From: Jamie Hanson
To: Janine Daradich
Subject: Fwd: ELT Report - 2022 IAF May-12-2022
Date: Thursday, May 12, 2022 7:47:45 AM
Attachments: ELT - IAF Feasibility Report May 9.pdf
ELT Report - New Indoor Aquatics Facility May-12-2022 Final Draft.docx

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Good morning Janine,

Would you be able to print these for me for the ELT meeting. I can meet you on 6 to pick them up.

Thanks,
Jamie

From: Sherry Marchiori <SMARCHIO@regina.ca>
Sent: Monday, May 9, 2022 2:06:35 PM
To: Wendy Lutz <WLUTZ@regina.ca>
Cc: Neil Struthers <NSTRUTHE@regina.ca>; Jamie Hanson <JHANSON@regina.ca>
Subject: FW: ELT Report - 2022 IAF May-12-2022

Hi Wendy,

Here is the attachment that goes along with the ELT report.

Thank you,
Sherry

From: Sherry Marchiori
Sent: Friday, May 6, 2022 8:30 AM
To: Wendy Lutz <WLUTZ@regina.ca>
Subject: ELT Report - 2022 IAF May-12-2022

Hi Wendy,

16(1)(b)

Thank you,

Sherry Marchiori
Administrative Associate
Land, Real Estate & Facilities
P: 306.526.8856

REGINA

Report to Executive Leadership Team (ELT)

- *For Decision "D" and Advice "A" items, complete the entire report.*
- *For Information "I" items, a full report is not required. A paragraph describing the purpose of the report (# 11 below) and a copy of the PowerPoint (#9) will be sufficient. Complete section 1 through 11 and remove sections 12 to 18.*

1. ELT sponsor:
Barry Lacey, Executive Director, Financial Strategy & Sustainability

2. Type of agenda item:
Advice "A"

3. ELT meeting date:
May 12, 2022

4. Has this item been on a previous ELT Agenda?
No
If yes, insert the text below.

5. Report title:
New Indoor Aquatics Facility Feasibility Study

6. Report prepared by:
Jamie Hanson, Manager, Facilities Engineering, Land, Real Estate and Facilities

7. Who will attend ELT?
Shauna Bzdel, Director, Land, Real Estate and Facilities
Laurie Shalley, Director, Parks, Recreation and Cultural Services
Jamie Hanson, Manager, Facilities Engineering
Janine Daradich, Manager, Planning and Partnerships
Consultant Representatives from HCMA and RC Strategies
Jonathon Barks, Financial Analysis & Support

8. Is your item in-camera?
Not In Camera

9. Do you have a PowerPoint presentation?
Yes

10. ADVISORS TO ELT

Indicate by ☒ which departments are impacted and ensure they are represented at the ELT meeting.

☐ City Clerk ☐ City Solicitor ☒ Director of Communications & Engagement

☐ Director of Financial Services

11. PURPOSE OF REPORT

The purpose of this report is to provide ELT with an overview and seek feedback on the feasibility study outcomes for the new indoor aquatics facility (IAF). With the feasibility study nearing completion and being presented to Executive Committee on June 22, ELT perspective would be appreciated on the following:

- The proposed recommendations for the IAF and related financial considerations

16(1)(a)(b)

12. RECOMMENDATIONS

16(1)(a)(b)

13. CONCLUSION

The IAF feasibility study has resulted in a recommendation for the project and ultimately the facility that is based on:

- aquatics, accessibility and inclusion best practices and industry trends
- energy, environmental and sustainability aligned with the Energy and Sustainability Framework
- an optimized space program meeting the long-term aquatic needs of the community rooted in stakeholder engagement, broader community engagement and endorsement by the Community Advisory Committee
- creating a destination facility that will attract inter-provincial visitors and national events
- potential partnerships and future expandability
- financial analysis of the life cycle costs for the facility
- concept design development that tests how the facility could be integrate on the existing Sportplex site, reinforcing the Sport Corridor, linking pedestrian and vehicular traffic to the REAL campus to the west, the North Central Neighbourhood to the north, the future Taylor Field Neighbourhood to the west and re-connection of 10th Avenue to Albert Street and the connection to downtown

The feasibility study builds upon the engagement outcomes and highest priority of the 2019 Recreation Master Plan.

16(1)(b)

14. BACKGROUND

In 2019, City Council endorsed the Recreation Master Plan (RMP), which provides a long-term framework to inform recreation facility planning considering continued growth, facility renewal needs and program requirements. The RMP is also one of the key inputs to the Corporate Facilities Master Plan. The top-ranked priority in the RMP is to enhance the quantity and quality of competitive and leisure indoor aquatics. Capital funding was secured in the 2021 and 2022 capital budgets to initiate a feasibility study for the IAF, and work began in mid-2021 to engage an external consulting team and begin work on the IAF feasibility study.

15. DISCUSSION

The purpose of the IAF feasibility study is to analyze several project factors to determine the major impacts and considerations of a new indoor aquatics facility to help determine whether a project of this scale is achievable to move forward. The key objectives of the feasibility study are to:

- Engage the community and key stakeholders on the long-term needs for the facility.
- Develop a space program that achieves a balance between supply and demand and to identify what spaces are needed to meet the immediate and long-term needs of the public and client programs.
- Enable LRE&F to fulfill its mandate and understand the long-term use of the aging Lawson Aquatic Centre (LAC), in order to comply with principles of sound stewardship and value for money.
- Understand the overall financial impacts of the project, including capital, operating and lifecycle costing and identify feasible sources of funding for the project, as well as consider the economic impact a facility of this type would bring to the community.
- Understand several other project elements such as project schedule, project phasing, project delivery methods, project risks as well as aquatics, accessibility and inclusion and sustainability best practices.
- Deliver a realistic recommendation to City Council to move the project forward.

16(1)(a)(b)

The IAF project team established a Community Advisory Committee (CAC), a large group representing various community and aquatic user-group interests and held monthly meetings with them to provide input to the feasibility study material and endorse the information from a community perspective. Several other engagement tactics were used, including public surveys, focused discussions with social groups and user groups that all led to the development of the recommended space program. The CAC has supported key project elements and fully endorses the recommended solution.

The attached feasibility study report summarizes the work undertaken to understand the current and future needs, the range of options and implications, and the capital and operations costs, related to renewing or rebuilding aquatic services at the Sportplex site. The LAC is the City’s only competition aquatic facility and is located at the Sportplex. The LAC is aging and in need of investment with significant associated costs for maintenance and lifecycle renewal. The LAC does not meet the current demand and does not provide the broad range of programs required and expected by the community.

The report outlines space program options for a new indoor aquatics facility and includes preliminary test-fit concept proposals for spatial and functional programming as well as exploring the optimal building location on the existing site.

Public and stakeholder engagement has identified a number of different aquatic, fitness and community priorities. This input was used to guide the creation of a building program that meets the varying needs and priorities, to identify construction costs, and to understand operating and lifecycle costs into the future. The program and cost analysis has been used to develop an options matrix that presents a range of options on levels of service including facility spaces, amenities and scale:

- Functional – minimal growth
- Optimized New Build – long-term growth (recommended)
- Optimized Renovation and Addition – long-term growth
- Enhanced – long-term growth plus larger scale with enhanced program delivery

The options matrix is further supported by two concept designs that were developed to test fit both a renovation of the LAC and expansion, and a new build community aquatic facility. Each option was required to ensure no interruption of aquatic delivery, and to ensure that the Fieldhouse and LAC remained operational throughout the duration of the project. Both of these Optimized options are similar in cost, resulting in the recommendation to proceed with the Optimized New Build option as it also provides a number of other benefits.

The project costs are estimated at $173M based on a Preliminary Class D Estimate conducted in April 2022. This estimate is based on an escalated value for a 2024 construction start, a design that aligns the facility to the Energy and Sustainability framework as well as other contingencies and allowances based on unknowns at this stage of the project. The financial impacts of the recommendation were thoroughly reviewed and modelled while considering the potential budget and taxpayer impacts. The availability of multiple levels of government grants is being continuously monitored, although at this time there is no direct path to securing a grant.

As the feasibility study reaches completion and is anticipated to move forward in some fashion, it is recommended that the previously successful public engagement process and CAC are harnessed through the community's continued involvement. Further public and stakeholder sessions should be used to communicate the findings of this report and verify that they are still aligned with the community's needs and desires.

The feasibility study has factored in the direction and information in other master plans and City projects that are relevant to the IAF. For example, the outcomes of the Energy and Sustainability Framework, the future development of the Taylor Field neighbourhood, the Saskatchewan Drive redevelopment project, the Transportation Master Plan and other strategic documents that were under development towards the conclusion of the feasibility study can be utilized as opportunities and potential efficiencies when developing business cases and project approach.

16. IMPLICATIONS OF THE RECOMMENDATIONS

a) Alignment with corporate priorities

The IAF feasibility study and ultimately the new facility aligns with all Council and Organizational priorities:

- Economic Prosperity – the IAF will be a destination facility drawing inter-provincial visitors
- Environmental Sustainability – the IAF will be designed and constructed to achieve the ESF targets
- Community Safety and Well-being – the IAF will advance diversity, equity, inclusion and accessibility
- Vibrant Community – the IAF will provide and enhance year-round recreation, sports and culture programming and services, supporting quality of life and well-being
- Operational Excellence – the IAF will enable a service and performance culture through employee engagement and continuous improvement in recreation programming and facilities operations

The IAF also closely aligns with a number of goals within Design Regina: The Official Community Plan and is the top priority of the Recreation Master Plan.

b) Financial

There are financial implications of endorsing the recommendation of the IAF feasibility study and moving forward with the detailed design work to prepare the IAF for being “shovel ready”. The Administration report that accompanies the feasibility study in the Council package will outline a few financial scenarios for City Council to consider. It is anticipated that City Council’s approval to move forward with the project will be ‘in principal’, with the understanding that future capital and operating budget requests will reflect the approval and direction of City Council.

c) Environmental

The feasibility study considered energy, environmental and sustainability best practices. The financial analysis for the recommended option was completed based on aligning the facility to the targets set in the Energy & Sustainability Framework (ESF). The ESF will continue to serve as a lens through which the development of the design will be viewed.

d) Evaluation criteria

N/A

e) Other

N/A

17. COMMUNICATIONS

Communications & Engagement representatives are key members of the IAF project team, and have provided valuable guidance and support to the project for all feasibility study activities. A thorough communications plan was developed and continues to serve as a guide as the project moves forward while also considering other corporate engagement activities. The key communications and engagement tactics utilized for the feasibility study include:

- Community Advisory Committee (CAC)
- Public open and public coded surveys

- Public user groups, aquatics regulators, and stakeholder interviews
- Major community partners
- Internal and external subject matter experts including
    - Innovation, Energy and Technology
    - City Operations
    - LRE&F
    - PRCS
    - Transit
    - Regina Fire and Protective Services
    - Regina Police Service
    - Regina Public Library
- Social groups, cultural groups, non-profit groups, community associations, volunteer groups, etc.
- Other municipalities, including those that have developed similar aquatic facilities

18. LEGAL

There are no legal implications related to this report.

City of Regina
New Indoor Aquatics Facility Feasibility Study

May 6, 2022

REGINA

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Acknowledgements

Land
The City of Regina acknowledges we are on the traditional lands of the Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of A berta and Manitoba, and the original lands of the Cree, Salteaux, Dakota, Nakota, Lakota and the homeland of the Metis nation.

The City of Regina owes its strength and vibrancy to these lands and the diverse Indigenous Peoples whose ancestors' footsteps have marked this territory as well as settlers from around the world who continue to be welcomed here and call Regina home.

Advisory Committees
The following Feas bility Study could not have been completed without the commitment and dedication of the New Indoor Aquatics Facility Community Advisory Committee, City Council and administration and the multi-disciplinary consulting team.

Community & Stakeholders
It is also important to recognize the residents, stakeholder groups, potential partners and various other stakeholders who took time to share their dback and insights related to recreation facilities and indoor aquatics through surveys, interviews and meetings throughout the planning process. Community inp t is integral to recreation facility planning.

This feasibility study has been prepared by the project team led by hcma Architecture + Design, P3A, and RC Strategies, collabora on with he City of Regina. Every effort has been made to address the comments received by the City of Regina, the general public & stakeh ld groups in reparing the content of this package.

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Core Team:
hcma
P3A
RC Strategies

Consultant Team:
Fast & Epp + BBK
AME Group + MacPherson
SMP + ALFA
Scatliff+ Miller + Murray
KGS
Turnbull
Morrison Hershfield
BTY
RWDI
Tricia Heward

hcma designs buildings, brands, and experiences that maximize positive impact. They believe human connections are critical to solving the fundamental problems of our time, creating solutions that ignite conversation and build compassionate communities. hcma projects are the result of several decades of iterative exploration of aquatic building types, with each successive design informed by the public experience of those that preceded them. As Aquatics and Community Recreation Design Specialists, recognized internationally, hcma's knowledge and technical experience with recreation centres, pools, public buildings, and universal accessibility will assist with defining this project's goals, developing a well-aligned functional programme, and designing a leading-edge facility that reflects the City of Regina's unique values, needs, and aspirations. hcma will lead all phases of work for this new facility.

P3A has planted deep roots in Saskatchewan over their 65+ years, and they are committed to innovative design that makes a meaningful difference to people, the community, the environment, and the practice of architecture. The firm will provide on ground support to the project and as an immediate resource and interface for the City of Regina. P3A's core team combines world-class experience and technical skill with tremendous local knowledge and horsepower. P3A will participate in all phases of the project and will assist with the coordination of the expansive sub-consultant team. The core architectural local team brings a combination of experience on large, complex projects, experience with the City of Regina projects, processes, engagement acumen, and experience with the City and hcma in developing aquatics facilities.

RC Strategies is one of a select few professional consulting practices in Canada that specializes entirely in recreation, parks, trails and culture planning and policy development. Their knowledge gained in creating the 2019 Recreation Masterplan makes them critical advisors of the core team which provides a unique advantage in carrying out key deliverables including: engaging internal and external stakeholders alongside hcma, data collection on program and public needs, Cost benefit analysis, development of aquatic program, research and LC costing. Their involvement as the project moves forward will transition to an advisory role for items as required.

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New Indoor Aquatic Feasibility City of Regina

Issued:
May 6, 2022

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Executive Summary

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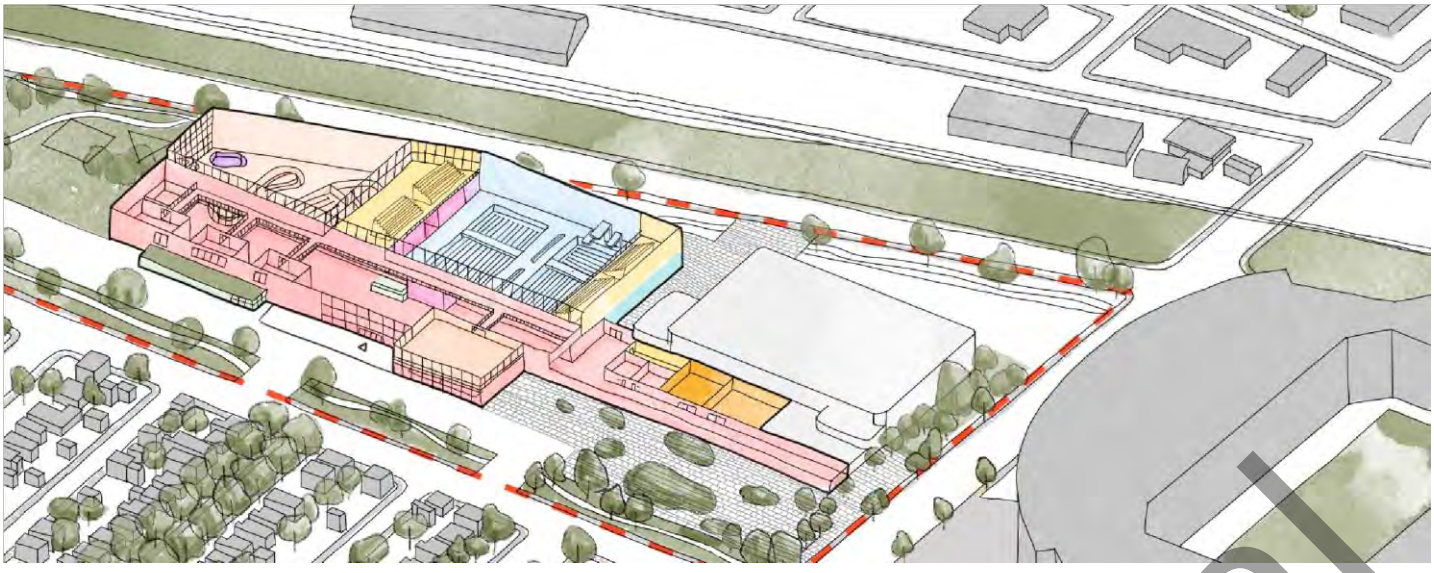
Vision: Regina's New Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.



Concept test fit: New Build

In 2019, the City completed its Recreation Master Plan (Plan), which guides the future of recreation pportun ies and services to meet the needs of Regina's growing community. The Plan was developed through meaningful engagem nt with ey partners, stakeholders and the public, along with diligent research and assessment of the state of recre o in Reg a **The *most important* priority in the Plan is the expansion in quality and quantity of indoor pool facilities.** In 2021 the Cit began a feasibility study to explore a new indoor aquatics facility.

The feasibility study focused on the S or plex ite, home of the Lawson Aquatic Centre, t e City's only competition facility. The Lawson is aging and in need of investm nt with s ni icant and increasing c ts for ma ntena ce and lifecycle renewal. The Lawson does not meet current inclusivity accessib ity or sustainability targets and d not p ovid the broad range of programs needed to meet community demand.

This feasibility study repo t detail mult ple inputs and outp s, including a ange o program options and a recommended solution for enhancing the indo aquatics ap city in Regina on the Sp tplex s e.

INPUT

In addition t a background review and a city-wide aqua cs supply and demand assessment, the feasibility process included:

Community Engag ment: Thorough market search a d engagement was conducted with the public, user groups and community stakeholders. A Community Advis y mmit e was a o established to provide ongoing input throughout the project. The engagement findings identified several aquatics, fitne s and community priorities including the need to accommodate future demand, competing priorities or competitio and recreation elements, the need to provide community spaces, and address inclusivity and accessibility con erns.

Best Practices: The feasibility study ered best practices in three key areas: aquatics trends, accessibility & inclusion, and sustainability. Research was also conducted on five comparable precedent facilities across Canada with important takeaways mentioned in this report.

Existing Site & Facility Assessment: One of the City's strategic priorities is to create vibrancy through recreational and cultural investment in or close to Downtown. The Sportplex site is optimal because of its alignment with this priority, as well as its central and accessible location, size and underutilized land to expand and adjacencies with the sport corridor and the REAL District. The

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feasibility study also found program, facility and sustainability synergies with the existing Fieldhouse, which has significant useful life remaining and will continue to operate on the site.

Existing City Planning and Policy Documents: The feasibility study considered key planning and policy documents such as the Recreation Master Plan, Official Community Plan, Energy and Sustainability Framework, Regina Cultural Plan 2016, Transportation Master Plan and others.

The engagement findings, best practice research and existing site and facility assessment informed the report's outputs including a balanced program for the new indoor aquatics facility that meets the various needs and priorities, while complimenting other City plans that provide influence on capital City investment.

VISION & PRINCIPLES

Vision: Regina's New Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist d stination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

Principles: The vision and following principles were developed to guide the feasibility study for a new indoor aqua facility

- Improve quality of life for all residents and make Regina an attractive place to live, work and play
- Be a multi-faceted destination & community hub for decades to come
- Improve aquatic leisure recreation program opportunities, including swimming lessons
- Support excellence in competitive aquatics with a facility that can host National competitions
- Achieve ambitious sustainability targets in alignment with the City's commitment to be net ero by 50
- Create a complete civic precinct with enhanced pedestrian, cycling & vehicular con ctions
- Provide opportunities for four se son outdoor recreation
- Be exemplary in providing e hanc d nclusive & accessible environments
- Demonstrate leadership and c mmitme t to reconciliation

OUTPUTS

Program: The feasibility s udy conf d significant demand fo he new acility to meet seven activity elements, with an almost equa deman on the Recreation & Leisure and Competitive Sport & raining aquatic elements. An optimal program has been eveloped, ba ncing he various activity eleme ts d played n the feasibility study, with an overall program capacity i rease of 620% compared to the existing sit

The feasibility s dy p ovides a program option mat with renovation + expansion option and three new build options. The matrix highlights the spectrum of service leve across m ltiple elements, including Recreation & Leisure and Competitive Sport & Training, associated costs and pros ons fo each op on.

Recommended Program Optio : The recomm nded option in the feasibility study describes a new build that would consist of: a 10-lane 50-meter competition t nk, a 10-lane 50-meter dive tank, a 3,250-3,700m^2 (35,000-40,000ft^2) waterpark, which could include a wave pool, lazy river, aq tic pla structures, water slides; and complimentary community amenities that exceed current and meet future demand. These spaces could include multi-purpose spaces, lease spaces, a fitness centre, gymnasium, café and a cultural space for Indigenous communities' needs.

Concept Design: Two concept options were developed for the existing site: a renovation + expansion of the Lawson, and a new build (recommended solution). Both concepts offer a functional layout that delivers similar program elements which meets best practice;

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respond to urban design priorities; demonstrate an approach to siting, massing, site circulation and parking; phase development to allow for uninterrupted user-service and embodies the project vision.

While the report includes an option to renovate + expand the Lawson, this option is not recommended due to a number of challenges and inefficiencies and an overall low return on investment compared to the recommended solution.

Costing: The total cost of the recommended solution has been estimated to potentially fall within the range of $173M based on a 2024 construction start.

This feasibility study report can be used to make key decisions for the future progression of the project. The program and concept options have been carefully analyzed to be programmatically, functionally and financially feasible. The feasibility study lays the groundwork for recommended next steps, which would include further technical studies and a schematic design phase involving more public and stakeholder input.

