible approach which included the purchase of carbon offsets. The original design included a 80kW solar system met the minimum requirement for onsite renewable energy under the ZCB – Design. The team moved to an approach that includes zero carbon balance for operational carbon achieved without renewable energy certificates (RECs) or the purchase of carbon offsets. The main difference from the original approach is the inclusion of a 560kW solar system. This additional solar is projected to generate a utility savings of \$90,000 to \$104,000 annually and would total \$3,100,000 in savings over the expected 30-year lifetime of the system. With this revised approach the project will be one of the first recreation centres in Canada to achieve such certification through on-site renewable energy generation.

In addition to the ZCB-Design v3 certification, the IPD team has collaboratively developed project specific green design and construction targets. These targets were developed from several industry leading green building standards including the Canadian Green Building Council (LEED), Living Building Challenge, International Well Building Institute and Fitwel. This standard incorporates innovation, sustainability, and functionality throughout the proposed design and has been defined as the “SWealth” Matrix for the project. This matrix includes 50 targeted features within six categories: Energy & Carbon, Indoor Environmental Quality, Ecology & Biodiversity, Accessibility & Wellness, Water Use and Circular Economy & Waste.

Timelines

The following table outlines previous milestones and timelines for the project moving forward;

Action	Timeline
City's Business Case approved by City Council	May 2022
IPD Team selected.	Aug. 2023
IPD Team (including city staff) complete target cost and building design	Aug. 2023 – March 2024
Community & Infrastructure Services Committee consideration	March 25, 2024
Council consideration/approval	April 8, 2024
Shovels in the ground	May 2024
Construction complete	April 2026
Building opens	Summer 2026

STRATEGIC PLAN ALIGNMENT:

This report supports *Fostering a Caring City Together*: Focuses on welcoming residents of all ages, backgrounds & experiences; residents working on decisions with a meaningful influence; healthy, thriving residents with easy access to diverse & inclusive programs & services.

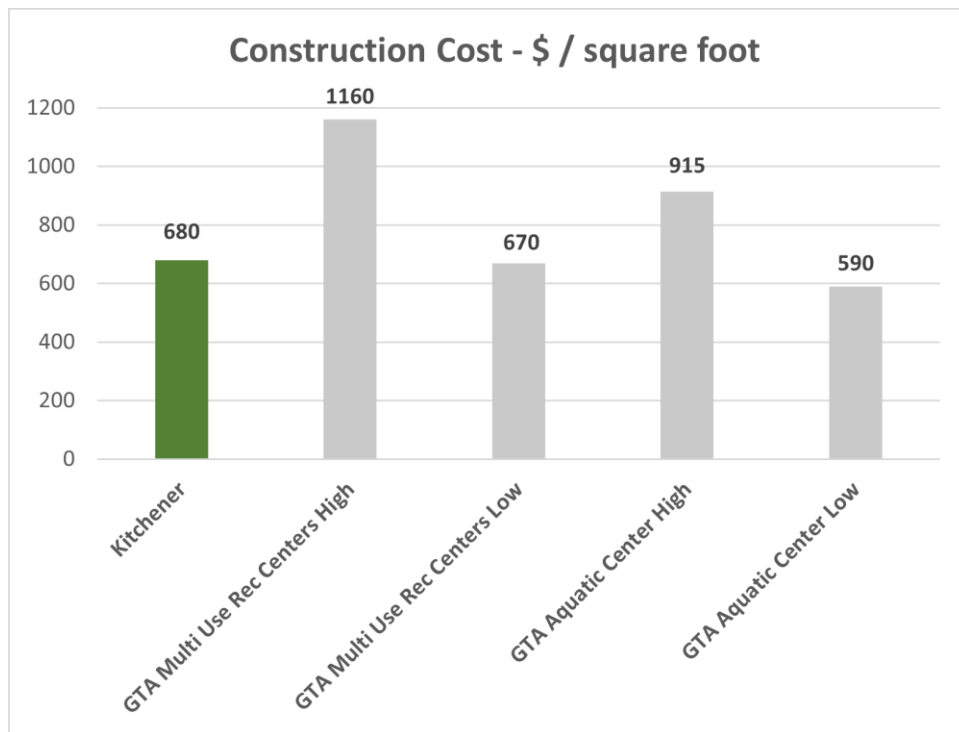
This report supports *Cultivating a Green City Together*: Focuses a sustainable path to a greener, healthier city; enhancing & protecting parks & natural environment while transitioning to a low-carbon future; supporting businesses & residents to make climate-positive choices.

This report supports the delivery of core services.