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Table of Contents

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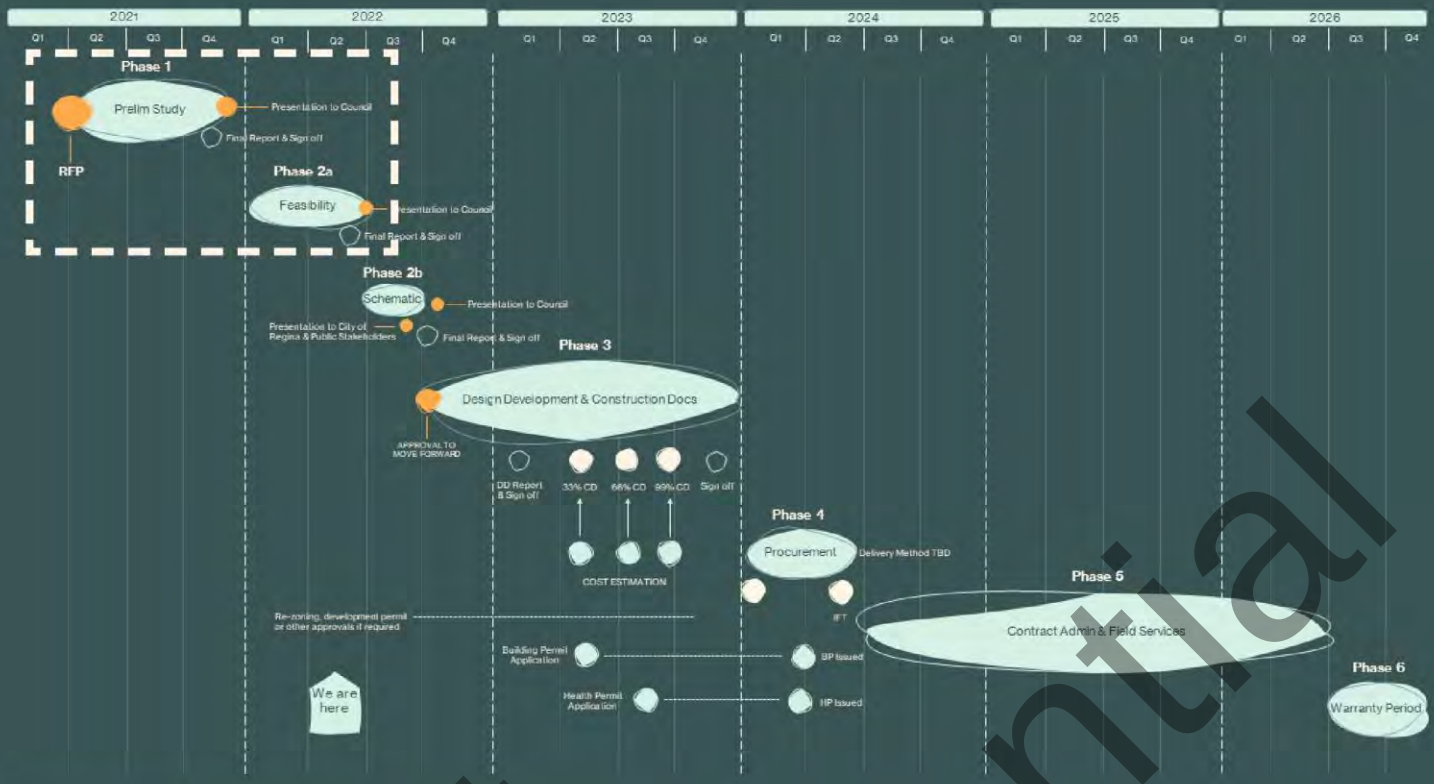
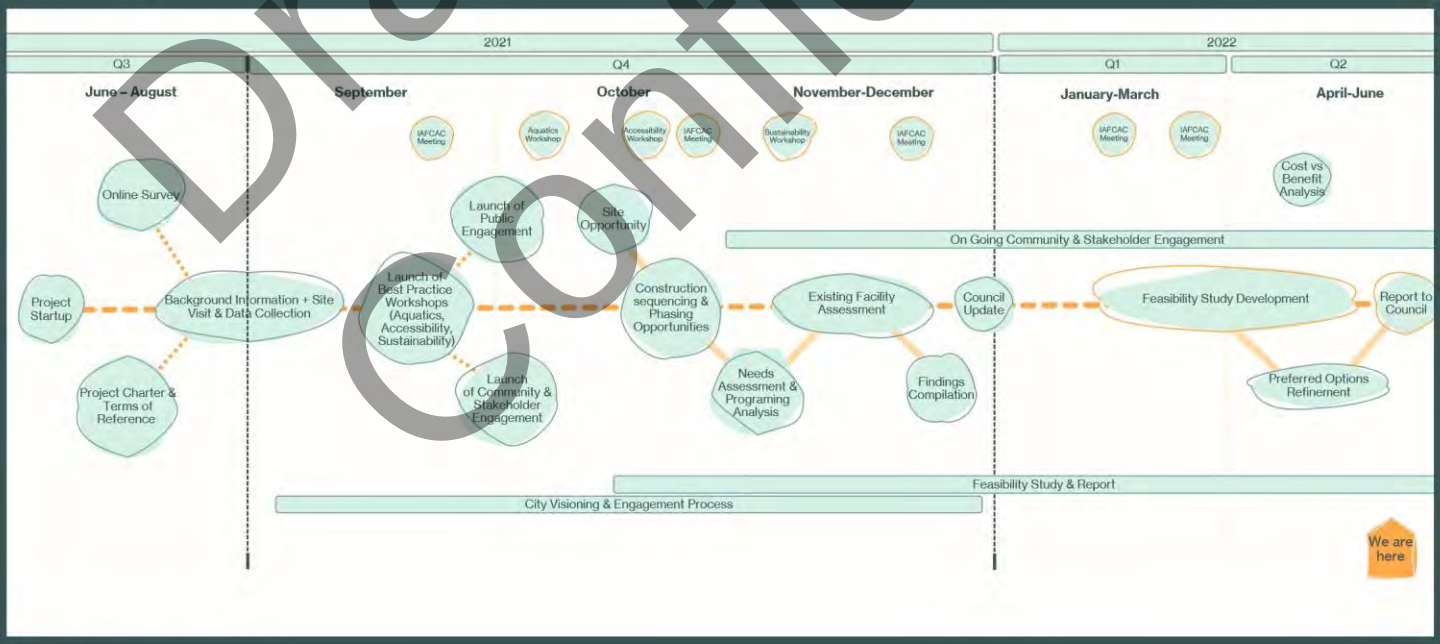
Project Time line



Approximate Overall Project Schedule
Timeline is representative of a traditional project delivery method.

Feasibility Time line



Phase 1 & 2 Work Schedule

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1.0 Introduction

1.1 Overview

Recreation facilities improve quality of life in the Regina region. The City of Regina (the City) invests in public recreation facilities to make life better for residents and visitors of all ages and abilities. This investment is routed in the City's planning fabric, rationalized through key documents such as Design Regina: Official Community Plan and the Recreation Master Plan, and demonstrated through the vast array of indoor and outdoor recreation amenities offered throughout the community.

Indoor aquatics facilities are one of the most important and most significant public investments. These facilities lead to healthier individuals, more connected communities and economic activity by attracting people to the community. The City is the primary provider of publicly accessible indoor aquatics experiences in Regina and the surrounding region.

The City's most recent Recreation Master Plan, completed in 2019, outlined bold recommendations related to the City's provision of indoor aquatics fac ities I called for investment to increase both the quantity an quality o indoor aquatics facilities, which currently is com sed of t ee indoor pools; the Lawson Aquatics Centre, the Sandra chmirler eisure Centre, and the North West Leisur ntre. O ote is that there are also publicly available indoor p offered by the University of Regina and the YMCA.

In response to th recomme d ons in the Recreation Mas Plan J 2021 t e City commissioned a team lead by hcma chitecture esign undertake a feasibility study rther explore how en ncements to both quantity and q ality of indoor aquatics could develop in the City, focusing on revitalizing or replacing the Lawson Aquatics Centre and enhancing service levels while doing so.

To guide this effort and ensure the voices of the indoor aquatics community in Regina were heard, the City invited aquatics and other community minded stakeholders to be part of the New Indoor Aquatics Facility Community Advisory Committee (CAC). The CAC provided integral and timely input throughout the plan i g process and has been key to the progress t at has been made to date in determ ning ne d and articulating the kinds of facilities and spaces t t would meet said need both w and in the future.

To complement the invo em nt of th C C, the consulting team condu ted a co prehensive public engagement pr ess that in uded surveys and communit etings upplemented by research in trend best pr tices and thorough an lyses o urr nt ind or aquatics participation in Reg na. Th nforma on from this process is c ptured within t s Feasibility Study to help City ouncil dec de on how to move forward with this s nificant a d important investment for the com ni .

Th body of the Feasibility Study includes summaries of large pieces of work for each section. For more detail, see the appendices.

Historical Regina Comm

Situated in the middle o Provinces, the capital of Regina is in the south-ce province on Treaty 4 lan traditional territory of th this diverse and vibrant ne of Canada's fastest g c s that hopes to impr of lif for its growing po he development of com ec eational facilities.

Regina has deep seeded it was a recruiting groun American Girls' Professio League, as well as home Pats - the oldest major j franchise in the world – represented by the four- Cup-winning Canadian F League franchise, the Saskatchewan Roughrid

The city is also home to aquatic sports athletes v predominantly occupy th their daily training grou is comprised of the Laws Center and the Fieldhou of the City's oldest recre providing a variety of po fitness, and sport progra of Regina.

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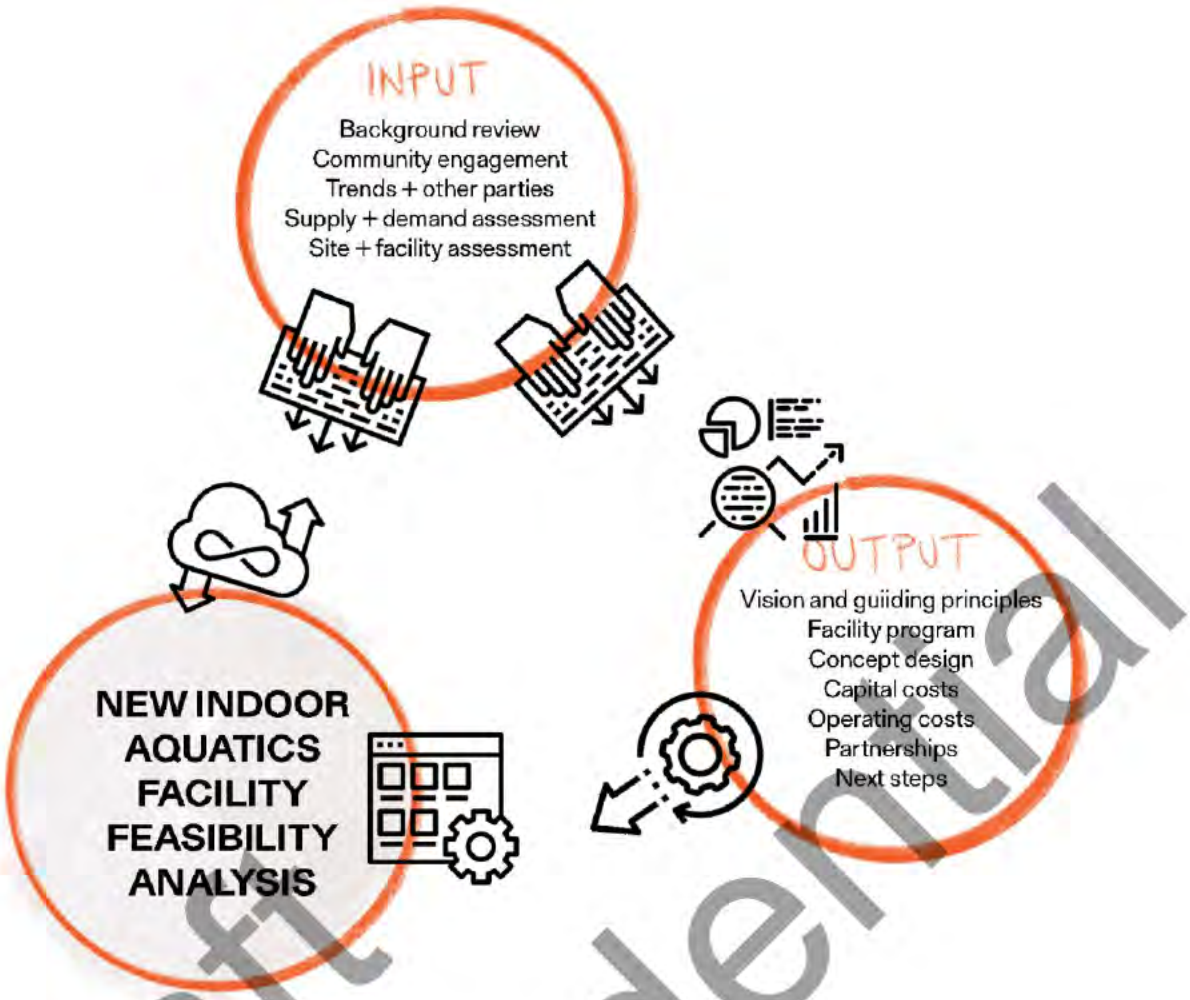

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The CAC

The Indoor quat cility mmunity Advisory ommittee (C), play d an influe al role, as exper takeholders to safeguard bjective repre entation on the project team process rogress, and findings throug ut e feasibility study phase.

The committee was asked to sup rt the consultation process, based on nsensus, with independence & respect in roviding key perspective on community ne ds, financial impact, timing, options, and her project considerations. The IAFCAC also became advocates for the project as representatives of varied sports and community groups.

1.2 Supply & Demand Analysis

The analysis used t u derstand upply and demand for indoor aquatics, and ultimately inform a program for what ame ies should be included in a new facility, is based on a framework that looks at nabl g seven ifferent types of activities:

- Rec eation and leisure
- Skill d elopment
- F ess
- Sp t training
- Sp cial events
- Therapy and rehabilitation
- Leadership training

More information on these activity types and the supply and demand analysis is in appendix x, the Recreation Master Plan.

This feasibility study culminates in two conceptual design options, developed for consideration and evaluation, that meet varying levels of community need and feature various combinations of amenities. This report puts forth a recommendation regarding the optimal scale of the proposed programmatic elements that will best serve Regina and region moving forward, with the realization that more investment in other city facilities will be required to support future growth. It is critical that a new municipal

project of this scale provides not only enhanced aquatic experiences that address the gap in current City amenities but also leverages this opportunity and investment to satisfy its non-aquatic user needs.

The Sportplex, which includes the Lawson Aquatic Centre, is a well-used facility that serves a significant portion of the Regina Aquatic Sports Groups. Despite its prominent role, the faces significant challenges due to age.

1.3 Project Background

The Recreation Master Plan recommended that the City increase the provision, both in quantity and quality, of indoor aquatics facilities in the short term to enhance both indoor program/competition and recreation/leisure capacity at the City-wide level. This recommendation was based on thorough community engagement and extensive research in the current state of recreation facilities and services in Regina and region in 2019.

Beyond the bold recommendations outlined in the Recreation Master Plan, a review of City planning as well as initiatives and aquatics related regulations at the provincial and national levels strengthened the justification for development and enhancement of indoor aquatics at the Lawson Aquatics Centre. Appendix X articulates key findings from a review of 39 relevant documents and initiatives and how they relate to aquatics facility development in the City. Namely, it highlights the need for new facilities to be multi-purpose and flexible, able to host events and competitions, and built and operated in alignment with the City's energy and sustainability policies. The literature also highlights the opportunity for new facilities to further reconciliation and promote equity and inclusion.

Why the need for a new Aquatic and supporting community space

The City of Regina is at a critical moment in the life span of the existing Lawson Aquatic Centre, which was originally built in 1974 and later expanded in 1986, when the adjoining Fieldhouse was constructed. This facility is no longer meeting needs or standards for programming, accessibility and inclusivity or sustainability. To address present deficiencies, an extensive renovation and addition or alternatively a replacement, has been assessed in this feasibility study as a viable solution for resolving & easing the challenges listed below.

- **Aging and failing** infrastructure
- **Overcrowding** of aquatic spaces
- **Inadequate** change room and multi-purpose **space**
- Rising **operational costs**
- **Accessibility** challenges
- Inability to meet evolving

*The findings of a detailed assessment of the existing facility and the site it is located on are included in later sections of this study.

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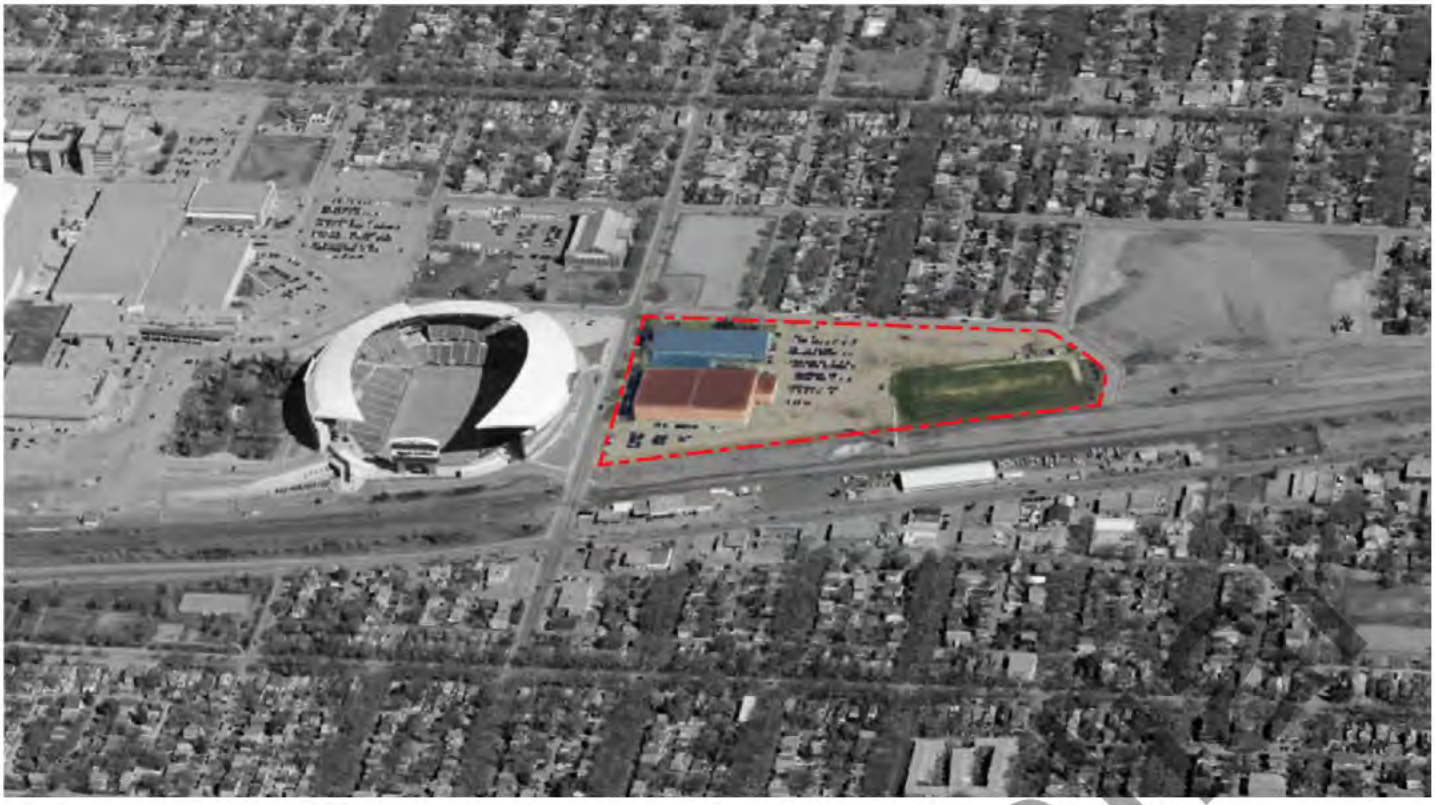

Site Context

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2.0 Engagement Summary

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Public engagement helps ensure multiple voices are heard.

2.1 Background

Gathering the perspectives of the public, user groups, community organizations, and other stakeholders is integral to understanding the importance of and need for a public investment in recreation facilities. This is especially important for investment in indoor aquatics facilities as these types of facilities accommodate a variety of activities, including but not limited to competitive and programmed uses, recreation and leisure swimming, fitness, therapeutic purposes and more. Each person and organization in the community has a slightly different perspective on an indoor aquatics facility, particularly as it relates to its ability to meet their needs across the varied types of aquatic activities.

To understand these varying perspectives, a detailed and robust program of engagement was designed and implemented. The engagement activities gathered information from diverse audiences; this information served as an important input into the planning for a new indoor aquatics facility. Through the engagement activities information was gathered related to current levels of service, desired amenities and uses, willingness to travel and pay, and other values related to the City's investment in aquatics.

In addition to the program of public engagement described previously, an Indoor Aquatics Facility Community Advisory Committee (CAC) was formed. The CAC includes representatives from many different aquatic interests as well as broader community champions and leaders; it has influenced the planning process significantly through various meetings and interactions with the study team. The formation of the CAC is an important step to ensuring ongoing public and stakeholder involvement in the development of this Feasibility Study.

What we asked of the Community Advisory Committee

As part of the engagement process, to facilitate and outline the project parameters, to compile the necessary information needed for the project team to make informed decisions, the CAC was engaged to gather advisement from representatives of sports and community groups who bring specialized expertise and can be advocates in their respective communities.

The CAC was asked to support the boarder consultation process, based on consensus, with independence & respect in:

- **Acting as an advocate for the project**
- **Providing key perspective on:** community needs, financial impact, timing options, other project considerations.

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NEW INDOOR AQUATICS FACILITY ADVISORY COMMITEE
- Provide guidance and input
- 6 Meetings thus far

HOUSEHOLD SURVEY (CODED ACCESS)
- Public preference about current and future aquatics
- 2481 Completed surveys (+/- 2%)

PUBLIC SURVEY (OPEN ACCESS)
- Public preference about current and future aquatics
- 1400 Responses

2.2 Public Engagement

The team also facilitated both a coded access (statistically representative) household online survey, an open access public online questionnaire, a stakeholder and group questionnaire, and a number of consultant-lead interviews and meetings with user group representatives and key community stakeholders. The details related to engagement tactics and information gathered is presented under a separate "What We Heard Report" document which can be found in the Appendix (Appendix title).

As well, there were numerous City-led discussions throughout the planning process with comm nity stakeholders as well as internal subjec matte xperts, Administration, and City Council. All eng g ment efforts were conducted in alignment wi h e City's policies and practices related to community engagement and were influenced by lea ing prac ices from the International Associat n of Publ Participation (IAP2) and A jects Ethics Community Cons us Initiat e (ARECCI). A su ry of th consultant led engagem t (from th What e Heard Report) s presented be w along with a summary f the City led eetings. It is important t ote that f ther community engagement w occu as the design process evolves.

What We Heard Report

- Strong need for a new indoor aquatics facility hat accommodates future demands
- A new indoor aquatics facility should accom odate r reatio and leisure aquatics, swimming lessons, fitnes ctivities
- Training and competitive aquatic ne ds sh ld be accommodated in a new indoor a atics facil
- Aside from the range of a atic ctivit s, this new facility development needs to p ovide pace for community organizations a well as embers of he neighbouring community
- The ew faci y should a dress all issues as it relates to i clusivity and ccessibil y considering culture and rit ge, a well a h ical accessibility concerns

STAKEHOLDER AND GROUPS SURVEY
- Public preference about current and future aquatics
- 15 Responses

CONSULTANT LED MEETINGS + SESSIONS
- Public preference about current and future aquatics
- 14 Meetings representing 39 organizations

COMMUNITY LED MEETINGS + SESSIONS
- Public preference about current and future aquatics
- x Meetings

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2.3 City Led Engagement

The City led over thirty meetings with stakeholders in the community. Stakeholders offered a diversity of perspectives and ranged from the University of Regina, YMCA, Regina Exhibition Association Ltd., Saskatchewan Roughriders, Economic Development Regina, Regina Police Services, Fire and Protective Services, Regional Municipalities, the Accessibility Advisory Committee, Business Improvement Districts, the Public Library, internal City subject matter experts, Indigenous stakeholders and others.

Themes gathered from these meetings included the following:

- Accessibility, inclusivity, and affordability are important considerations to ensure the new facility will truly be a community facility
- The outdoor amenities and outward facing elements and sightlines of the building have significant impact on the integration of the facility into the local area
- A balance of separation of the competitive and training elements from the leisure and recreational amenities of the aquatics facility is desirable
- The facility has the potential to provide a significant draw for residents and visitors
- Active transportation east and west from the final site to the Taylor Field site and to the city centre and Warehouse District is an important consideration in planning for the movement of large crowds safely
- Access to the site and those nearby destinations needs to consider spectators and visitors as well as emergency vehicle access
- The impacts of the development on existing parking should be taken into consideration
- The new facility will have a sizeable environmental footprint
- The new facility presents a unique opportunity to partner with the Indigenous community in the creation of a Cultural space

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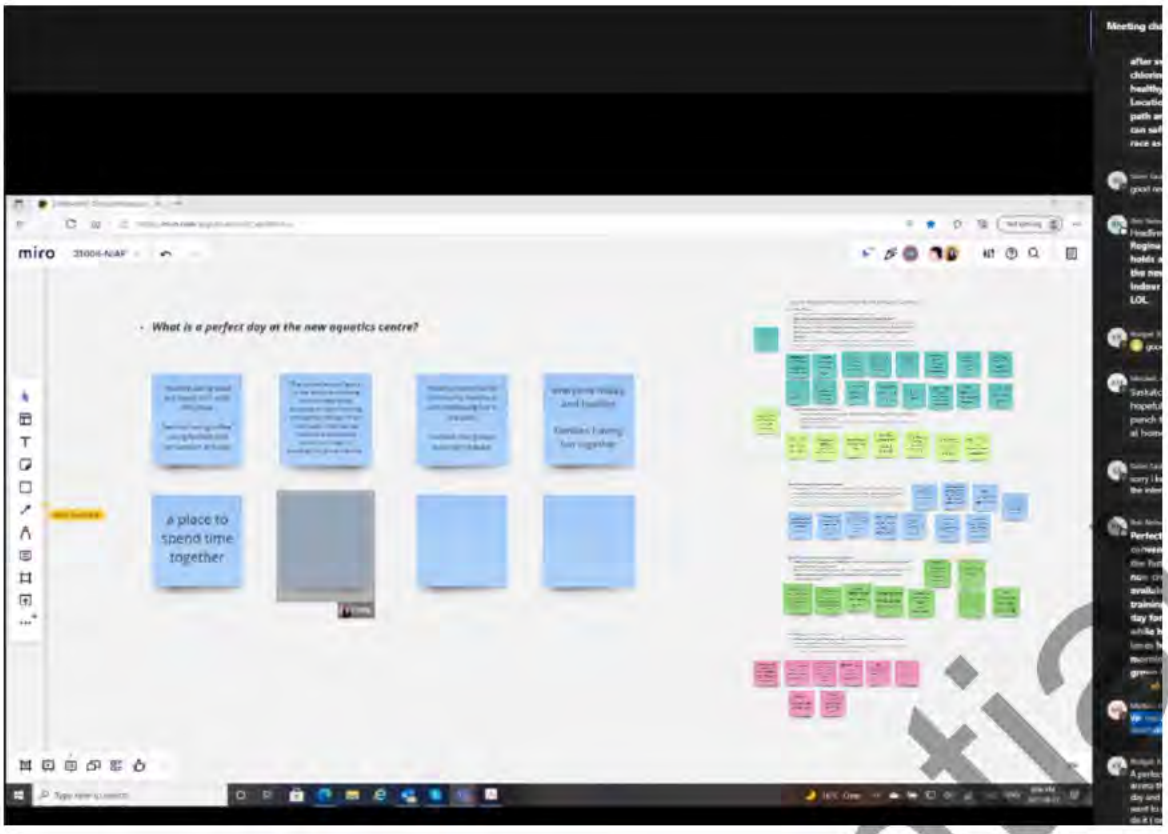

Indigenous Engagement Summary

Regina's population of 23 000 consists of 10% Indigenous residents. In 2016 Regina City Council unanimously approved a Referral Motion moved by May Fo ere to honour, acknowledge, accept responsibly, and participate in actions to address the Truth and Reconciliation Commission of Canada 94 Calls to Action. The City of Regina formalized this commitment in its 2016 Cultural Plan committing to strengthening the Indigenous community's cultural presence in Regina as one of the core 11 objectives.

Holding Indigenous engagement sessions in this spirit led to fruitful discussions focused on how the City might support these reconciliatory ambitions. Through multiple meetings with members of the Indigenous community, an opportunity emerged to include a modest physical space with a mandate to strengthen and celebrate Indigenous culture in our city. This cultural space would benefit both the Indigenous community as well as enrich the quality of life of non-Indigenous residents.

These discussions, held in a spirit of intention and sincerity, illustrate the need for inclusion of a physical space based on the benefits to all residents through the sharing of Regina's cultural origins. Discussions are ongoing and will include more Knowledge Keepers, Traditional Healers, Elders and Indigenous sport & recreation specialists in future phases of the project to understand more about how this space could be activated.

2.4 City Staff CAC Visioning Sessions

In September of 2021, a series of virtual visioning sessions were conducted and used Microsoft Teams and Miro to actively ask members several key questions about the new facility. This feedback helped to determine the needs and aspirations of the City Project team and the Community Advisory Committee for the new facility.

The following questions were used as prompts for the group to start a conversation:

Big Picture

What does success on the New Indoor Aquatics Facility mean to you?
What do you think are the biggest challenges with the New Indoor Aquatics Facility?

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What do you think are the biggest opportunities with the New Indoor Aquatics Facility?

Headlines of Tomorrow
Fast forward five years from now - what headline would you want to read on the New Indoor Aquatics Facility?

A Perfect Day
What is a perfect day at the new aquatics centre?

A summary of the responses from the sessions can be found on the following pages.

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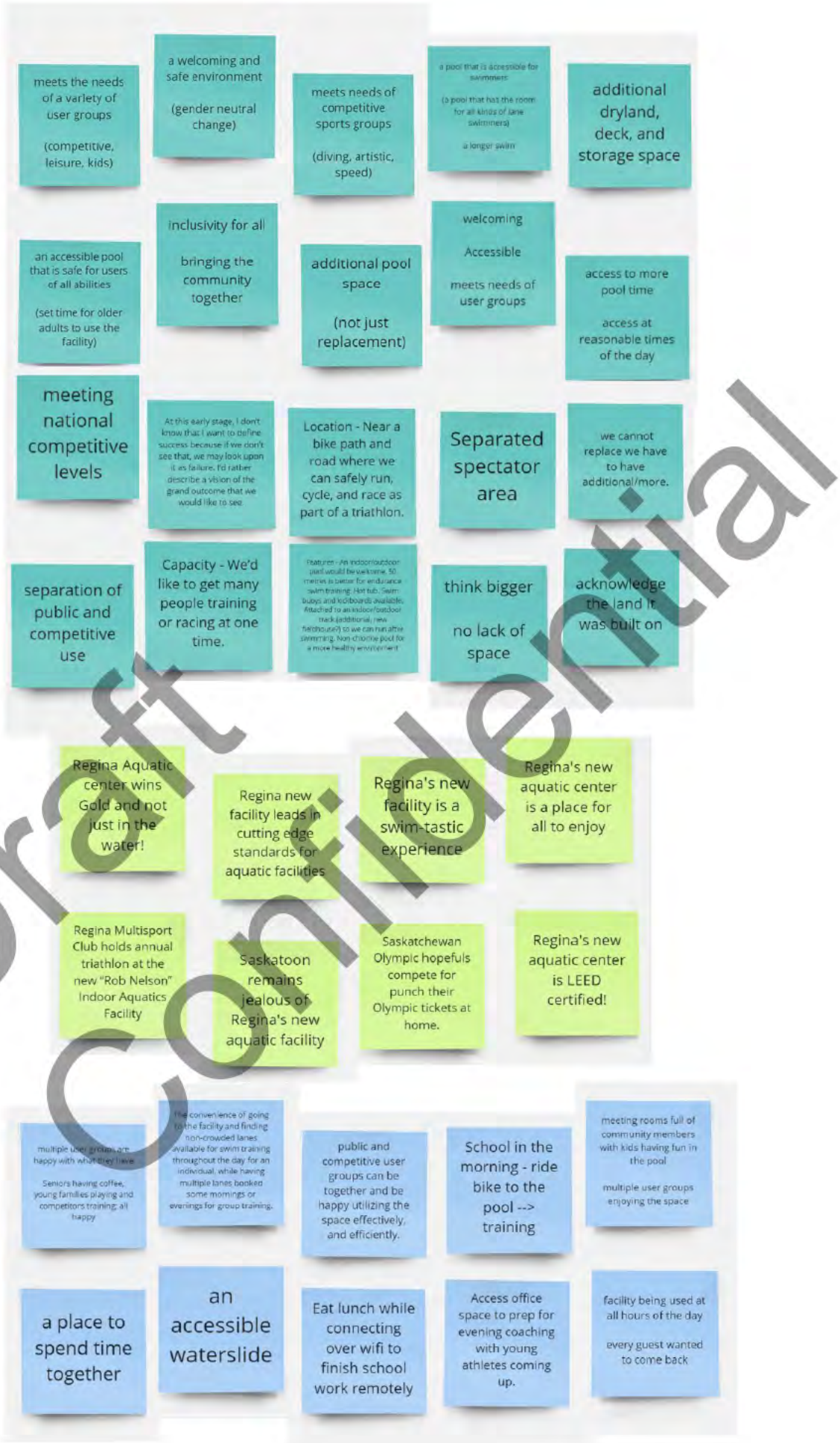

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2.5 Tactic Consideration & Conclusions

- There is a strong need for a new indoor aquatics facility. As it relates to the current use of the Lawson, a new facility should not simply replicate the amenities but should address the current deficit of space as well as accommodate future demands.

- The Lawson Aquatic Centre is one of the most used indoor aquatics facility in Regina, and the only competitive aquatics facility.

- A new indoor aquatics facility should accommodate the strong need for recreation and leisure aquatics, swimming lessons, and fitness activities.

- Specific needs include:
- Warm water pool
- Beach entry
- Water park amenities: spray / splash park; water slides
- Social gathering / seating areas
- Respite / quiet areas (to escape the highly stimulating environment)

- A new indoor aquatics facility needs to accommodate the needs of organizations for their training and competitive needs. T facility should meet the requirements and standards as described by national bodies for speed swimming, diving, artistic swimming, and water polo.

- Specific needs in the natatorium include:
- 50m 10 lane pool
- Secondary Tank
- Separate dive tank
- Cold and warm tubs / pools
- Spectator seating (off the deck)
- Separate gym / dryland training area (including trampolines)
- Sufficient deck space to accommodate ffi ials and athletes
- Equipment storage for the City a d club
- Multi-purpose rooms for classroom official ooms, hospitality rooms

- Other amenities to include in a ew facil y:
- Change rooms: universal ch nge r ms, sep ate change rooms for offici s and coa hes; consider a separate group change room
- Café and social gathe ng spac
- Gymnasium and w i ht room
- Public b ms wit howers for people otherwise not using th facility
- Sev al program ooms at could be used by communit ganizat ns and agencies
- C nsider culturally pecific rooms to accommodate pra er, wa hing, sm dging

- The fa ity should e designed to recognize the commu ity and the heritage of the residents, particularly the Indigenous communi

- The transportation needs of peo l with m bility chal nges needs to be addressed through appropriate parking near the entrances but also with suit ble drop off and ick up ea (that could be covered or inside.

- All aspects of the new fac y should accommodate people with physical disabilities including pool deck and access, change rooms, entrances, etc.

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3.0 Aquatic Trends + Best Practices

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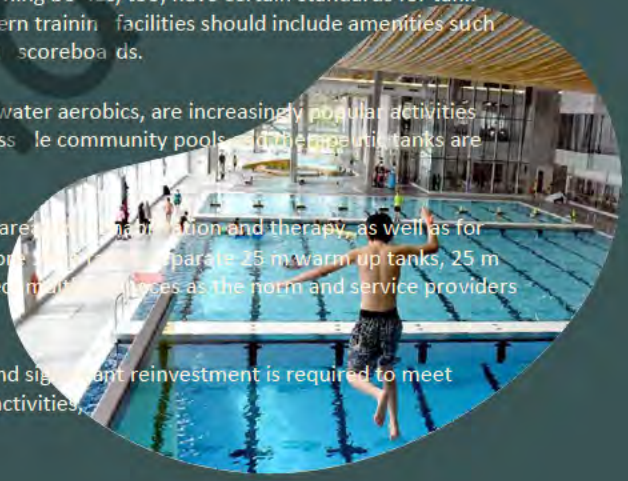
“Swimmers have been found to be moresocially connected, have higher levels ofcommunity trust& volunteer more.”

- Swim England 2021

Research into participation at indoor aquatics facilities in other cities has been conducted to better understand how contemporary user expectations might influence the design and operations of a new facility. The following trends have emerged to aquatics in the areas of service delivery and programming that should be considered for a new indoor aquatics facility in Regina:

- Recreational swimmers are increasingly looking for exciting aquatic experiences such as aquatic playgrounds for those of all ages and abilities, lazy rivers, wave pools, waterslides, etc.
- Swimming and all activity types are regaining popularity as people are looking for more spontaneous [illegible] activities that fit into busy work/life schedules; working from home and gig work has also shifted when people look for recreational opportunities rather than there being a pre- or post-work rush.
- Swimming lessons are also growing in popularity, resulting in greater demand for lessons for those of all ages, particularly as such lessons are viewed as integral to physical literacy, skill development, and preventing injury/drowning. Some municipalities are experimenting with offering swimming lessons for children jointly with adult programming such as a [illegible]
- Providing opportunities for all family members to take part in different activities simultaneously at the same aquatic [illegible] can increase participation levels, as well as a sense of convenience and satisfaction for residents. For example, while children participate in swim lessons, guardians may wish to grab a coffee and visit in social areas in sight of pool tanks.
- Wellness and therapy pool users are one of the fastest growing user segments for aquatic services, particularly in communities with aging populations. These users tend to require warmer water, but can also benefit from access to cold water plunge tanks as well.
- Competitive swimmers have high expectations for facility design and governing bodies, too, have certain standards for tank configurations, spectator seating, timing systems, and so forth. Modern training facilities should include amenities such as dive tanks, warm up pools, starting blocks, advanced timing systems, and scoreboards.



- Aquatic exercise, including swimming, water-based resistance training, or water aerobics, are increasingly popular activities among those looking for a low impact workout in a fun environment. Accessible community pools and therapeutic tanks are necessary amenities to support these types of activities.
- Pools are being designed to have multiple tanks and zones', such as quiet areas for rehabilitation and therapy, as well as for users with sensitivities to sound and/or light, training areas with one or more separate 25 m warm up tanks, 25 m leisure and education pools, hot tubs, and saunas. Increasingly, users expect multi-use spaces as the norm and service providers need to quickly adapt to meet community needs.
- Many aquatic facilities in Canadian municipalities are nearing end-of-life and significant reinvestment is required to meet changing user expectations and provide quality environments for aquatic activities.

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3.1 Trends Influencing Recreation

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- **A general ageing of the population; longer periods of retirement.**

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- **Flexibility in the times when people seek out recreation opportunities; changing employment structures and work hours**
- **Increased variety in leisure options**
- **User demand for quality facilities and services**
- **Multi-use spaces that are community hubs and allow for multiple activities and user groups**
- **Growing popularity of unstructured activities.**
- **Growing recognition of the important role of physical wellness activity in managing chronic disease and support mental health**
- **More sustainable and eco-friendly infrastructure**
- **Multi-sector partnerships to leverage funding and expertise**

3.2 Recreation, Rehabilitation and Therapy

- **Participation for fun, relaxation, socialization and fitness**
- **Spontaneous recreation opportunities**
- **Inter-generational participation**
- **Desire for warmer water, aquatic playgrounds.**

3.3 Innovative Programming occ rring in aquatic facilities includ :

- **Movie nights**
- **Beach parties**
- **Wa er mat aero ics**
- **Pad board yog**
- **Deep wat r hy ro**
- **Scuba diving**

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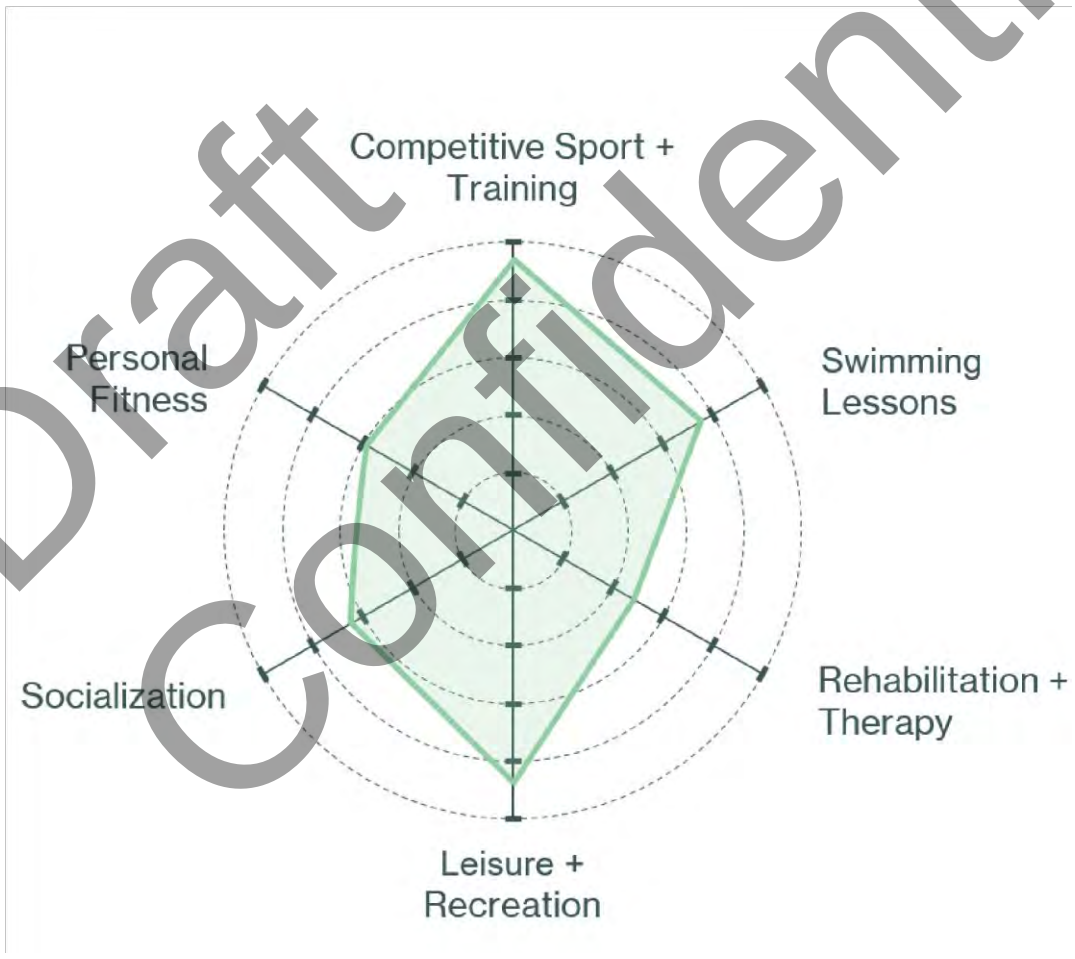

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The diagram above are the stakeholder groups responses on their priority activities.

3.3 Precedents Studies

We strive to learn from past projects, both our own and those of others. We learn from what has worked well and from what could be better. Learning is a crucial component of design and building. The following pages include references of completed aquatic centre projects from municipalities across Canada. Each building has its unique aquatic and community programing allowing for a range of leisure and competitive sport activities. Key takeaways have been outlined for each precedent to inform programmatic options for the design of the new community aquatic centre.

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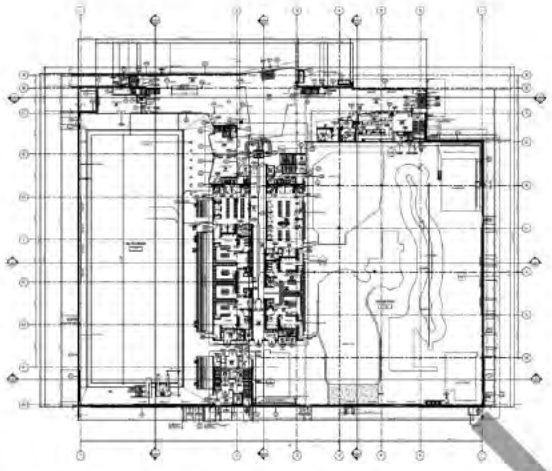
Windsor International Aquatic & Training Centre



Opened: 2014

Location: Windsor, Ontario

Climate: Warm humid climate with cold winters

Windsor International Aquatic and Training Centre (WIATC) is City of Windsor's new state-of-the-art aquatics facility. This 71m x 25m, 10-lane pool features two moveable bulkheads that allow for multiple configurations to fit the ideal length for any competition or community use. The pool varies in depth from 2m to 5.2m in depth, but also features a moveable floor at the north end of the facility, which allows for shallower depths and greater accommodation for community programming.

The Family Aquatic Complex is also home to Adventure Bay Family Water Park, southwestern Ontario's newest and wildest

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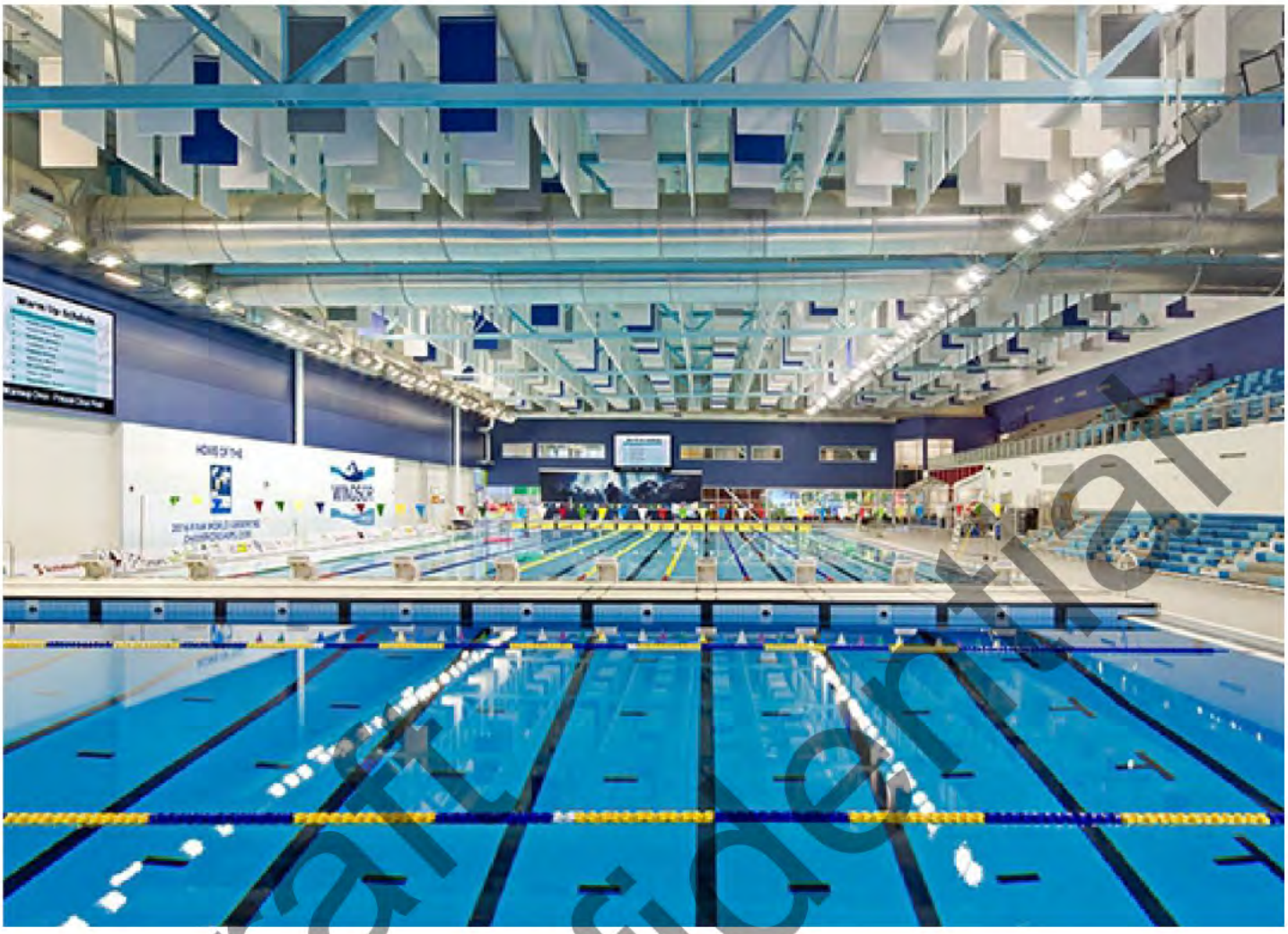
attraction.



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Amenities & Features:

1. 71m x 25m 10-lane lap tank
2. 2 moveable bulkheads
3. Dive tower 1m, 3m, 5m, 7m and 10m
4. 25m x 17m moveable floor
5. 900 spectator seats
6. Wave pool, lazy river, activity pool, splash pad
7. 3 high slides
8. Space for groups of up to 100 depending on set-up style
9. 3 rooms have built in data projector and screen (Whale/ Jellyfish/Seahorse)
10. 4 rooms offer refrigerator, sink, cabinets and counter with views of the water park. (Jellyfish/Octopus/Seahorse/ Starfish)
11. 1 room offers view of Detroit River & Skyline (Whale Room)
12. 1 room overlooks the 71 metre, state-of-the-art Olympic style pool (Media Room)

K y Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

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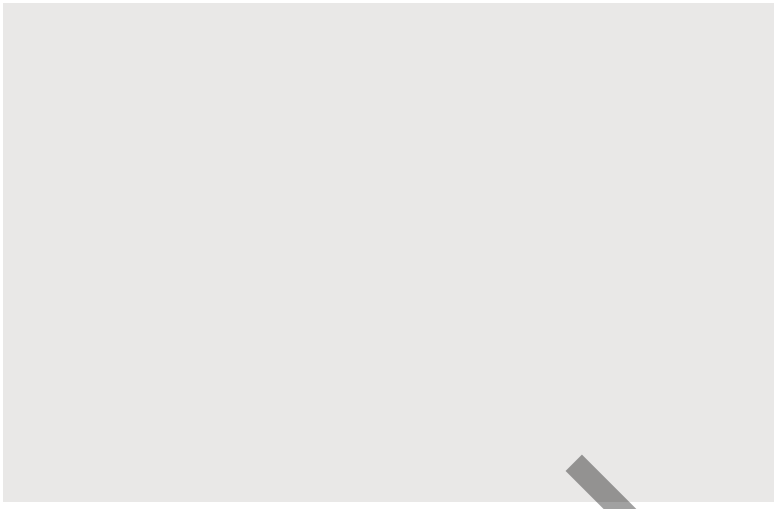
H2O Adventure & Fitness Centre



Opened: 2009

Location: Kelowna, British Columbia

Climate:

H2O Adventure + Fitness centre is Kelowna's worldclass destination for family fun in the water. The facility is owned by the City of Kelowna and operated by the YMCA of Okanagan. The facility is the largest municipal water park in Canada including; Olympic length pool, wave pool, river run, water slides, a kid's spray park and a surf wave simulator. The building aslo includes 12,000 sq ft of fitness and cardio space.