FINANCIAL IMPLICATIONS:

The cost for the recommended enhanced design of KIRC is \$143,820,000. This updated cost reflects a better building design to meet current and future recreation needs and achieve an enhanced user experience to better serve the community. At the recommended project budget, construction costs for KIRC will be \$680/sq. ft., which is a relatively low cost per square foot in comparison to other similar facilities recently or currently being built, as illustrated in the figure below.

Table 1: Cost Comparison by square foot



The construction of the facility will be funded through a federal/provincial government grant and DC revenues – meaning the construction of the building will have no impact on municipal taxes. The following table outlines the funding sources for the project:

Funding Sources	Amount
Federal Government Grant (ICIP)	\$ 17,950,584
2021-2023 Approved Budget (DC Funded)	\$ 3,550,717
Draw down existing DC reserve fund balance	\$ 36,708,699
Debt issued in 2025	\$ 37,695,000
Debt issued in 2026	\$ 47,915,000
Funding Sources Total	\$ 143,820,000

As discussed during the 2024 budget process, DC debt will be needed for this project, which will be paid through future DC revenues. Council has already approved the issuance of \$37,695,000 of debt for the KIRC project, and will need to authorize the issuance of an additional \$47,915,000 based on the recommendation of this report.

Staff will strategically review the specifics of the debt markets regarding timing and term of the debt with the goal to minimize borrowing costs and issue the debt for 20 years. Staff will also continue to explore other funding opportunities that may become available which would reduce the amount of DC debt needing to be issued.

In addition to proceeding with the KIRC, the City is committed to proceeding with three community centre capital projects that will be funded through DC revenue – a new Rosenberg Community Centre, an expanded Mill Courtland Community Centre and an expanded Forest Heights Community Centre. It is important to note that after funding those growth-related projects, as well as paying off the debt issued for KIRC, the City's ability to invest DC revenues into other growth-related indoor recreation facilities will be very limited over the next 15 years.

COMMUNITY ENGAGEMENT:

INFORM – This report has been posted to the City's website with the agenda in advance of the council / committee meeting.

CONSULT – The Leisure Facilities Master Plan (LFMP) from 2019 was developed through a collaborative and participatory approach which included stakeholder assessment and public engagement. The stakeholder assessment was done through interviews, workshops and online feedback forms with approximately 100 City staff, 10 City Councillors, and 20 sport and community user groups (e.g. minor sport groups, neighbourhood associations). Further, approximately 1,400 surveys were completed as part of an eight-week public engagement campaign called *Have a Say Where you Play* where residents were asked to share feedback about Kitchener's recreation facilities and identify their priorities for recreation in the community. In addition, a street team visited each indoor recreation facility during prime hours to meet with residents and collect feedback about recreation priorities.

Following the LFMP recommendations from 2019, further community engagement with sport user groups was done to inform the business case for the KIRC (2022), which included conducting focus groups with *ROW Swim Club, Waterloo Region Artistic Swim, Kitchener Soccer Club, Grand River Soccer, Youth Disc Sports, K-W Olympic Field Hockey, and the K-W Minor Lacrosse Association.*

Equity considerations and ensuring usability by vulnerable and underrepresented groups in the design and build of KIRC have been priorities from the onset of this project. Since September 2023, we have met with the Grand River Accessibility Advisory Committee (GRAAC) and presented detailed room by room walkthroughs of the entire facility, highlighting the barrier free amenities and services, with a view to creating an industry best standard and exemplar facility. Their comments and feedback are being incorporated throughout the detailed design, and they were appreciative of being involved at this early stage of the process. Engagement with GRAAC will continue for the duration of the project.

We have engaged with Six Nations of the Grand River (SNGR), and Mississaugas of the Credit First Nation (MCFN). Although preliminary engagement suggests that given their resource constraints they would like to be kept informed of project process rather than consulted. However our plan is to actively engage around art and landscape design as the project progresses.

Through this portion of the design process, we have continued to engage with key user groups in the region, including but not limited to soccer, cricket, and multi-sport organizations such as JAM Sports. Kitchener Soccer has been consulted throughout the business case

development and the current design phases. They are excited with the prominence of their office location and with their involvement throughout the various phases.

PREVIOUS REPORTS/AUTHORITIES:

- [INS-2022-218](#) – Indoor Recreation Complex at RBJ Schlegel Park Business Case
- [CSD-19-007](#) – 2019 Leisure Facilities Master Plan

APPROVED BY: Michael May, DCAO and General Manager, Community Services
Denise McGoldrick, General Manager, Infrastructure Services

ATTACHMENTS:

Appendix A – KIRC Cost & Design Report from IPD team