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Amenities & Features:

1. 50m- 8 lane competative pool featuring 2 bulkheads
2. Leisure pool, wave pool, lazy river and splash park
3. Universally accessible family whirlpool & adult whirlpool
4. Children's water park
5. 4 Water slides
6. Hot tub, sauna, steam room
7. Waverider surfing facility
8. Fitness center including aerobics studio, cycle studio, indoor walking track, gymnasium, cardio and conditioning areas, and low-impact fitness equipment
9. Childcare, Multi-purpose rooms, Café

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

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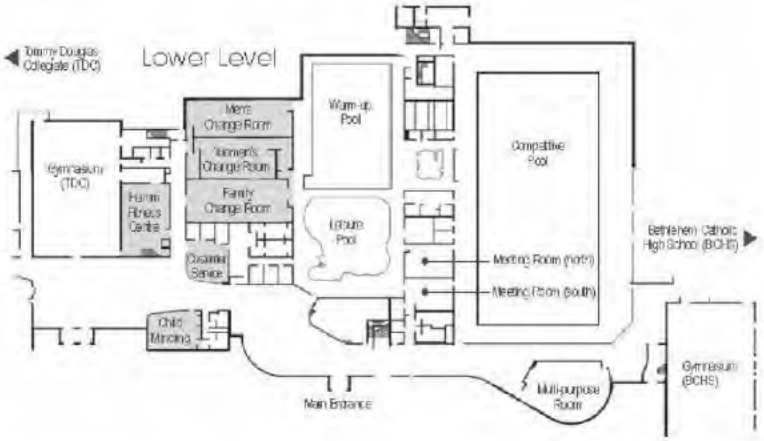
The Shaw Centre



Opened: 2017

Location: Saskatoon, Saskatchewan

Climate: Warm humid climate with cold winters

Shaw Centre, Saskatoon's newest Leisure Centre, includes a 10 lane high performance competitive pool, spectator seating, 6 lane warm-up pool, leisure pool with waterslide, hot tubs, Hamm Fitness Centre & Walking Track, two community gymnasiums, meeting rooms, multi-purpose fitness room, cafeteria and corridor connecting the centre of two schools.

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https://www.tourismsaskatoon.com/listing/shaw-centre/394/

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Amenities & Features:

1. 50m 10-lane competition pool, Diving Boards & Platforms
2. 6-lane Warm-up Pool
3. 25m recreational pool with accessible ramp
4. Leisure pool and lazy river with accessible ramp
5. 34-person hot tub with accessibility lift
6. Fitness Centre, Walking Track, Community Gymnasiums
7. Child Minding, Multi-Purpose &Meeting Rooms
8. Outdoor Playground, Sport Fields

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

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Toronto Pan Am Sports Centre

Opened: 2017

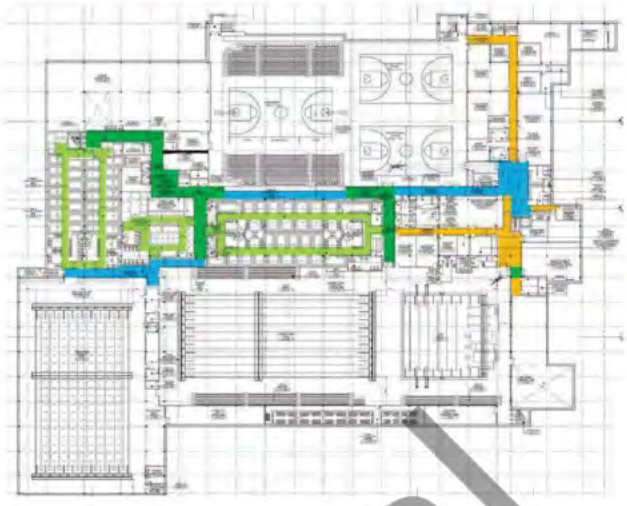
Location: Toronto, Ontario

Climate: Warm humid climate with cold winters

The world-class facility was the largest sport new-build for the Games and the largest infrastructure investment in Canadian amateur sport history. Toronto Pan Am Sports Centre delivers extensive programming that serves recreational and community groups, high-performance athletes, as well as fitness centre clientele.

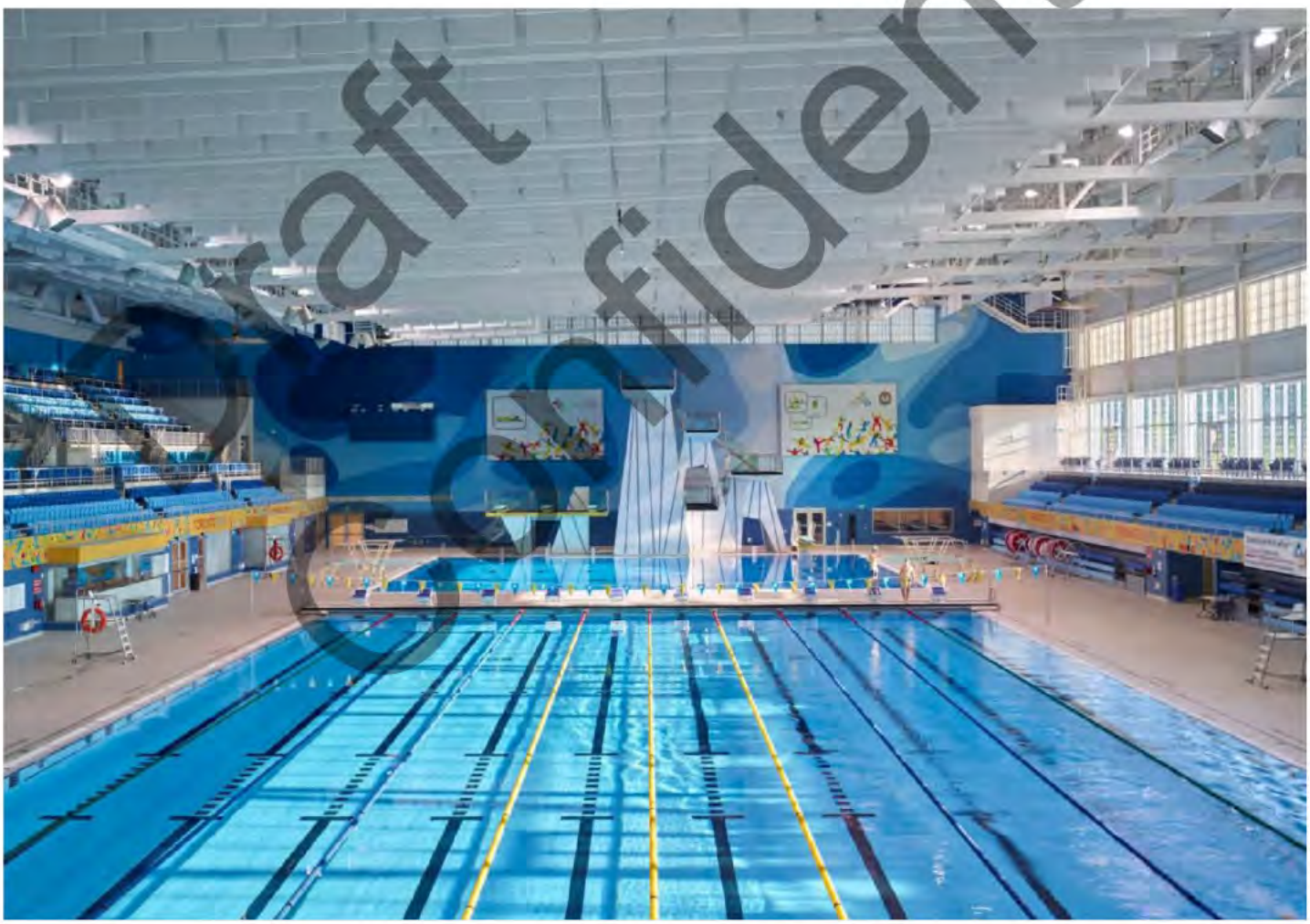
The 312,000 square-foot Centre includes two internationally sanctioned 10-lane 50-metre pools, a world-class dive pool and dryland dive training facilities, a four court gymnasium, an indoor running track, a high-performance testing centre, studio spaces, and a state of the art fitness centre for members

Built to international standards for competition, the Competition pool can be separated from the Dive Pool Activites via a curtain and plug-ins allow for an underwater sound system.



The Canadian Sport Institute of Ontario (CS), lo ated Toronto Pan Am Sports Centre, provides world ading s ort sc ence and sport performance services to en ified h hper ance athletes.

https://www.tpasc.ca/facility/legacy



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Amenities & Features:

1. 52m x 25m 10-lane competition pool
2. 52m x 25m 10-lane training pool
3. 25m x 25m dive pool, Dive tower 1m, 3m, 5m, 7m and 10m,
4. 2277 spectator seats + 24 accessible seats
5. Dry land dive training centre, with trampolines, dive pit, harness rig and cushioned flooring
6. 4 full-sized courts, 200m walking track, indoor climbing, fitness center & studios
7. Food court, retail, multi-purpose & meeting rooms
8. Outdoor sports field

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

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Grandview Heights Aquatic Centre

Opened: 2016

Location: Surrey, British Columbia

Climate: Warm and temperate climate, heavy rainfall

The project vision was to design and build a world-class aquatic centre to attract people from everywhere, while expressing the community's ambition for Surrey. Inclusivity and universal access help to support a diverse culture. Intended to accommodate the needs of its growing community, the aquatic centre plays a vital role as the area develops.

It meets stringent FINA standards to host regional, provincial, national and international sporting events in its 10-lane, 50m Olympic size competition pool and dive platform. With seating for up to 900 spectators, it is poised to act as a premier destination for competitive diving and swimming, synchronized swimming and water polo events. Yet its pro-athlete capabilities are carefully balanced with the needs of recreational users – without compromising the unique needs of either group.

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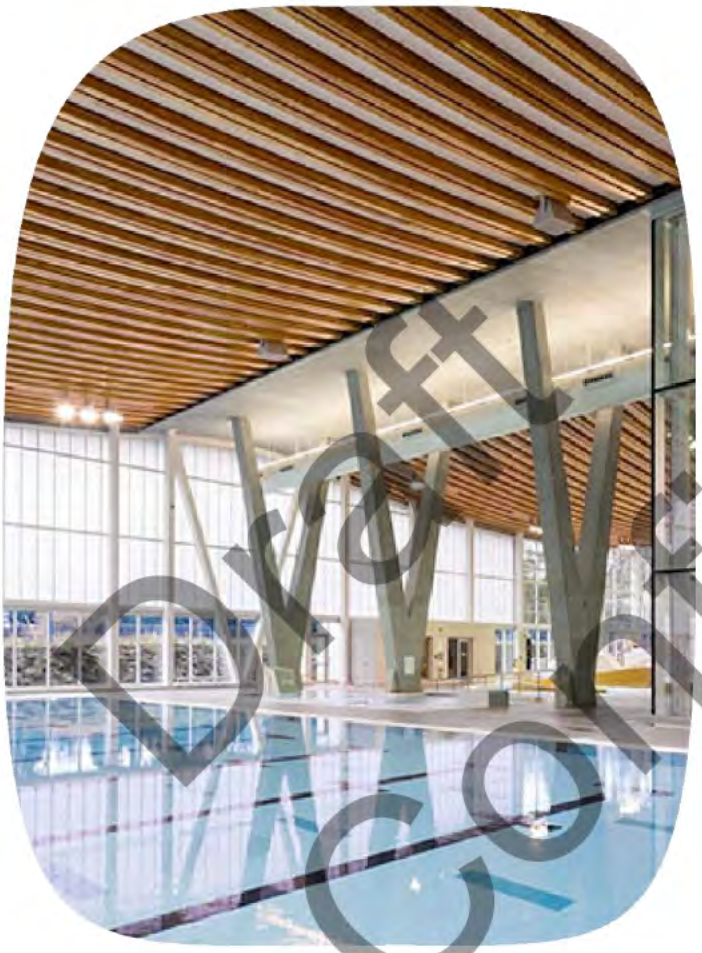
Amenities & Features:

1. 50m -10 lane FINA-standard Olympic size competition pool
2. Dive tower 1m, 3m, 5m, 7m and 10m,
3. Spectator seating for 800 people
4. Hot tubs for families (with ramp access) and adults
5. A 500 square metre leisure pool
6. Waterslide, Lazy river, spray features, tot's area with access ramp & accessible steam room and dry sauna
7. Fitness and weight room facilities
8. Exterior terrace



Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

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təmə̓sewtxə Aquatic and Community Centre^{w}

Opened: 2024

Location: New Westminster, British Columbia

Climate: Warm and temperate climate, heavy rainfall

The City of New Westminster is pleased to announce that the name of the new aquatic and community centre in New Westminster will be təməsewətxə Aquatic and Community Centre. The name is the hənəqəəmin̓əəmə word for “sea otter house.”

The design was driven by a two-year community engagement process, prioritizing accessibility for people of all ages and abilities, as well as the flexibility to future-proof the facility. The centre includes a four-pool aquatic centre with sauna and ste m rooms, iversal washrooms and change rooms, a fitness centre, g mnas a, community

https://www.hcma.ca

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rooms, licensed childcare, administrative offices, as well as significant new plazas and greenspaces.

Expected to open to the public in 2024, the future təməsewətxə Aquatic and Community Centre is set to be Canada's first Zero Carbon-certified aquatic centre, aiming for a 90% reduction in GHG emissions and eliminating fossil fuels emissions completely.

https://www.surrey.ca/parks-recreation/recreation-facilities/grandview-heights-aquatic-centre

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Amenities & Features:

1. 50m- 8 lane pool featuring 2 bulkheads and a movable floor
2. Leisure pool featuring 25m-3 lane, lazy river, spray toys and tot zone
3. 2 hot pools (adult and family), Steam & Sauna
4. Fitness area, spin, aerobic & yoga classes, 2 gymnasiums,
5. Health and Wellness space; physio, massage & chiropractic
6. Childcare, Multi-purpose rooms, Café
7. Landscaping for additional outdoor programming, lounging and play

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3 – ideally takeaways

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4.0 Accessibility + Inclusion

Best Practices

“Every choice we make as designers determines who can use an environment or product. The mismatches that we create in the process are the building blocks of exclusion.”

- Kat Holmes
UX Designer & Author

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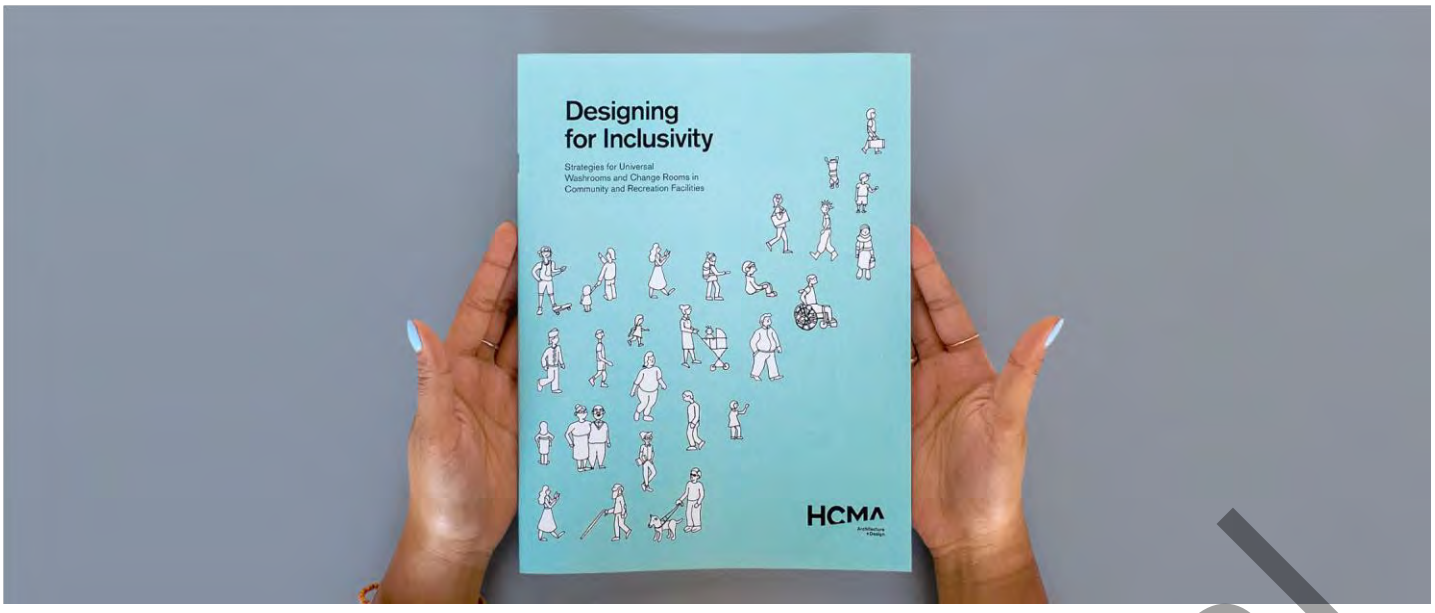

Inclusion and accessibility are critical priorities for the City of Regina and many policies and plans reflect the importance of providing programs, spaces, and opportunities that are accessible for everyone.

- Acc sibility mea looki at a facility holistically from th oment potential user considers going to a facility to their experience arriving a nd entering the acility, to how change rooms are c nfigur and fi ally, getting into the pool itself. There are numerous guidelines ava ble that provi direction on how to design spa s to be un rsally accessible and municipalities are increasingly requiring universal access lity as sta dard practice, which could be consid ed alongside the City's Adapted Recreation Plan coming forward to Council in the short term

- Ensuring inclusion and accessibi eans e physica inancial, and social needs of all individuals, including those with physical and cognitive disabilities, those xperiencing socia nd/o cultural barriers, and those from all socioeconomic backgrounds.

- Strategies for reducing bar ers to participa ng in aquatic programs include allowing caregivers or support workers free access to facilities, providing 'quiet' times in th pool for thos with sensory sensitivities, providing training to staff on how to assist swimmers with special needs, offering 'free' days, and forth

- Inclusion is the conscious practice of actively engaging people of different backgrounds in a way that everyone feels respected, heard, encouraged, and valued. Inclusion involves bringing people together to share experiences and to build a shared understanding of different perspectives. Strategies for promoting inclusion include incorporating multiple languages into facility signage and written materials, providing culturally sensitive programming such as women only times for women practicing Islam or LGBTQ+ dedicated swim times, and even designing admission counters to be offset from main entries to create a more open and inviting first impression.

- Specific efforts should be made through design and programming to address social isolation and challenges faced by vulnerable populations such as seniors, those with disabilities, those experiencing homelessness, newcomers, and Indigenous communities.

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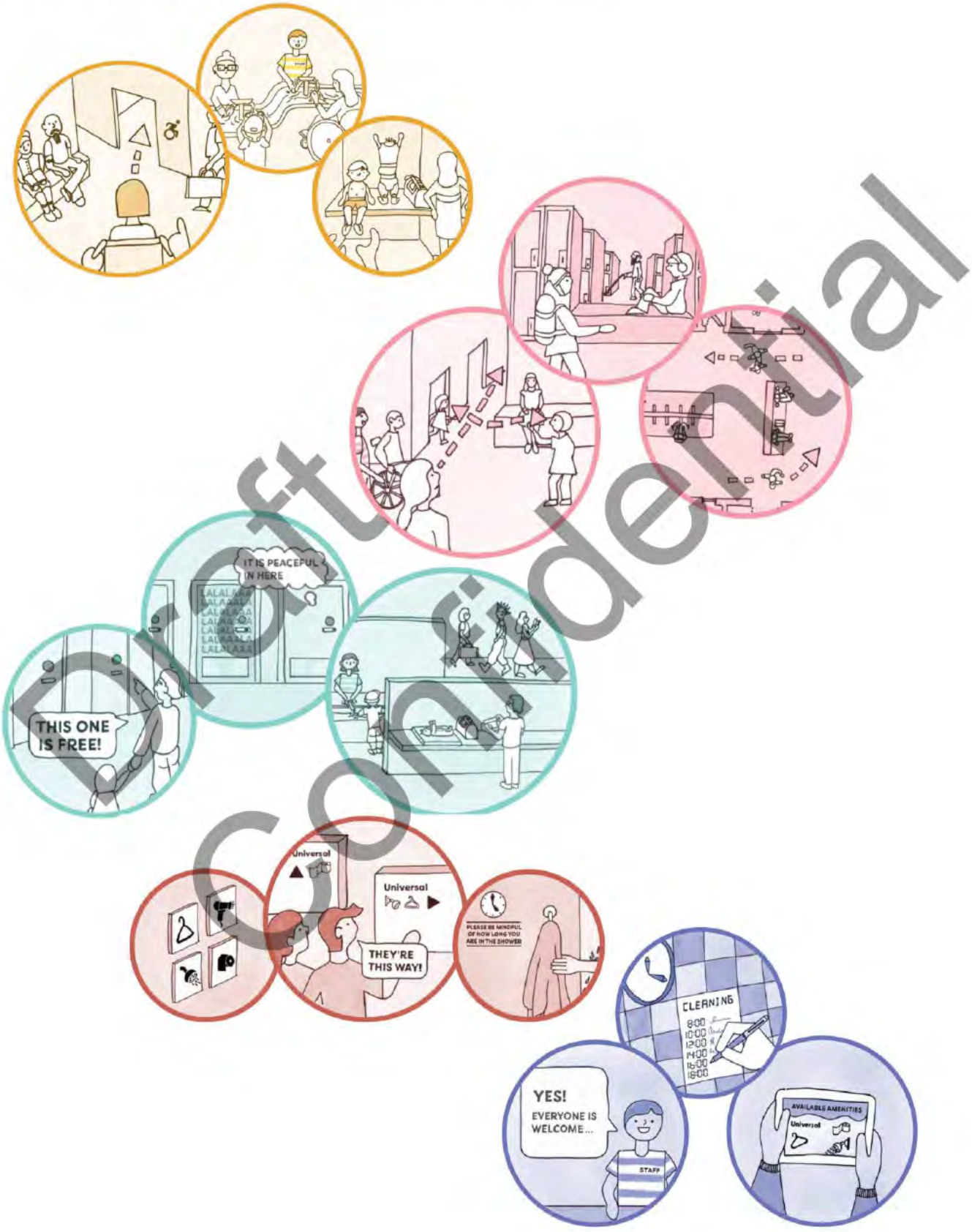
1. Strive for **inclusivity** and **access for all**
2. Use **openness** to **enhance safety** through activity and shared monitoring
3. Create **privacy** where most needed to **enhance comfort**
4. Welcome everyone with **signage** that **emphasizes function** and is clear, inclusive, and positive
5. Ensure **supportive** staff **operations** and communications



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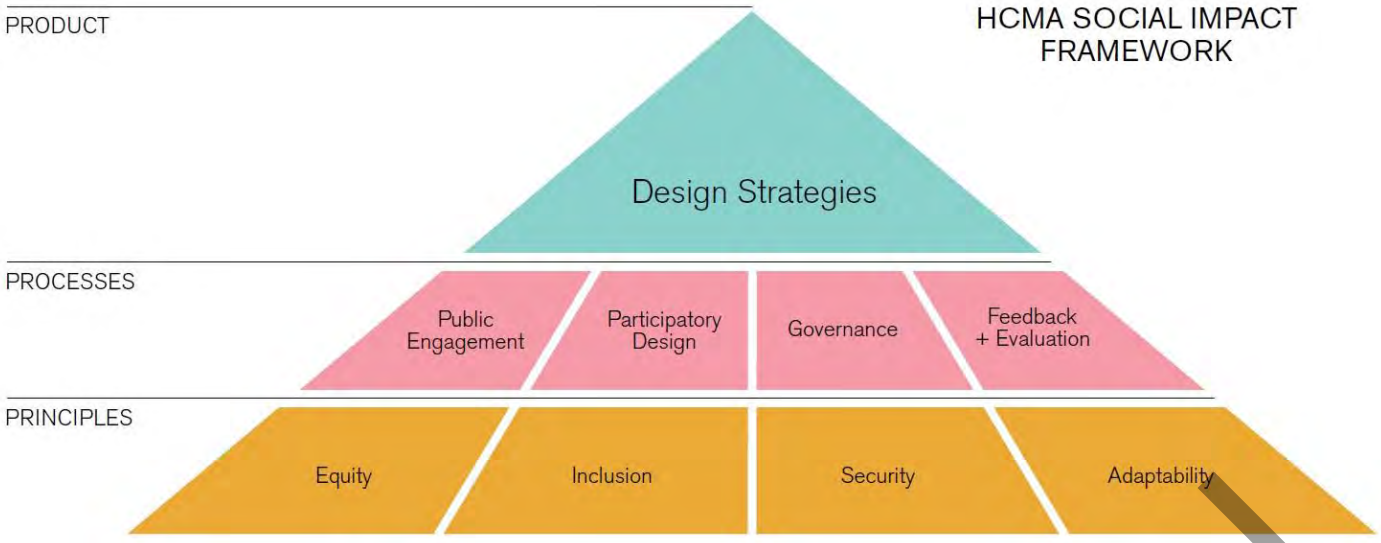

4.1 Reconciliation

Reconciliation challenges the recreation sector to more than just acknowledge territorial lands or the Truth and Reconciliation Commission's Calls to Action. Reconciliation provides an opportunity to learn more abo t the land and traditions of Indigenous peoples and cultures, as well as to foster new relationships that will lea to healthier individuals, communities, and partnerships. A renewed cultural awareness of the systemic nature of racism, inequity, and exclusion has emerged in recent years, revealing that municipalities have a key to play in working to combat racism and foster inclusion/reconciliation in their operations. Advocacy gr ups have brought attention to the persistence of racism within Canadian communities and the need to c ate safe, inclusive spaces for all.

- The City of Regina has demonstrat ts leade ip and commitment to reco ciliatio in e des n of mâmawêyatitân centre that brings together many public and community s vices aimed at building trust and stre thenin relatio ships with Indigenous communities.
- Providing dedicated space and ame ities for Indigenous placem king, ce emonies, a d community gatherings is becoming more common within municipal facilities cros Cana Opportunities to ad ance reconc ation sho ld be explored through facility design and programming.
- Incor rating digeno language and names, artwork, and story lling can oth broaden understanding and appreciation of Indigenous cul res, as well a demon rate respect for the long his i and tra tions of Regina's Indigenous communities.

The purpose of tegrated Accessibility and I clusion S ategy s to outline the vision, principles, social sustainability goals and strategies specific to the New Regin Indoor Aquatic Facility.

The project hopes to set specifi ccessibility and inc ty targets for meeting the goals under the following categories:

- Reducing Barriers
- Green Transportation
- Connection to Nature
- Social Capital
- Health & Wellness

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5.0 Sustainability Best Practices

Sustainability is embedded in the mission of many municipalities in Canada, as we plan in service of our communities to and their future generations. Designing to manage environmental, social, and economic impact areas is imperative for the health and wellbeing of people and the planet.

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5.1 Introduction

Climate change has and will continue to impact the provision of recreation services in Canada. Pools have high energy and water use profiles and are especially intense to operate in northern climates. As well, community recreation infrastructure is considered generational; the new aquatic centre will have a long service life that must consider both the immediate impact of new construction, the impact of evolving operational conditions, and the changing needs of the community is as it grows and changes in a new climate.

Municipalities are also grappling with shifting economic landscapes and ongoing impacts of the COVID-19 pandemic that have challenged revenues and placed expenditures under greater scrutiny. Sustainable building strategies and technologies can help to reduce the ongoing operating costs of pools and better support social needs in the long term. Regularly reviewing user fees can also help to balance the importance of affordable, accessible services with revenues needed to maintain high service standards.

As of June 2021, from the feasibility commencement, the project team has been actively engaged with City staff, community, and stakeholders to facilitate a sustainability strategy for the New Regina Indoor Aquatic Facility. The project team members have made sustainability recommendations that align with the city, province, and Canadian 2030 and 2050 climate targets. These recommendations also consider the current trends and best practices for sustainable design of community and natatorium spaces. The initial phase of work included two best practices workshops, first with city staff and then with the IAFCAC to determine preliminary strategies and goals that align with the policy. The emphasis of the workshops was on energy and emissions, recognizing that more detail and analysis for other impact areas wil e required when the project progresses to schematic design. During this time, the City of Regina launched the Energy & Sustainability Framework th which this work supports and aligns.

5.2 Background

The work to date has been future focused; planning for climate resilience, energy and GHG reduction, and overall resource conservation, has been central at this early stage, with the goal of supporting a holistic approach to sustainability and tailored targets for energy efficiency, emissions reduction, social impa t measures, water conservation, ecosystems and site development, sustainable materia , and door environmental quality. The project hopes to set specific sustainability targ ts f r m ting the goals under the following categories to align with the forthcoming y of Reg a Aquatics Framework as th projec progresses into schematic design:

- Ecosystems, Wat rshed + ite
- Water Conserva ion
- Energy Efficienc and GHG duction
- C mate R lience
- Sustainable M terials
- Solid Waste
- F d

The content of this chapter builds upon a review of:

1. City of Regina's existin environmental, so l nd economic development strategies.
2. Sustainability worksh ps held with Ci of Regina staff.
3. Existing best practices ertification sc mes, and frameworks.

5.3 Current and Future Policy + Regulatory Contexts

The regulatory context for energy and emissions is evolving quickly in response to global climate commitments. It is important to evaluate the project within the current and expected future regulatory context, to plan for the future burden of risk, environmental impact, and potential opportunities. The new aquatics centre can support the city's Energy and Sustainability Framework seven "Big Moves" through thoughtful design and operations, ensuring that the project contributes to the goal of reducing greenhouse gas emissions and energy consumption.

Canada

Framework on Clean Growth and

Canada's response to the Paris Agreement is the Pan-Canadian

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Climate Change (the Pan-Canadian Framework), which sets out the national strategy to meet the Paris Agreement targets. Within the built environment section of the Pan-Canadian Framework, Canada aims to improve energy efficiency for both new and existing buildings. This includes a net-zero ready energy code to be adopted by the provinces and territories by 2030, energy labelling, and an existing building energy code. Equipment performance, including that used in typical building mechanical and electrical applications in buildings, will also face new energy efficiency targets. To support the Pan-Canadian Framework, emissions pricing has been introduced to incentivize greenhouse gas reductions. In provinces that do not have their own carbon tax scheme, this will be mandated by the federal government. In 2022 emissions pricing is $50/tonne, rising by $15/year, to $170/tonne by 2030, assuming no rate increases. Considering the future cost of operating a building through its greenhouse gas intensity (GHGI), is something that all building owners must consider at the time of major infrastructure projects.

Saskatchewan

Saskatchewan has taken steps to reduce greenhouse gas emissions throughout all sectors and is focused on climate resil e. In 2017, the province launched Pra ie Resilience: A Made-inSaskatchew Climate Change Strategy (Prairie Res ence) w ich outlines climate resilience d mitigat strategies spec t skatch wan. The energy grid ill continue deca onize and utilize ca on capture and orage technology, ith a goal of r ducing the carbon intensit f the gri by 40% by 2030. Currently in Saska ew n, buildings account for 4% of provincial g eenhouse gas emissions and as part of the strategy outlined in Prairie Resilience, Saska hewan was the first province to adopt the 2017 version of the National Energy Cod for Buildings (NECB) on January 1, 2018 We expect the trajectory of the NECB to re t the urgency of energy emissions reduction in the 2020 revision and beyond.

Regina

In 2022, after several years of analysis and public consultation, the City of Regina launched the Energy & Sustainability Framework (the Framework). The Framework contains 31 actions across seven “Big Moves” to reduce the city’s greenhouse gas emissions by 52% by 2030 and energy use by 24% by 2030. The seven big moves are as follows:

1. Building retrofits
2. Clean heating
3. Net-zero new construction
4. Renewable energy generation
5. Low-emissions vehicles
6. Increase active transportation and transit use
7. Clean and re-energize industry

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5.4 Resilience + Future Climate Planning

Resilience strategies and planning for future climate conditions is critical for all new infrastructure as we navigate climate impacts in the immediate, medium, and long term. Impacts already being experienced in Regina include hotter days and more forest fire smoke events. Immediate and long-term climate risks identified by SOURCE for the most optimistic climate change scenario for Regina include:

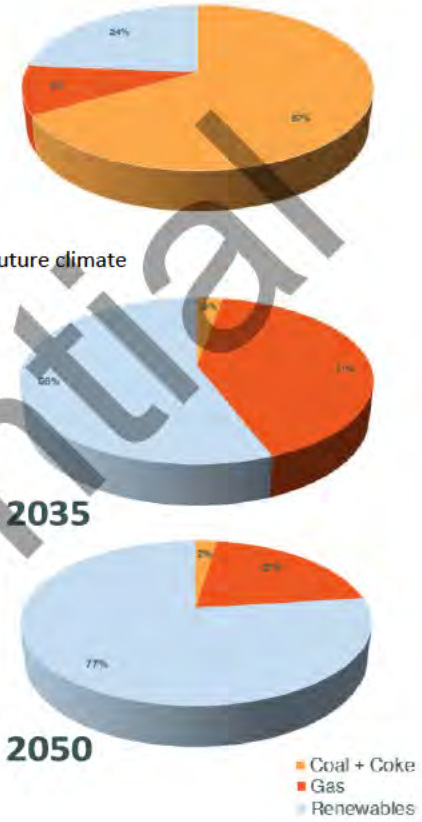
Heat: Increased number of very hot days (above 30°C), increasing from a recent average of 18 days/year to 31 to 54 days/year between 2021 and 2100 (see image X for the low carbon scenario).

Water: Increased precipitation in the winter, drought in the summer.

Air: Forest fire risk and smoke

The new aquatics centre and surrounding community will benefit from both reducing emissions from built infrastructure to mitigate the impacts of climate change, but also by considering the health and infrastructure related shocks and stressors

associated with these and other climate risks and designing the building to adapt to these future climate conditions.



A comprehensive climate risk analysis as part of the schematic design phase is recommended to guide design decisions accordingly.

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Figure 1 - Anticipated very hot days (+30° C), less climate change, 2021 - 2050

Figure 2 - Saskatoon Electricity Mix

5.5 The Grid Transition + Emissions Pricing

As we move away from fossil fuels to mitigate the impact of emissions, electricity grids around the world are transitioning away from coal and natural gas to renewable energy sources. In Saskatchewan, this transition is already underway; in 2017, the province launched Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy (Prairie Resilience) which sets out climate resilience and mitigation strategies specific to Saskatchewan. The energy grid will continue to decarbonize and utilize carbon capture and storage technology, with a goal of reducing the carbon intensity of the grid by 40% by 2030. At this time, we are less than ten years from a majority renewable energy fueled grid, so it is critical that new infrastructure evaluate service life of building systems relative to the grid transition timelines to understand the impact of both emissions and cost for both capital and operational time horizons. Moreover, we expect the existing buildings energy code to be in place within the decade, further encouraging adoption of high-performance passive strategies and optimized, electric-based building systems.

In 2021, according to the Canadian Energy Regulator, 67% of the Saskatchewan electricity grid was fuelled by coal, 9% natural gas nd 24% renewables. But in 2035, the same source forecasts coal will represent only 3%, natural gas 41% and renewables 56%, drastically imp ving the proposition for electrification relative to emissions. Furthermore, renewables are expected to contribute 77% to the grid by 2050. For t new aquatic facility, it will be essential to consider this grid transition time horizon, coupled with the federal emissions pricing sch me, hen evaluating building system options for both first cost capital investment and system replacement at the end of service life. o set his context, the chart below plots the cost of electricity and natural gas against the grid transition, accounting for the incremental federal em ssion p icing over time. The chart helps to illustrate the case for electrifying now, to benefit from the lowest emissions and operatio l cost the ong term.

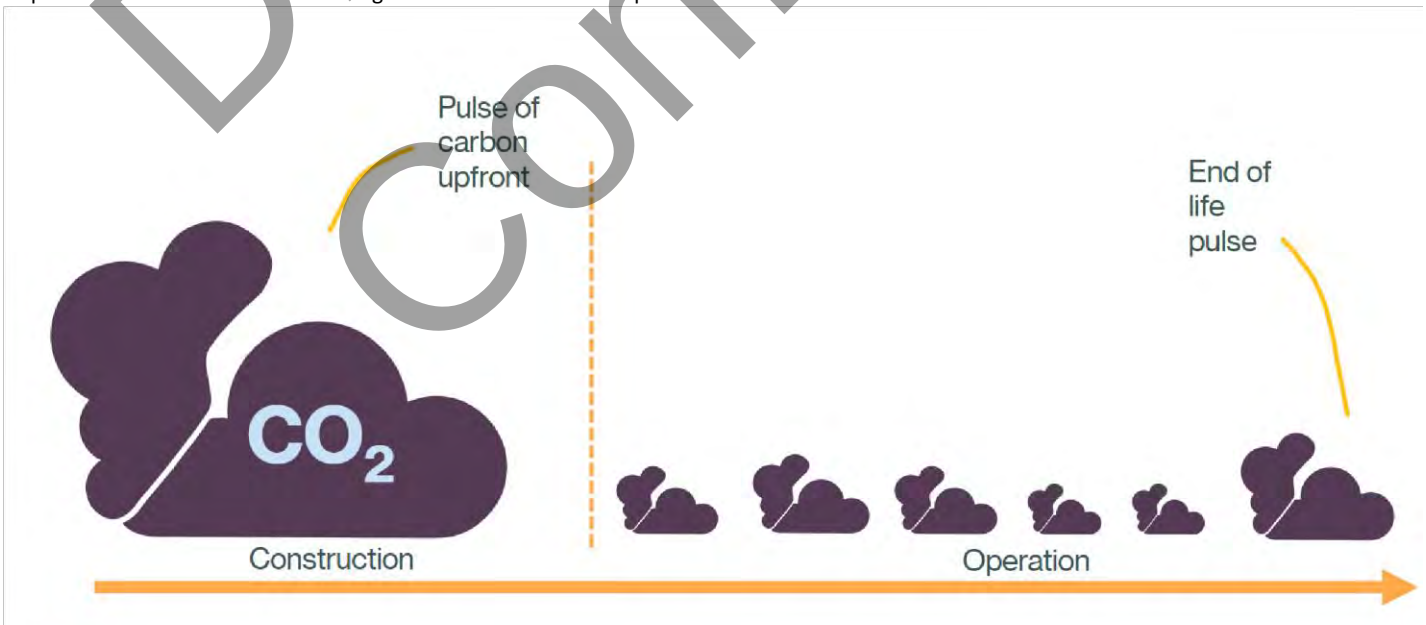
5.7 Embodied Carbon

Embodied emissions in buildings are now understood to represent significant contributions to their full carbon impact. Most of the embodied carbon emitted from a building occurs before it is occupied, generated from the extraction, manufacturing and transportation of materials used to construct it. Also referred to as upfront car on, it represents emissions we can only address before a project is built. This is especially gnific t as we try to eliminate emissions in the ne term, to improve our chances of mitigati th imp ts of significant climate change in the l ng term. We know the most significant mater contribu ng o embodied carbon pro es of buildings are the heaviest, typically structural m terials. Impact varies significantly by p ject context and location, so evaluating rang of struc ral and other material option early i the design process can significantly re uce th i pact of upfront carbon.

Building Re-use versus Ne onstruc n

Renovating a d reusing uilding materials is strong strategy typically emplo d to reduce the impact of mbodied carbo in buildings. In the case of the two ptio evalua d for the New Indoor A atic Fac ty, while no detailed life ycle asse ment has been do we expe the impact to be latively imilar for both the new nstructio nd renovation options, si ply because so much of the existing build g components would require r placement in the renovation s enario. The carbon impact of demolition waste is expected to be slightly higher in the new construction scenario, but overall, would represent a negligible amount.

Moreover, any small, embodied carbon benefit that might be



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realized in the renovation scenario, the limitations on program and operational efficiency may, in the long-term, diminish these benefits. If the space is not optimal operationally due to re-use constraints and a new addition or new facility is needed sooner than anticipated to address program limitations, more upfront carbon emissions will be generated, and the relatively small benefit of material reuse lost. We know from industry analysis and many Life Cycle Assessments on similar buildings, that a comprehensive effort to address the embodied emissions of new construction in the early design stages can reduce embodied emissions significantly.

We recommend an aggressive but realistic target of 20% reduction of CO2e from baseline, by eliminating by replacing structural concrete systems with lighter materials such as wood, and specifying low carbon concrete for foundations and other strategic uses. Further reductions can be realized by assessing envelope systems, glass, and insulation.

As p rt of this feasib ty, hcma has considered two sce arios:

1. **Retr itting** a l ge portion of the existing facility to e ectively the level of a new building, while m nt ning and updating the base tructu and a ding a new addition
2. **Demolition** of the existing facility, with e exceptio of the field house, and pursuing a new build.

5.6 Operational Cost Compariso between Electric + Gas-based Systems

As we move away from fossil fu to mitiga e the impact of emissions, electricity grids around the world are transitioning away fro oal and natural gas to renewable energy sources. In Saskatchewan, this transition is already underway; in 2017, the province launched Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy (Prairie Resilience) which sets out climate resilience and mitigation strategies specific to Saskatchewan. The energy grid will continue to decarbonize and utilize carbon capture and storage technology, with a goal of reducing the carbon intensity of the grid by 40% by 2030. Currently, we are less than ten years from a majority renewable energy fueled grid, so it is critical that new infrastructure evaluate service life of building systems relative to the grid transition timelines to understand the impact of both emissions and cost for both capital and operational time horizons. Moreover, we expect the existing buildings energy code to be in place within the decade, further encouraging doption of high-performance passive st tegies and optimized, electric-based ilding systems.

In 2021, according o the Canadian Energy Re ulator 67% o the Sa atchewa electricity grid was fuelle by coal, % natural gas and 24% enewab s. But in 2035, the same so ce forecasts coal will represent only 3% natural gas 41% and renewables 56%, drastically improving he proposition for electrification relative to emissions. Furthermore, renewables are expected to contribute 77% to the grid by 2050. For the new aquatic facility, it will be essential to consider this grid transition time horizon, coupled with the federal emissions pricing scheme, when evaluating building system options for both first cost capital investment and system replacement at the end of service life. To set this in context, the chart below plots the cost of electricity and natural gas against the grid transition, accounting for the incremental federal emissions pricing over time. The chart helps to illustrate the case for electrifying now, to benefit from the lowest emissions and operational cost in the long term.

Chart 1: Expected emissions cost of natural gas and electricity in

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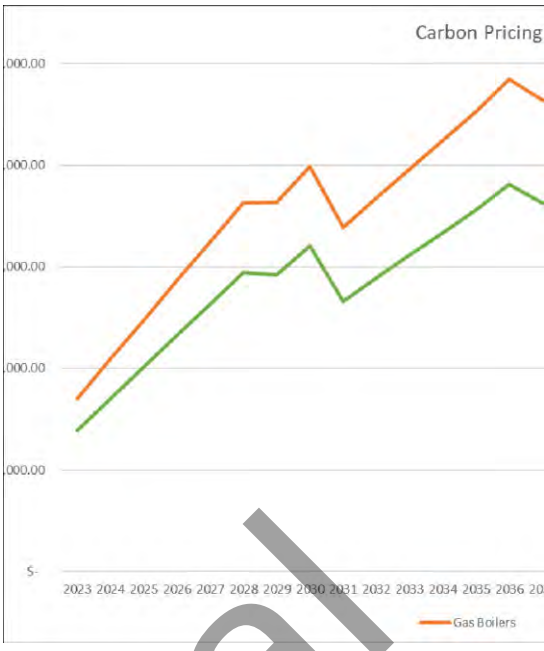
Saskatchewan, accounting for electrical grid transition from 2023-2050.



This example illustrates the cost of emissions pricing for electricity using an air-source heat pump system (ASHP) and natural gas-based system, using energy demand data from a similar recreation and aquatic centre. Grid emissions factors for Saskatchewan were applied using NRCAN data available to 2035. Beyond 2035 we applied applicable emissions factors using representative provincial grid data from other provinces.

Emissions pricing in 2023 will be $65/tonne and will continue to rise annually by $15/ tonne to a maximum of $170/tonne by 2030. We have assumed a similar incremental emissions price increase beyond 2030 to level off at $260/tonne in 203
Currently, gas boilers have the lowest ca on pr However, as the grid decarbonizes over time we expect to see comparable costs for electri and na ral gas as soon as 2030. By 2036, ele ricity drops significantly in cost compared to natura gas, as t id further decarbonizes, p r the adian Energy Regulator's projected fuel mix f r the pro incial energy grid. Further support f is sce i documented by the recent Canada Green ilding C uncil Report A Roadmap for etrofits i Canada (CHECK REF) that carbon intensive grids uch Saskatchewan and Alberta will de arbonize e ugh in the next ten years to make e ctrifyin n the ear term cost compe tive wit natur gas sy ems, when considering emissio pricing.

5.8 Funding Oppo tunities

The evolving reg latory co text to manage and reduce emission is supported by a range of funding and grants to enco ag low energy and low carbon building and i frastructure. The Pan Canadian Framework commits unding from the federal gove nment in s pport, and the 2022 federal budget included $2.2 billion over seven years g in 20 2-23 to ex and the Low Carbon Community Fund. One hundred million dollars that allocation is t a e to support green building. Accessing these funds typically requires con eration of fut e climate conditions, demonstrated reduction of greenhouse gas emissions and agg ssive energy re uctions, along with leading inclusive and accessible design strategies, determ d through gagement with community members and local Indigenous groups.

We recommend identifying funding sources early, and aligning design process, performance targets, and rating systems accordingly. Select grant funding and financing opportunities that support reduction

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in greenhouse gas emissions and energy currently available or anticipated to reopen in the coming months include but are not limited to:

Green and Inclusive Community Buildings Program:
This incentive program supports projects that reduce greenhouse gas emissions, conduct climate risk assessments, and focus on inclusive and accessible design. The Canada Green Building Council's Zero Carbon Buildings design certification is required for successful projects. This program is anticipated to re-open in the coming months.

Federation of Canadian Municipalities (FCM) :
FCM has various grants and loan programs that support reducing energy consumption and greenhouse gas emissions.

Anticipated federal funding:
In March 2022, the federal government announced the 2030 Emissions Reduction Plan, which creates a roadmap to achieving net zero emissions by 2050. The plan includes anticipated funding for existing building retrofits and high-performance new construction projects that significantly reduce greenhouse gas emissions and energy use.

5.9 Building Rating Systems

Green building rating systems can be very useful tools to advance project performance goals. Rating systems such as LEED and Passive House are often associated with sustainable design outcomes, and how successful a project may be relative to a perceived or desired threshold of performance. While rating systems offer many benefits, the main value is a framework for accountability. Formal, t ird party verified rating systems, ensure performance, and keep stakeholders accountable from project start to nish

Rating systems are most eff ctive if u ed as tools and methods to ad a ce a pro ct's sion rather than to s t or defin he vision. Rating systems ar not cont ual; some have mechanisms to respond to site and social context, but in general, they are composed of a set of universal performance metrics with defined methods of measurement. This aspect is a strength, it makes for clear and tested methods of assessment and offers tools that contribute to the rigour we need to understand impacts of buildings but applying them without understanding the nuance of local context and performanc riorities of a project, can lea to weak r ou mes. Successful projects s aggressive performance goals gets, hen apply the assessment methods, t ls, and process with n rating sys ems to advance them rategic ly. Rating systems o a rang of tools and methods; many add ss only e impact category su h s Passiv House and the Zero Carbon Building Program (CB), others are more comprehensive uch as LEED. Passive House of rs stro g pro ess, methods, d tools guide design toward very low ene y, highly mfortable, dur building bu does not address lo ation i acts, site conditions, ecological s tems, or h lth. LEED offers more com rehensive approach but is less focused with m e options, and stepped thresholds fo evaluating performance. There are also sy ems that focus exclusively on human health and accessibility, including the Rick Hanson Foundation Accessibility and Certification (RHFAC ®) program and the WELL Building Standard (WELL ®). Successful high performing projects are pursuing multiple certifications to ensure comprehensive performance and benefit

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from the strong recognition and market traction. Many aquatics centres across Canada are pursuing one or more of these rating systems to track performance, verify outcomes and benefit from recognition. Moreover, many grant and funding opportunities are tied to green building rating systems, to demonstrate greenhouse gas emissions reduction, energy efficiency, high quality accessible and inclusive design.

Relative to the cost of implementation and certification, rating systems offer exceptional value. As code requirements become more stringent and local commitments to performance more aggressive, the cost gap to meet and exceed the minimum requirements of voluntary rating systems closes. Saskatchewan's minimum energy code and Regina's climate commitments are already aligned with strong performance against the most applicable voluntary rating systems including ZCB, LEED, and RHFAC, meaning the cost impact of pursuing them are likely to be relatively insignificant for the benefit gained.

While actual costs vary by location, market, typology, performance level, ranges are provided here for select third party rating systems, for reference and planning purposes only:

Rating system	Additional Capital cost to pursue
Passive House	~10%
LEED	~0-5%
RHFAC	0-1%
ZCB	<

5.10 Recommendations

Regina's Energy and Sustainability Framework demands new infrastructure be future focused. Below are the recommendations we ha e for the City of Regina's New Indoor Aquatics Facility:

Design for the Future

- Conduct a climate risk assessment early in Schematic Design to identify anticipated shocks and stresses. A tic pated esilie considerations include planning for use as a cooling centre during extreme heat, optimized air filtration sys ms includ g minimum MERV 13 on outdoor and recirculated air to manage forest fire smoke events, and water re-use strategies to serve lan cape irr gation in the driest months, to support the cooling effects of healthy vegetation around the building.
- Evaluate design strategies against acute and chronic climate stressors, in the short, medium, and long term.
- Require energy modelling to account for future climate conditions of 2050 and 2080.
- Consider community needs during a te cl te events such as extreme heat/cold/smoke ding m ltiple, overlapping conditions, such as Covid-19, a smoke event and extr me heat
- Evaluate cost over the short, medium d long te m, considering the value of vestme ov r the e of the building, community benefit. Require life cycle costing to account for re lts of predictive energy and emissions model g futu energy costs and pricing.
- Go beyond the code (Supports B g M ve #2): skatchewan has adopted and nforce the National Energy Code for Buildings (NECB) 2017 and w recomm d exceeding this code by a least 25%. This wil pport a grant application to the Green and Inclusive Community Building program o e it reopens and pu uit of the Ze Carbon uilding Standard. Depending on timing, the new NECB 2020 may be enfo ced by t e tim of building permit. Exc edi g th urren will likely facilitate meeting a new energy code.
- Require an all electric s tem (Supp rts Big Move #3): Grid deca b ization expected to reach a point where electrification is economi lly ben icial w n considering emissions pricing (<10 year Additio ally, mechanical equipment that is available to the market today ill continue t hange s emissions standards from he n-Cana an Framework are enforced, potentially limiting availability of fossi el-based syste s in the future. We recommend a heat pum based system for this project.

Set Performanc Targets

- Set aggressive but attainable performance ta ets for TED TEUI, GHGI and air tightness and require reporting on them at major design milestones.
- Require water reuse. Aquatic frastructure has hig d constant potable water use. Reusing water from both process and fixtures can eliminate significant demand r irrigation an oilet flushing, as well as offer heat recovery opportunities.
- Set aggressive but attainable rformance tar ts for all impact categories per the City of Regina Aquatics Framework including Ecosystems, Watershed + Site, Water Conser tion, Energ Efficiency and GHG reduction, Climate Resilience, Sustainable Materials, Solid Waste, Food. Align the requirements with a verific trategy.
- Verify performance with Green Building Certification (Supports Big Move #2): Purse the Zero Carbon Building Standard - Design certification at a minimum, along with LEED and RHFAC to maximize the benefit of third-party verification and opportunities to align with grant and funding opportunities.

Passive First

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- Apply a passive first approach for design decision-making (Supports Big Move #2): Optimize the architecture for best performance (orientation, window-wall ratio, shading, heat gain, natural ventilation) to minimize the intensity of active systems to meet energy demands and manage comfort.
- Maximize and optimize use of available natural resources. Use building performance analysis direct design strategies. For example, model the impact of solar heat gain to optimize the benefit and manage comfort. Understand the potential to benefit from solar exposure throughout the year to optimize the benefit of on-site renewable energy generation through PV or solar thermal systems.

Optimize active systems

- Use a heat-pump based system, and eliminate fossil fuels completely.
- Install on-site renewable energy generation (Supports Big Move #4): Regina has some of the best solar photovoltaic potential in Canada and we recommend investigating a solar-PV integrated roof.
- Consider InBlue pool filtration technology (Supports Big move #2): InBlue pool filtration is relatively new to North America (used at the City of New Westminster's təməsewətxəAquatic and Community Centre). InBlue uses regenerative media pool filters, which have a lower water consumption than traditional filtration system. Lower water consumption means less energy is needed to heat the pool.

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6.0 Context, Site, Existing

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City Aquatic Facilities

Indoor Pools

Lawson Aquatic Centre

800 m Dewdney Pool – this is not an indoor pool...

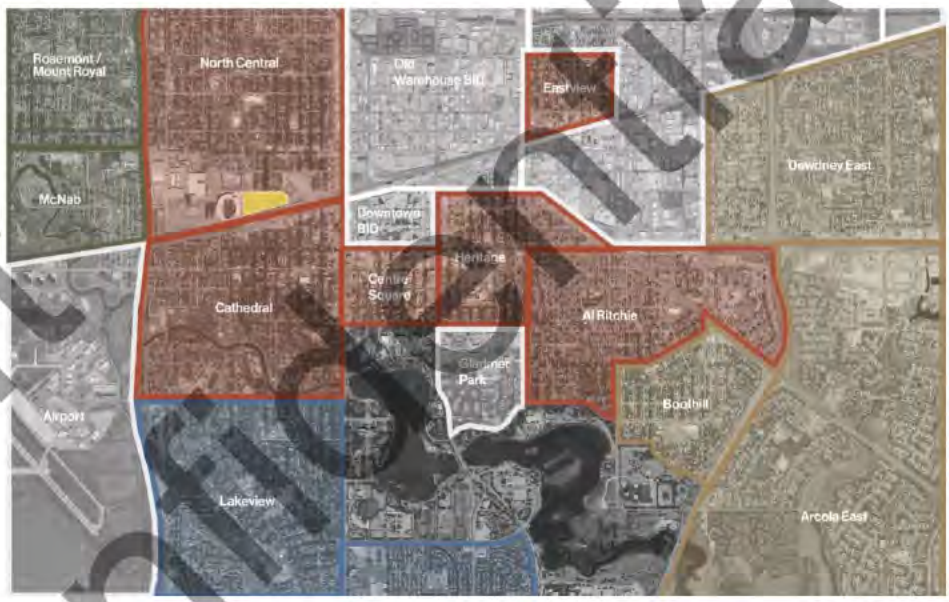
8.5 km missing NWLC

Sandra Schmirler Leisure Centre

6.6 km University of Regina Swimming Pool

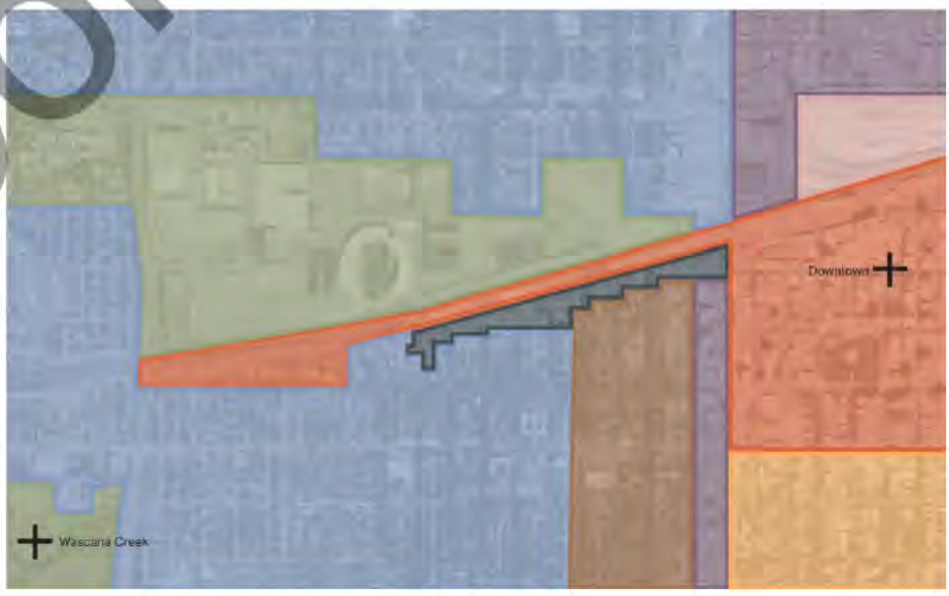
Neighbourhoods

- Central Zone
- West Zone
- South Zone
- East Zone
- Community Associations – these are not community associations. No CA existings in these areas.



Zoning

- Low Density Residential
- Recreation
- Commercial
- Mixed Commercial
- Medium Density Residential
- Large Format Commercial
- High Density Residential
- Light Industrial



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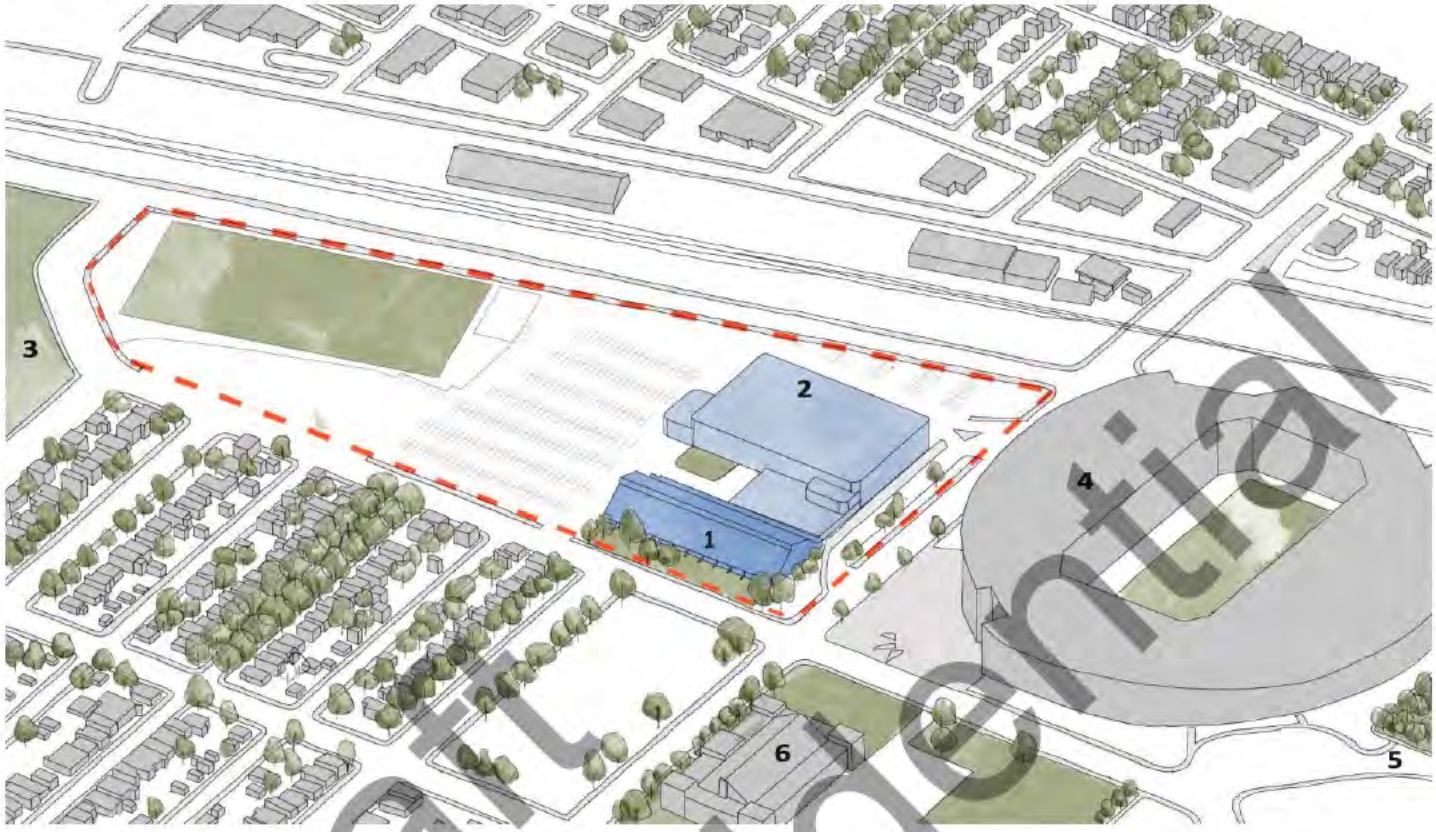
6.1 Context

The green space around the immediate site serves a variety of functions in the community. Confederation park to the West of The Mosaic Stadium has cultural and historical significance acting as a place for gathering and displaying First Nations art around the perimeter. Urban green space exists both around the Regina Armoury and Lawson Aquatic Centre, and an athletics field on the East side of site acts as a place for community outdoor recreation.



Surrounding Buildings and Green pac

The Regina Ind or Aquatics Centre is to be located on the current Sportpl x site in Regina, North-West of the city centre and North of the Was ana Lak and River.

1 **Lawson atic Centre**
Existing aqu s centre on the North side of the

2 **Fieldh use**
Existing facilityx on the South side of the site.

3 **Taylor Field**
Old site of Mosaic Stadium located East of the site to be developed.

4 **Mosaic Stadium**
33 000 capacity football stadium

5 **Confederation Park**
Culturally and historically significant.
Space for community gathering with First Nations art and historical displays

6 **The Regina Armoury**
Federal Heritage Building located North West of the site.

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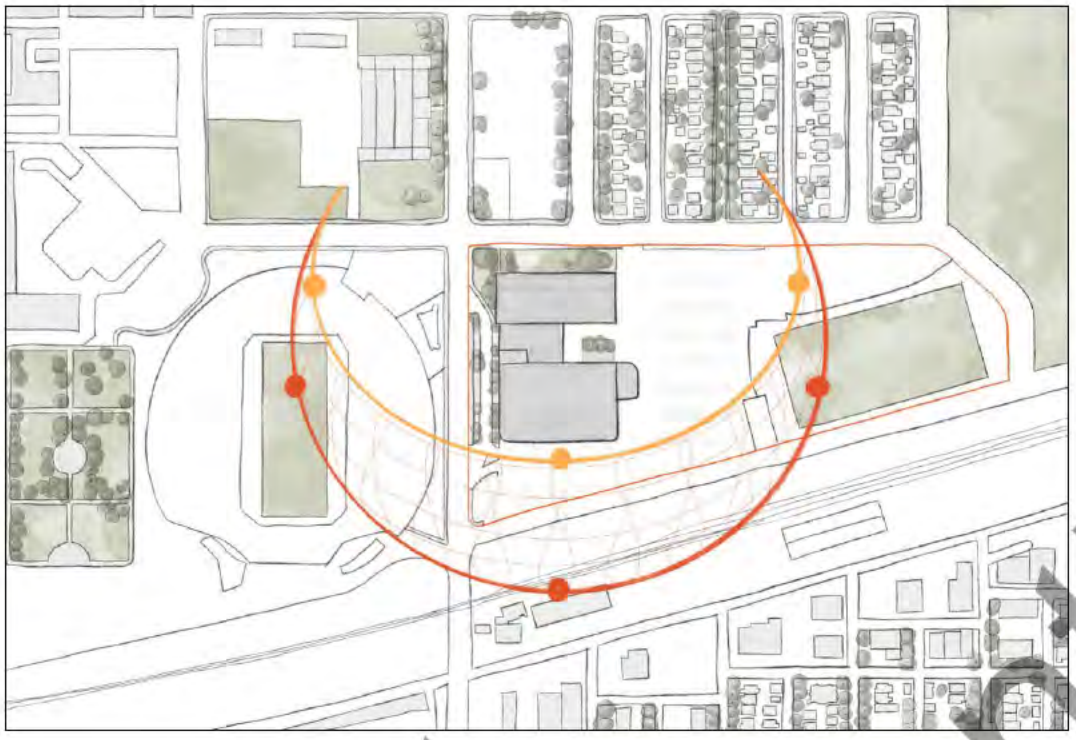
6.2 Environment



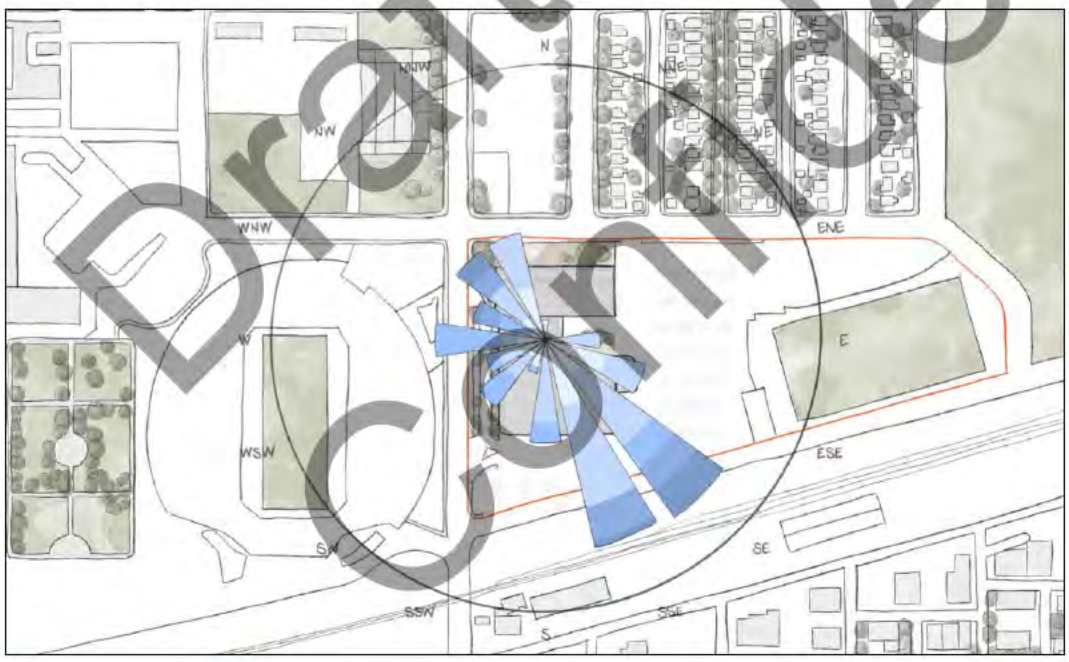
Solar Study

Summer Solstice

Winter Solstice

[redacted]

and solar blockage.



Wind Study

[redacted]

East winds as well as North West,

[redacted]

and harness it for cross

[redacted]

Mean speed
30 km/h - Peak Frequency
SE - Peak Direction
% calm (what calm is defined as)

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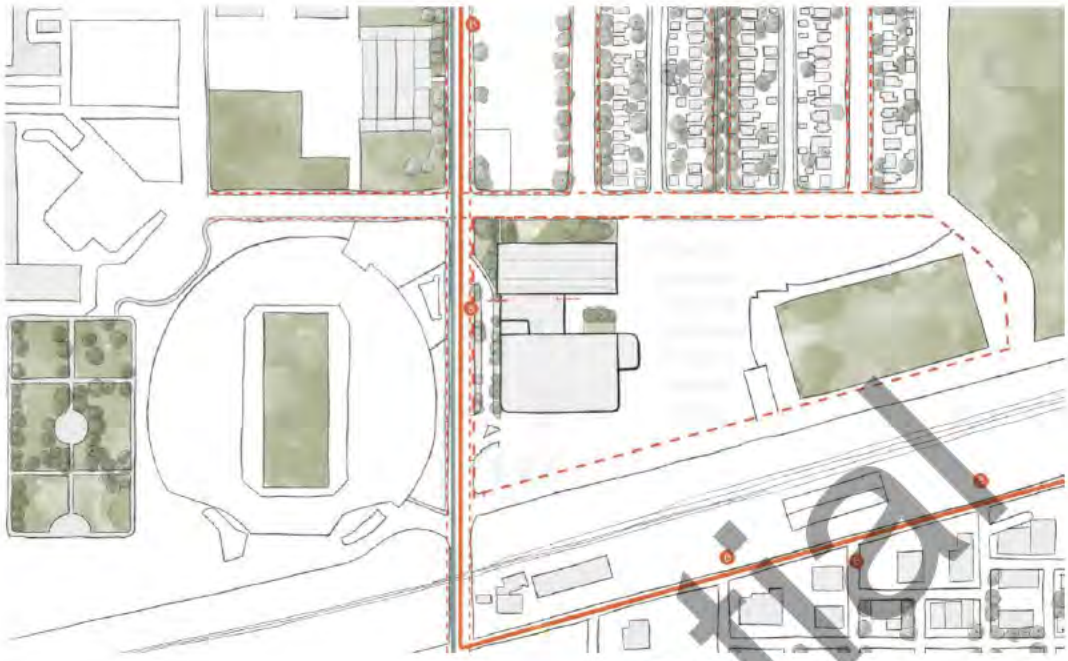
6.3 Access

Public Transit & Pedestrian Access

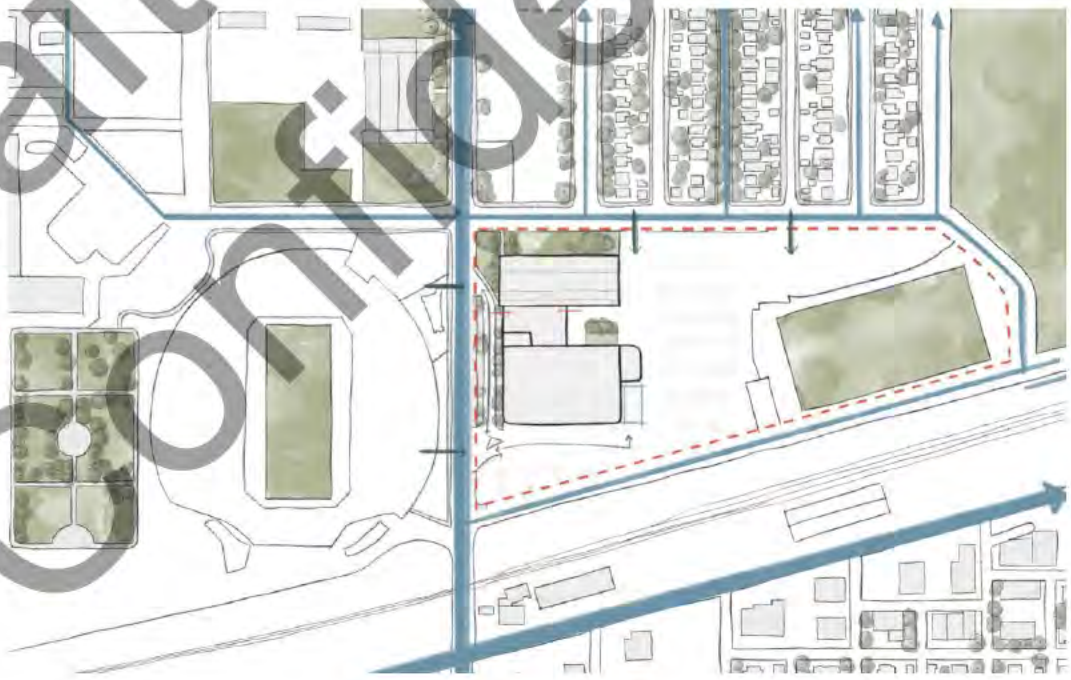
Bus routes run down Elphinstone St as well as Saskatchewan Dr. creating a strong pedestrian presence from the South side of the site. The North side also has a strong pedestrian presence due to its adjacent residential neighborhood and the Mosaic Stadium Plaza. Currently no bicycle lanes or friendly roads exists around the site.



Bus Route
Bus Stop
Bikeway
Pedestrian Route
Pedestrian Access Points

Vehicular Access

The existing facility's main artery is Elphinstone St. where the primary vehicular access and drop off is. Secondary entrances into the site and parking are off of 10th ave.
- smaller N/S residential roads terminate at site
-Elpinstone St. separates Mosaic + Site



Vehicle Roadways
Vehicle Access Points
Loading Zone
Site Boundary
Pedestrian Access Points

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6.4 Existing Lawson Aquatic Centre

Plan: Level 1

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Amenities & Features:

1. 65m Lap Tank
2. Above ground hot tub & teach pool
3. Dive tower 1m, 3m, 5m, 7m and 10m
4. 300 spectator seats
5. Fitness- Strength & Conditioning
6. Fieldhouse
7. Tennis, badminton, basketball courts
8. Oval track, fitness, cycling, studios

Existing Lawson Aquatics Centre Assessment

Part of the due diligence conducted during the planning process included an assessment of the existing Lawson Aquatics Centre. This was done to understand the current state of the existing infrastructure in order to assess the suitability for expansion and costs required to sustain the existing structure over the long term. The assessment report, found in the appendix, is not an exhaustive assessment of the building but is intended to provide an overview based upon on-site visual observation, review of existing reports, interviews and discussions with the City of Regina Facilities representative(s), and application of Best Practice Design for Aquatic Facilities Including Accessibility. The following points summarize the findings of the report, the full report can be found in the Appendix.

A Best Practice Shortfall...

The LAC would not qualify for the Rick Hansen Foundation Accessibility Certification (RHFAC) because it does not meet the prerequisite of having all pubic areas of the building universally accessible. This would necessitate the installation of an elevator to the mezzanine level and a strategy to obtain universal access to the timer's/judge's box.

The main tank utilizes a gutter system that is not unusual in old facilities, but it does make accessing the main tank a significant challenge even for able bodied swimmers. Non-ramp or access with dignity is possible to the main lap tank.

The hot tub and wading pool are not accessible without the use of a lift. The men's change room is dated and does not meet the ideal ratios of contemporary models for inclusive design. Best practice would have 60% universal change facilities with 40% designated male and female.

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Discipline	Capital Expenditure Forecast Summary			TOTAL
	Year 1	Years 2 - 5	Years 6+	By Discipline
Architecture	$ 735,000.00	$ 414,200.00	$ 2,690,000.00	$ 3,839,200.00
Building Envelope	$ 15,000.00	$ 180,000.00	$ 3,769,000.00	$ 3,964,000.00
Structural		$ 2,000,000.00	$ 150,000.00	$ 2,150,000.00
Mechanical	$ 265,000.00	$ 2,282,500.00	$ 1,950,000.00	$ 4,497,500.00
Electrical	$ 225,000.00	$ 313,000.00	$ 7,500.00	$ 545,500.00
Civil - short and long term infrastructure replacement		$ 30,000.00	$ 500,000.00	$ 530,000.00
Civil- Parking lot renewal (replacment cost)			$ 2,366,000.00	$ 2,366,000.00
Total Per Year	**$ 1,240,000.00**	**$ 5,219,700.00**	**$ 11,432,500.00**	
TOTAL ALL DISCIPLINES				**$ 17,892,200.00**

The Lawson Aquatics Centre has been well maintained by the City of Regina with ongoing investments in building infrastructure and upgrades to specific areas related to programming and architecture.

The facility looks its age despite ongoing maintenance and upgrade efforts. Every discipline included in the report note that ongoing investment yearly will be required to prevent further deterioration, and some larger investments made to bring components up to current codes, or to replace end-of-life elements.

There are no major structural issues with t existing facility however there are some significant mechanical upgrades requ ed de p e the recent remedial work undertaken. As well, there is currently a risk that va s elec cal components could fail, necessitating a shut down of the facilit u il the fix d be completed. Replace ent of mechanical and electrical systems with more modern and efficient equipment as f life is reached will recognize an mprov ment in nergy use.

The building envelope, ho ever, p sents significant challenge iven th lack envelope continuity. The building so does not present to the pu ic cont mporary architectural ession o a community gathering space and hub It a "black ox" that does not ngage th treet o function as a beacon to the local commun y or the city. Coupl d with the Field use the buildings are not welcomi g nor they a vertise the range o ctivities that o cur within through transparenc These are mportant considerat ns but are ore philosophical in nature and ha therefore not been included in th ost timates.

The above table summarizes the expected costs ssociated ith salvaging the existing LAC as part of the new indoor aq atics facility proj t

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7.0 Vision & Principles

Regina's Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

The project background, engagement findings and trend and best practi ll provide guidance and influence elated what a new indoor aquatics fac ity i Regi should include and what eeds it s ould meet. The Aquatics Rev w and Sup nd Demand re rt, f d in th Appendix, provide detailed info mation lated to design nd operational nsiderations related t quity and inc sion, climate, and public healt

Based on all information gathered to date, the following vision and principles h een developed to explain the strateg intentions of a new indoor aquatics facilit nd how it sho be designed and ultimate opera d. The vision and principles are k y in m king sure that the City's investme t is optim ed and that it can b leveraged make maximum impa t in the cal ar as w ll as the broader City d Region

The new indoor aqua cs facility will have a direct role i development of individuals, commun es, the onomy and the social infrastru ure in the y. It will be a best-in-class aquat facility offering opportunities for recr tion, isure, therapy and competit e aquatic sports. The pools are to be compl mented by robust support spaces – l ng well designed and supportive staff areas, safe inclusive and forward looking c angeroom design strategies and extended dry land spaces such as fitness, wellness, and health programs.

The new indoor aquatics facility will be a hub of wellness and social connectivity. It will be fully accessible (beyond codes) and inclusive of all groups. It will contain spaces and amenities that support inclusion and reconciliation. It is anticipated that there will be commercial and retail partners. Finally, this project does not end at the building envelope but includes outdoor aquatic components and site infrastructure and planning to support the larger site developments and community connections.

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A new Aquatic and Community Centre should provide a unique opportunity to develop a community asset that will:

- Be a **multi-faceted destination** and **community hub** that will serve residents and visitors of all walks of life for decades to come.
- **Improve the quality of life** for all residents and make Regina an attractive place to live, work and play. The facility will provide benefits of being located in the heart of North Central
- Support **excellence in competitive aquatics** with a facility that can host National competitions
- Achieve **ambitious sustainability targets** and be a cornerstone of the City's commitment to be 100% renewable by 2050.
- Create **a complete civic precinct** with enhanced vehicular, cycling, and pedestrian connections.
- Expand the city's **outdoor amenities** which support open air community and sports events
- Be an exemplary facility in providing **enhanced inclusive & accessible environments**
- Demonstrate leadership and commitment to **reconciliation**

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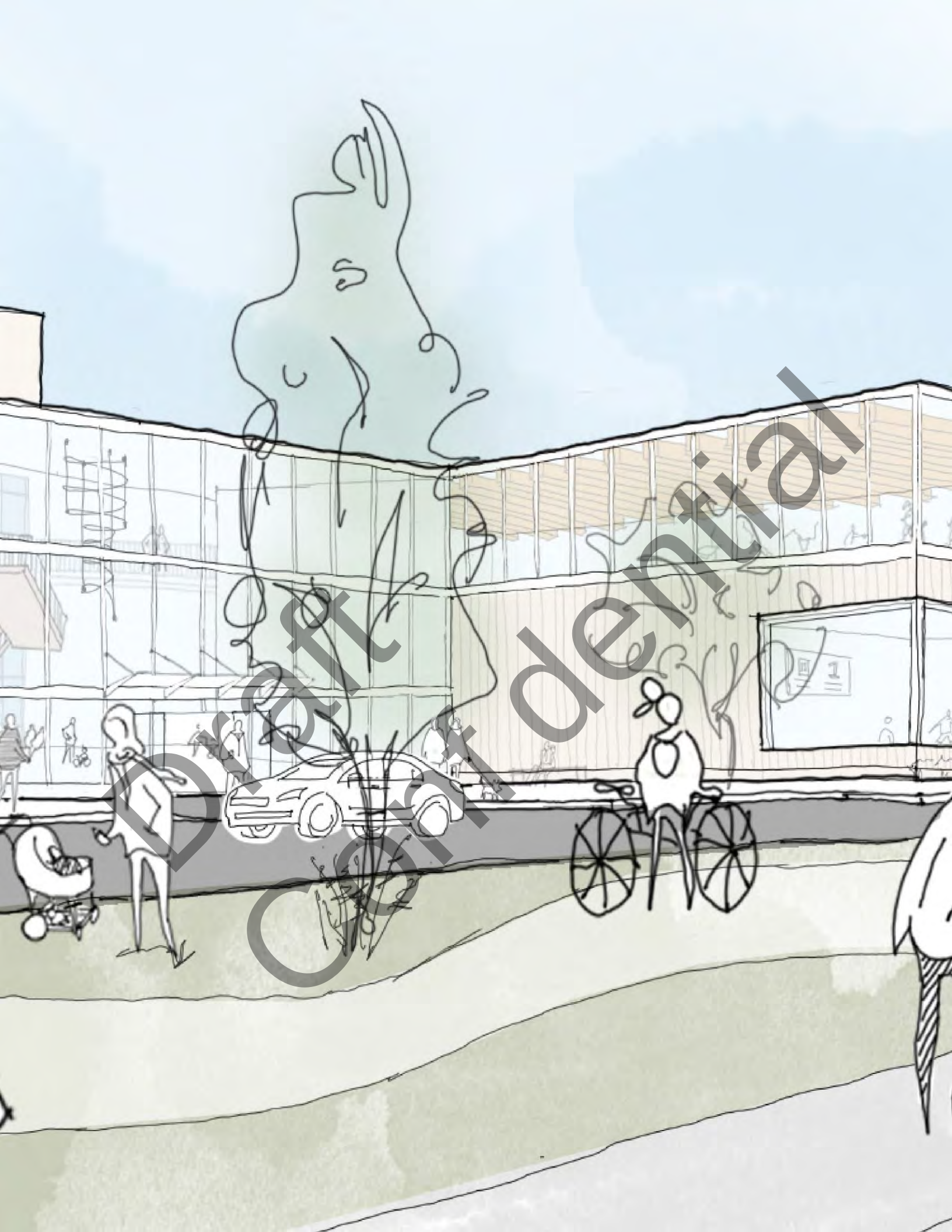
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8.0 Program

8.1 Programmatic Needs

The Aquatics Review and Supply and Demand report, found in the Appendix, provided important information related to the strategic underpinnings of a new facility (as demonstrated in the vision and guiding principles). The report also provides insight as to the optimal program balance between the seven activity types. Throughout the report, a radar diagram is used to show the balance between the different activity types that each influence suggests. The report culminates in the following overall balance.

As can be seen, there is pressure for this new facility to meet demands for all activity types, including almost an equal focus on recreation and leisure and sport training elements as well as substantial attention to skill development, therapy, fitness, and special events.

This balance has been translated by the design team into the following four program options.

Although each of these options would lead to enhancements of indoor aquatics in the city and further meet the vision, principles and broader community goals outlined in this study, it is recommended that the Optimized new build option be pursued by the City. Based on this recommendation, the following concept designs, capital and operational costing, and economic impact analysis have been completed.

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8.2 Program Components

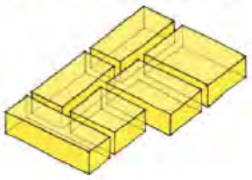
The spaces and activities provided by pools can enhance physical and social health and wellbeing, contribute to community and economic development, and address challenges related to physical inactivity, mental health, chronic conditions, providing safe spaces for reconciliation and inclusion initiatives, and facilitating community cohesion.

Deciding on a proposed aquatic program can be a complex process, being based on a number of factors that range from demand, future needs and emerging trends, as well as a community's identity and aspirations. The City's approach to assessing indoor aquatics opportunities is focused on seven different functions that can occur in a pool setting including:

1. Front of House; A group of admin ra ive sp ces that includes reception, offices, me ting a d staff rooms.
2. Fitness; Dedicated fitness st dio ntaining ardio and weights machines a well a free weights, and stretching ar as.
3. Competition & Train ng; Lane wimm ng and structured aqua ise fitn s clas d aquatic sports.
4. Lei re & Recrea n; Swi ming for fun with specialized m ities lik waterslides, wave pools, la rivers, play equ pment, etc.
5. Rehabil tion; Th apy and rehab for those with varying bilities and those recovering from surgery or ju , zero entry access and som assiste suppo for access
6. Aquatic Support & Amenities; p that s pport aqu tic activities including Change rooms, Diving Boards, Spectator S ting and Staff support spaces. **7.** Community & Shared Space; Multipurpose, Gymnasium nd cultural spa s

For this feasibility study, all research and engagement focused on uncovering which of these programs are to be enhanced as part of the new facility design. The Option Comparison Table for the Aquatic and Community Centre in Section 8.4. There are 4 options presented; Functional, Optimized, Enhanced and Renovate + Addtion. Each highlight the various scales of program components, cost and opportunity for future growth.

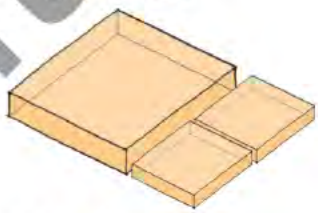
Front of House



Administrative

- Receiving, Admissions & Cashier
- 4x Admin offices • Admin open workstations :
- 20x admin staff open workstations • 5x facility staff o.wsts.
- 25 lifeguards
- Copy/Supply
- 1x Staff lounge
- 1x meeting room
- 1x Bookable shared mu purpose room

Fitness



Strength & Conditioning

- Cardio machines
- Strength machines
- Stretching / balls
- Fitness open area
- Consultation / testing room
- Convenience accessible WC x3
- Group fitness storage
- Fitness equipment repair room
- 1x Large fitness studio (cap. 40)
- 1x Small fitness studio (cap. 20)

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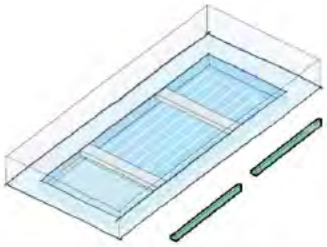
Competition & Training



Lap Tank

- 25X50m, 10 lanes
- 10x Long course lanes
- Bulkhead - 20 shortcourse lanes
- 10x - removable starting blocks
- 1x water polo field of play
- Aquacise/lessons area

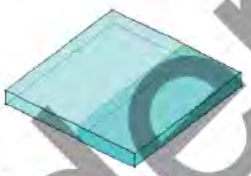
Warm-up Tank

- 50m, 10 lanes
- International level Fields of Plays :
- - 1x water polo
- - Synchro/Artistic swimming
- - Diving platforms (1m, 3m, 7.5m, 10m)

Deck

- Judging/Officials Area
- Secretary/Medical table
- Press stand
- Medal ceremony area
- 400-500x Coaches/Athlete seats
- Athletes hot tub
- Sports group dedicated storage
- Access to classroom(s), lifeguard & first aid room

Leisure & Recreation



Leisure tank

- Zero-depth entry
- 1x Tot-zone w/ water feature oys (0-5)
- 1x Lazy river
- 3x 25m swim sson la (5-12)
- 1x Access e slide
- 1x baske ll hoop
- 1x Climbing ll

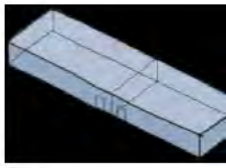
Hot Zone

- 1x Hot tub – Adult
- 2x Steam Room(s)
- 1x Sauna
- 1x Plunge (cold)

Wate Park & Exterior Leisure

- 3x gh slides
- Ex eme ride)
- 1x T /raft/dro slide(s)
- Interior/ erior lazy iver
- Su deck w/ unge chairs
- Wave ol / Moving water
- Fire pit w/ Lounge chairs
- Con ssion (indoor/outdoor)
- Parent supervision area
- Access to leisure/toy storage, classroom(s), lifeguard & first aid room tank

Rehabilitation



Therapy & Wellness

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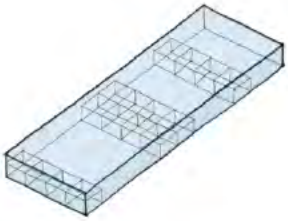
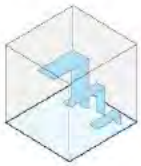
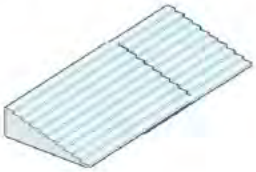
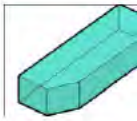
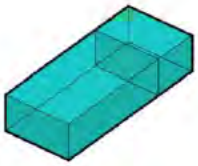
- 1x Hot tub – Therapy
- 1x Multipurpose room – Rehabilitation room
- Rest/Wellness deck area











Change Rooms

- Universal change
- Female change
- Male change
- Team / group change
- Staff change

Diving

- Diving boards, platforms, and dive 5m , 7.5m, 10m Spectator seating
- Diving boards – springboards mounted on diving stands with movable fulcrums
- Dry-Land Training
- Landing pads – stacked or foam pits
- Trampolines
- Crash mats
- Somersault boxes
- Stretching mats

Spectator Seating

- 1200-1500 towers 1m, 3m,

Other Support

- Media box
- Aquatic classroom
- CoR Sport prog m storage
- CoR Leisure progra storage
- User group storage
- First Aid oom
- Lifegua d Roo
- B lkheads & provisi ns of timing equ ment, arti g blocks Scoreb rds / video-boards

Aquatic Support & Amenities

Community & Shared Space

Multi-purpose ro ms

- Indoor Play gro nd
- Parents View g Area
- 2x large ultipurp e
- 1x sma multipur se
- 1x Child inding

Cultural Space

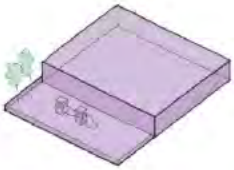
- cial hear & entry atrium, community space
- Cultural / ceremon space
- Elders room
- Community kitchen

Washrooms

- Accessible Washrooms
- Gender neutral private stalls & shared vanities
- Outdoor Washrooms / Changerooms

Gymnasiums

- Gymnasium
- Basketball court
- Court Sports
- Lounging area for viewing



Lease Spaces

- Retail / business area(s)
- Not-for-profit lease space
- Concession / food & beverage area(s)
- Complimentary professional lease space
- Major program lease spaces

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8.3 Program Recommendation

	Renovate + Addition	Functional
Competitive	"National" 8-lane 65m warmup tank (Lawson tank) 10-lane 50m competition tank	"Regional – Nation • 10-lane 50m competi • 10-lane 25m dive
Leisure	enhanced waterpark (35,000-40,000sf) Additional marquis experiences not possible in functional waterpark (wavepool) More social space for longer stays	Functional waterp • 30,000-35,000 • At this area, some fe not make sense (wa
Community	• Community amenities exceed current and meet future demands	• Community amenitie current and fall short demands
Future Growth	Meets future demand	• Meets current de
Cost	Approx. $144.7M Construction Cost Higher operational costs Higher Life Cycle cost	• Approx. $110M Constru • ~25% less than Opt • Optimized operatio
Pro/Con	Planning restrictions inherent in renovation and addition present significant operational challenges Does not align with urban planning objectives Ability to have spectator seating with new tank only	• Regional attractio • Will meet current dem on opening day, but no • Waterpark meets m requirements but chal provide broad ran experiences (wave • Can meet urban desig

Draft Concept

	Optimized	Enhanced
al" tion tank tank	"National" • 10-lane 50m competition tank • 10-lane 50m dive tank	"National - International" • "Centre of Excellence" • 10-lane 50m competition tank • 10-lane 50m dive tank • enhanced competition standards • Enhanced support spaces
ark sf tures do vepool)	Optimized waterpark • 35,000-40,000sf • Additional marquis experiences not possible in functional waterpark • (wavepool) • More social space for longer stays	Enhanced waterpark • 40,000-45,000sf • A full waterpark with multiple marquis experiences and maximized social area promoting longest stays. • Wavepool, waverider • "Regional attraction"
s meet of future	• Community amenities exceed current and meet future demands	Provides enhanced services over and above future demands.
mand	• Meets future demand	• Meets Future demand
ction Cost imized n costs	• Approx. $146.2M Construction Cost • Optimized Operational Cost	• Approx. $183M Construction Cost • ~25% more than Optimized Highest operation costs • Largest economic impact
n draw and levels t over time inimum lenged to ge of epool) n priorities	• Regional and inter-provincial draw • Meets future demand levels, • Hosting of events is optimal and right sized as determined by engagement and demand analysis. • Can meet urban design objectives • Provides robust community and non-aquatic amenities.	Extended draw as recreation destination • Largest overall complement of features, but operational costs represent an ongoing burden. • Exceeds needs determined by engagement and demand analysis.

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SPACE NEED SUMMARY		Recommended	
	Program Components	Area (SM)	Area (SF)
1	**Front of House**		
1.1	Receiving, admissions, & cashier	300	3,229
1.2	Admin offices	64	689
1.3	Admin open work stations	355	3,821
1.4	Copy/supply room	12	129
1.5	Staff Lounge	16	172
1.6	Meeting Room(s)	18	194
	Subtotal	765	8,234
2	**Aquatic Competition & Training**		
2.1	Long Course Competition Tank	1,250	13,455
2.2	Secondary Tank - Warm Up/Dive Tank	1,250	13, 5
2.3	Deck area	50	18,837
	btotal	250	45,747
3	**Aquatic Leisure & Recreat**		
3.1	Leisure Tank	700	6,997
3.2	gh Slides	180	1,938
3.3	E eme Ride(s) (tu slide)	150	1,615
3.4	Outdoor ua component (hot tub)	120	1,292
3.5	Lazy River	590	6,351
3.6	Wave pool/Moving Water T k	340	3,660
3.7	Deck area	1,643	17,680
	Subtotal	3,723	40,069
4	**Aquatic Therapy, Wellness, & Shared Use**		
4.1	Hot tub - Adult	150	1,615

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4.2	Hot tub - Athlete	60	646
4.3	Hot tub - Therapy	25	269
4.4	Plunge	15	161
4.5	Multipurpose Room - Rehabilitation Room	0	0
4.6	Steam Room(s)	22	237
4.7	Sauna	15	161
4.8	Deck area	350	3,767
	Subtotal	637	6,857

5	**Aquatic Support Spaces & Amentities**		
5.1	Spectator seating (national comp. standards)	1,556	16,749
5.2	First Aid Room	10	108
5.3	Lifeguard Room	80	86
5.4	Bulkheads and provisions of timing equipment, starting blocks	-	-
5.5	Scoreboards/videoboards	-	-
5.6	Diving boards, platforms and dive tow r	100	076
5.7	Media Box/Judging Box/Area	-	-
5.8	Dryland Training Studio	240	2,583
5.9	Aquatic Classroom(s)	120	1,292
5.1	CoR Sport Program St ge	200	2,153
5.11	C R Leisure Progra Storage	200	2,153
5.12	Use roup Storage	650	6,997
	Subtotal	3,156	33,971

Das) indicates area incorporated elsewhere

6	**Change Rooms**		
6.1	Universal change	1 200	12 917
6.2	Female change	600	6 458
6.3	Male change	600	6 458
6.4	Team/Group Change	200	2 153
6.5	Staff change	117	1 259
	Subtotal	2,717	29,246

SPACE NEED SUMMARY	Recommended	
Program Components	Area (SM)	Area (SF)

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7	**Fitness**		
7.1	Strength & Conditioning	600	6,458
7.2	Studios	150	1,615
7.3	Cycling	0	0
7.4	Badminton	0	0
	Subtotal	750	8,073

8	**Community & Shared Spaces**		
8.1	Gymnasium c/w full size basketball court	0	0
8.2	Lounging	200	2,153
8.3	Parent viewing	175	1,884
8.4	Kids area including indoor playground area	200	2,153
8.5	Multipurpose Community Rooms	557	6,000
8.6	Washrooms	300	3,229
8.7	Outdoor Washrooms/Changerooms	40	431
8.8	Child Minding	225	2,422
8.9	Social Heart & Entry Atrium, Community Space	600	458
8.1	Cultural/Ceremonial Space(s)	100	1
	Subtotal	2,397	25,806

9	**Lease Spaces**		
9.1	Retail/business area(s)	200	2,153
9.2	Not-for-Profit Lease Space	75	807
9.3	Concession/food and bevera e area( )	150	1,615
9.4	Complimentary Profes nal Lease pace	200	2,153
9.5	Major Program Lea paces	396	4,263
	S btotal	1,021	10,990

10	**Back House**		
10.1	Building Mec anical & Electrical Rooms	900	9,688
10.2	Pool Mechanical	1,000	10,764
10.3	Crawl Space	2,000	21,528
10.3	Building Operator (custodial) ace	250	2,691
	Subtotal	4,150	44,671

11	**Circulation, Structural Footprint, & Misc Space**		
11.1	Circulation	2,357	25,366
11.2	Structural Footprint	943	10,147

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	Subtota	3,299	35,513

12	**Outdoor Spaces**		
12.1	Site development including parking lot for staff parking, accessible parking, and bus access	5,000	53,820
12.2	Trails, Social Gathering, Landscaping	20,000	215,280
12.3	Basketball court, Outdoor Amenities	900	9,688
12.4	Accessible Recirculating Spray Pad	150	1,615
12.5	Accessible Play/Playground Area(s)	700	7,535
12.6	Outdoor seating area(s) connected to facility and concession(s)	3,000	32,292
12.7	Adjoining facilities	-	-
12.8	Space, amenities, design elements in support of Social and Cultural initiatives including truth and reconciliation	-	-
12.9	Fencing, landscaping, traffic control and roads	-	-
12.10.	Skate Park	0	0
	Subtota	29,750	320,229

Total Interior Space	26,865	289, 76
Total Exterior Space	29,750	320,229
Total Parking Spaces	18,200	1 5 905

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9.0 Concept Design

Prior to beginning the design work on the site, various consultants and the client group members worked to determine the overall building program, traffic planning, sustainable strategies, feeding information into the site planning and test fits.

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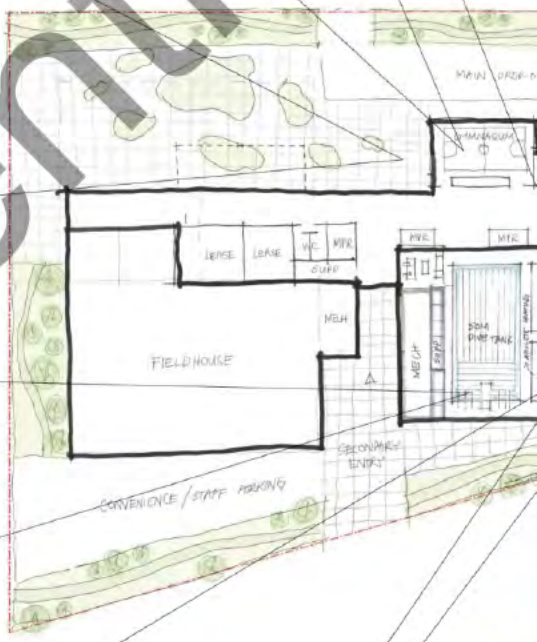

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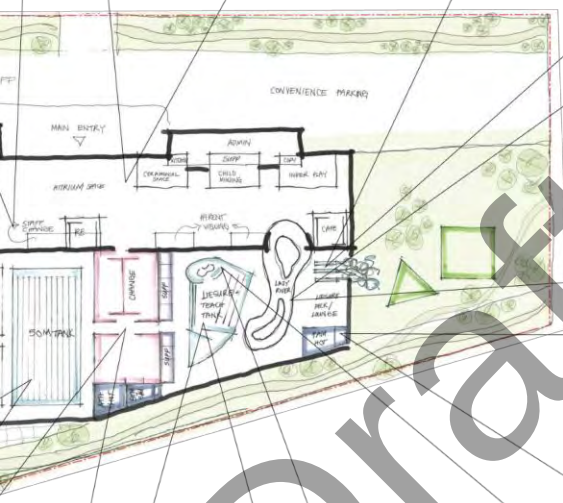
9.1 Features



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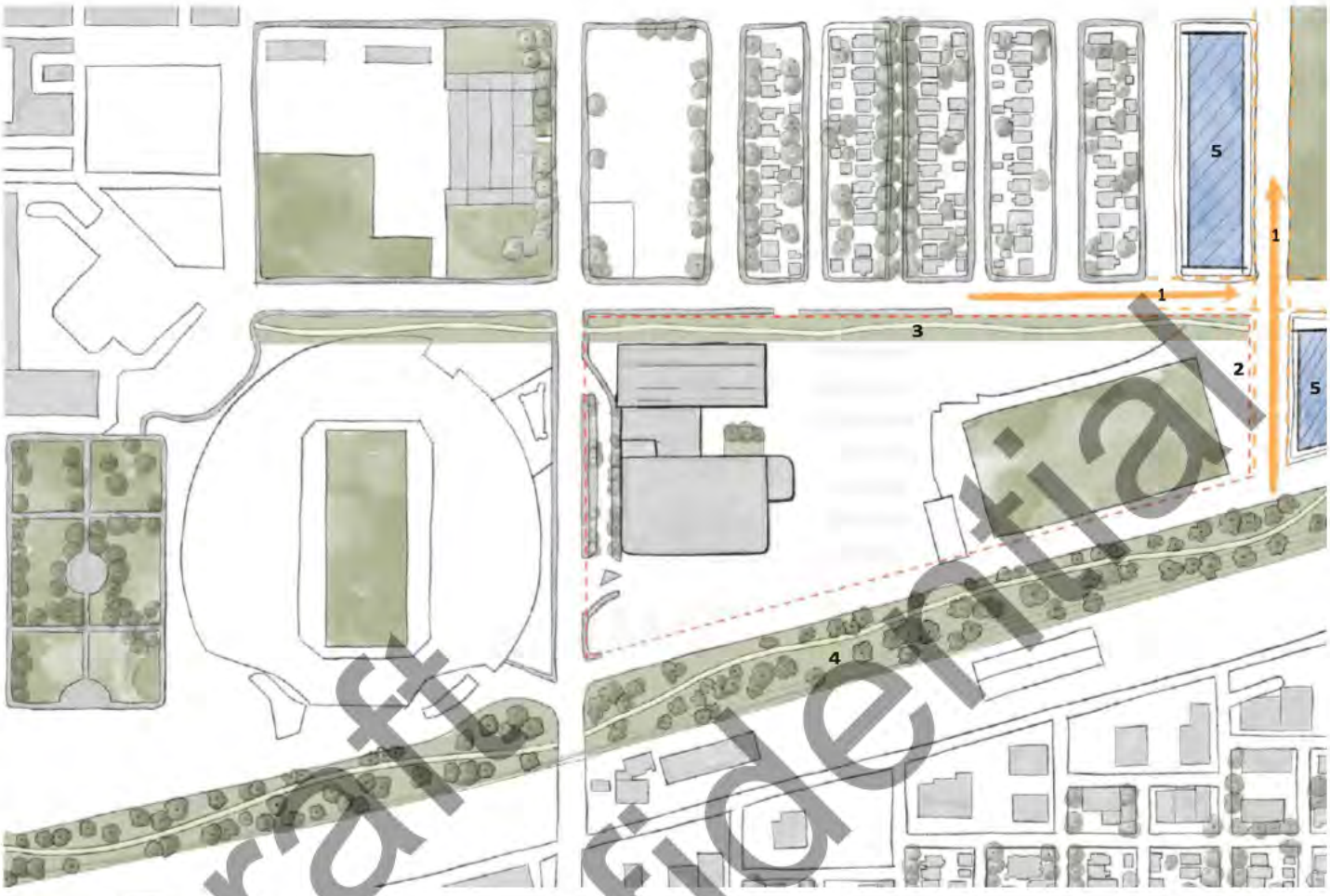
9.2 Future Urban Opportunities



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The City f Regina is pleme ing more bike routes over the t 5 1 Road Extension years in a phased approach. The plan shows that is 2021 022 a bike 2 New Site Boundary lane will occu on Elph stone St, running past the West side of the 3 East / West Pedestrian Connector site. The ture greenwa or "Multi-Use Pathway" intend to run 4 Future Greenway along the railway is also in the plan. It is important t ote the ture 5 Future Development ped trian and cycling routes as it will influence the flows and traffic. As the site sits in the ddl between the Wascana Cre k and wnto n it is probable the site will become heavily populate by cyclists nd pedestrians.

Planning of this project needs to a icipate th 10th Avenue will develop as an east – west connector. Future develop nt of the Taylor Field site is expected to reinstate previous street grid connections, thereby linking the stadium and REAL site to the downtown street network.

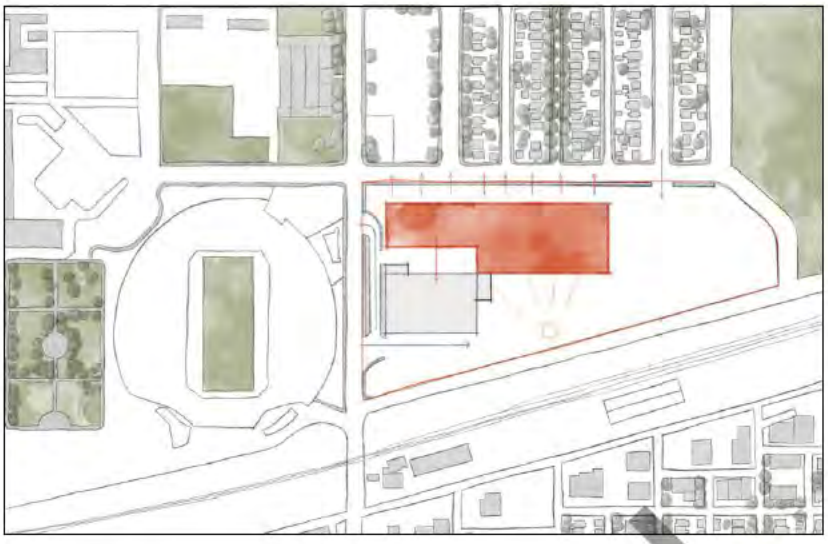
9.3 Siting Strategies

A series of test fit studies were conducted for three possible areas that the building could be located on the Sportplex site. Each option has its unique relationship to the adjacent streets, existing Fieldhouse and surrounding context.

Test Fit Layout A

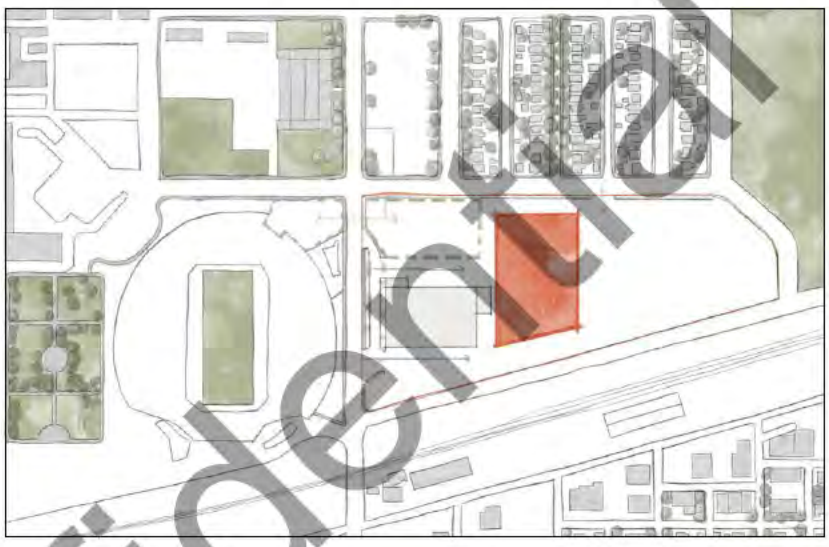
Siting the new facilities along 10th Ave. The major advantages of this building location includes:

- Activating / interacting with 10th Ave / the community
- Better relationship with Fieldhouse



Test Fit Layout B

- More space for plaza to the NW of site creating synergy with the Mosaic plaza
- Allow easy access from both Elphinstone + 10th Ave



Test Fit Layout C

- Create urban plaza to the W of s e crea ng synergy with the Mosaic plaza
- Greenway al way alo 10th
- South fa ng (poten l new g eenway along railroad / sun e posure)
- Pushes ass of building way from neighborhood.

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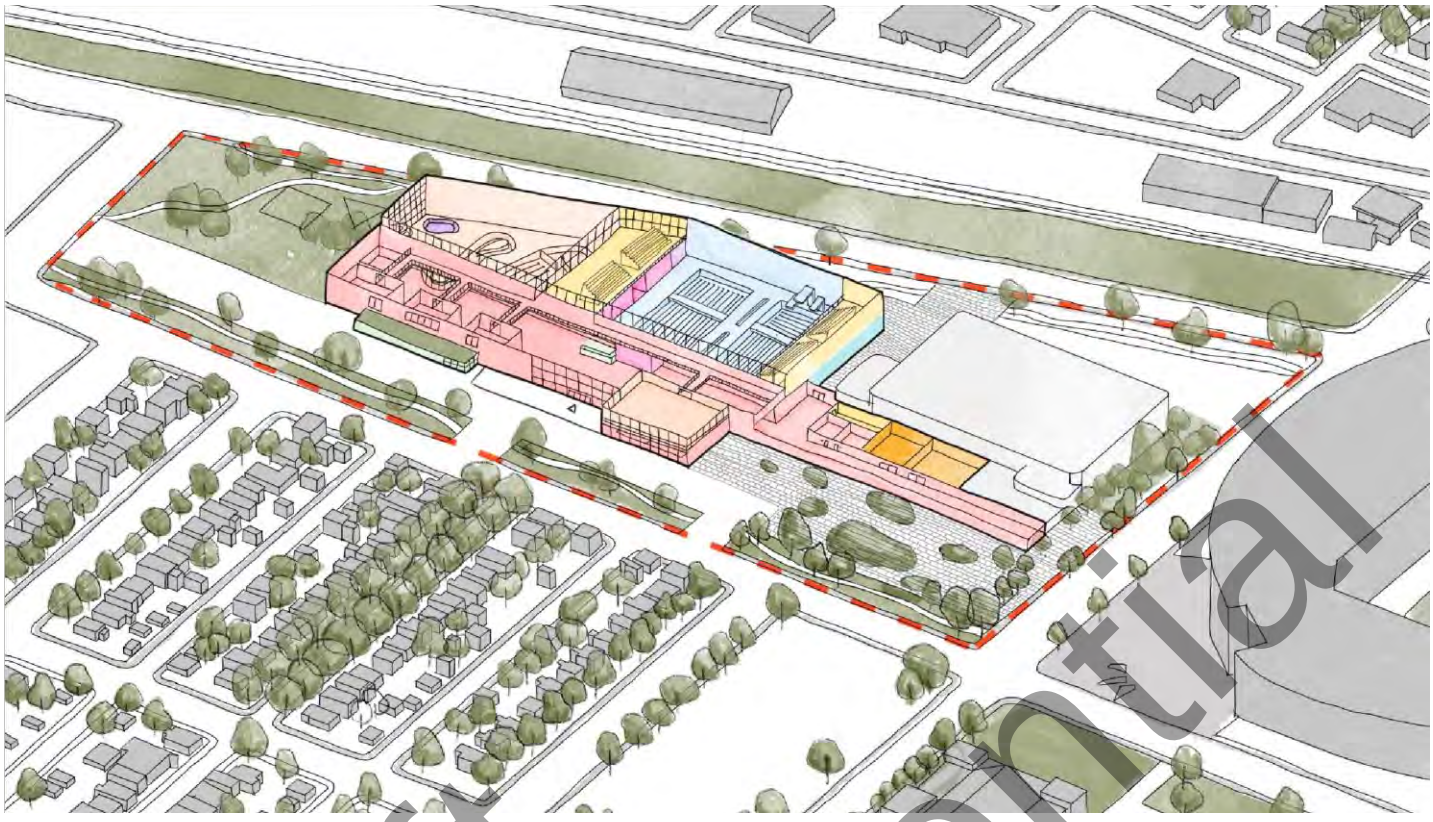
9.4 Concept Option 1 - New Build



Amenities & Features:

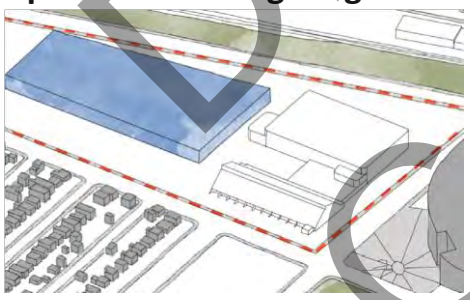
1. 50m 10-lane Lap Tank
2. 50m 10-lane Dive Tank
3. Drydive
4. On-deck classrooms & Storage
5. 1500 spectator seats
6. lazy river
7. 3 slides
8. T apy zone
9. Ce em nial, multi-purpose, caf & Lease space
10. Outdoo Playgro d & Splash Pad

Hot Zone

itness entre, tudios, gymnasium (i luding pace future multi-purpose space growth)

Leisure pool with 3-lan teach poo

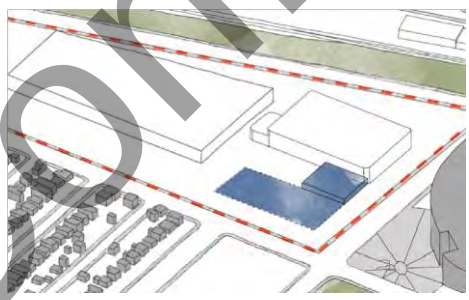
Optio 1 - Phasi g Diagrams



Phase 1 Site is mobilized with adeq distances for fieldhouse and LAC to remain operational for sports groups and the community.

The new natatorium, change and support spaces are built.

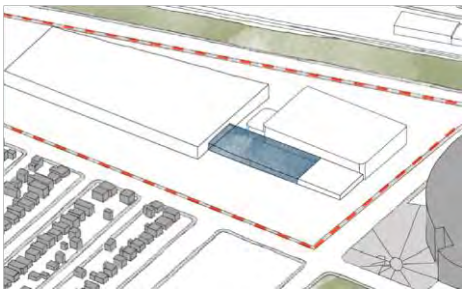
Site work begins.



Phase 2

The new facility is opened and fully operational. The community and sports groups transition over from the existing LAC.

Existing building surround is moliliaed, demolition of the LAC begins. Once demolition is complete, Temporary connection to the new building is established to connect the existing



concourse. Fieldhouse change-rooms and admin are decommissioned and renovation of the existing concourse begins.

Phase 3

Temporary connector is removed and connecting community spaces are built to connect the new building to the existing concourse.

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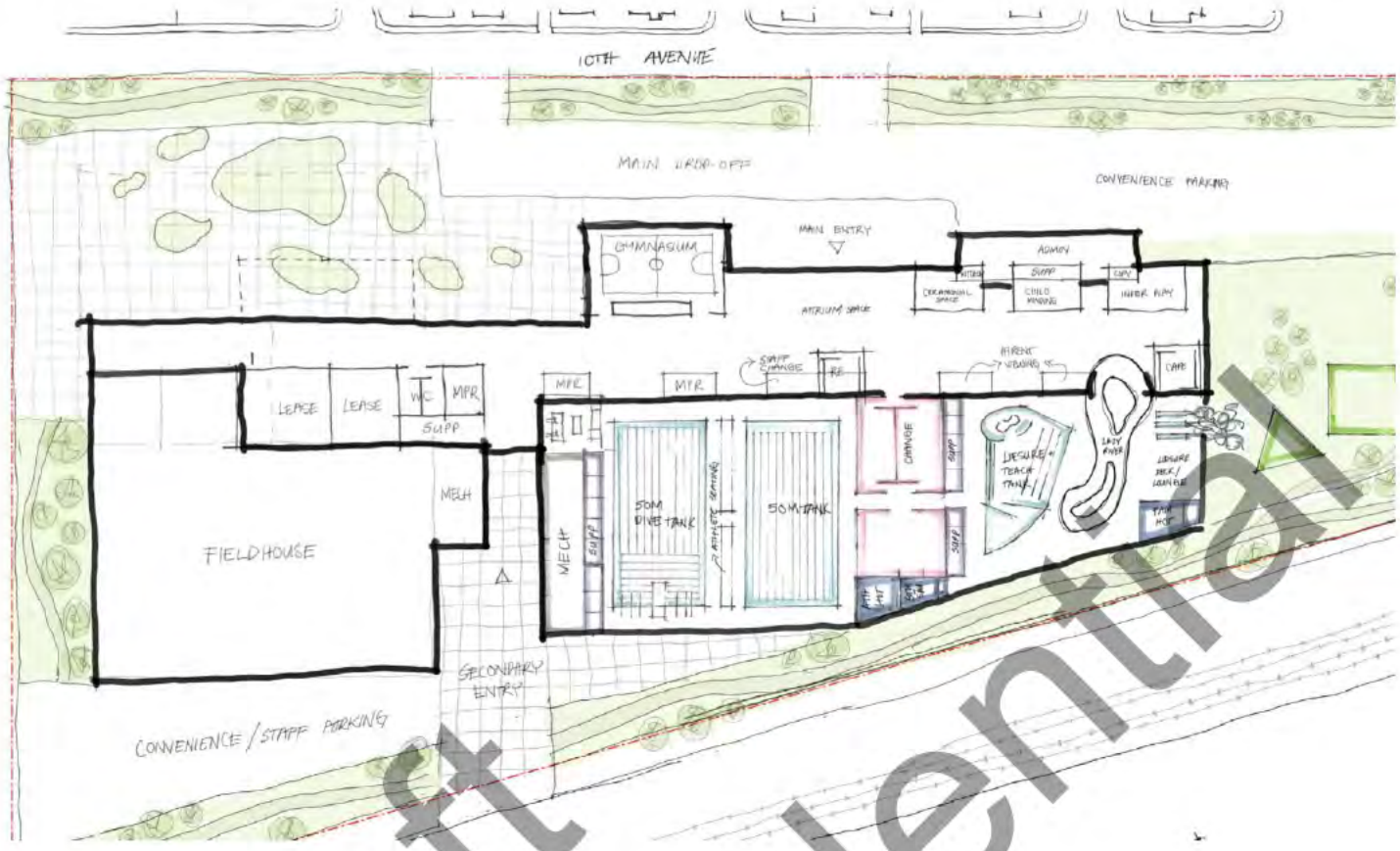
Site work is completed.



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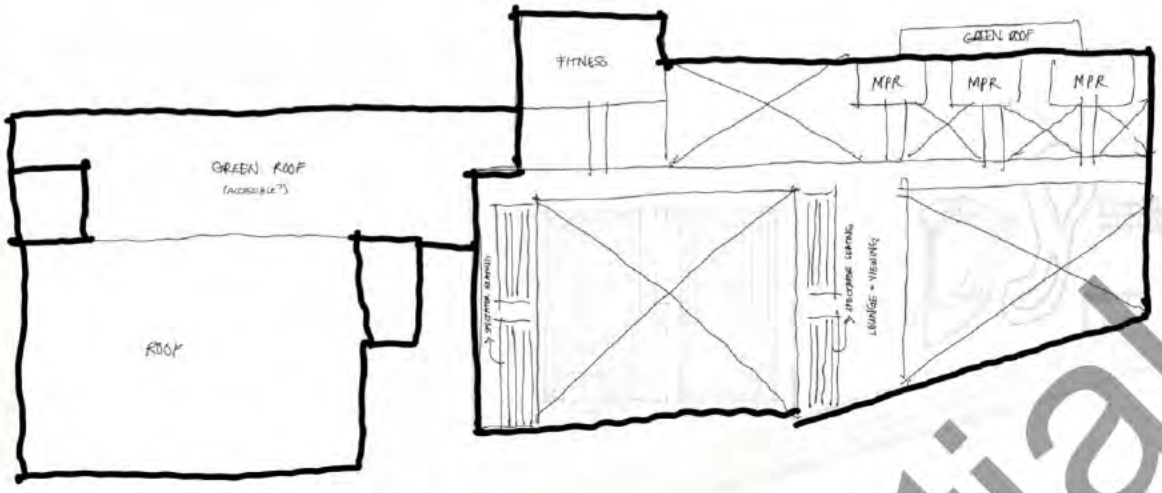
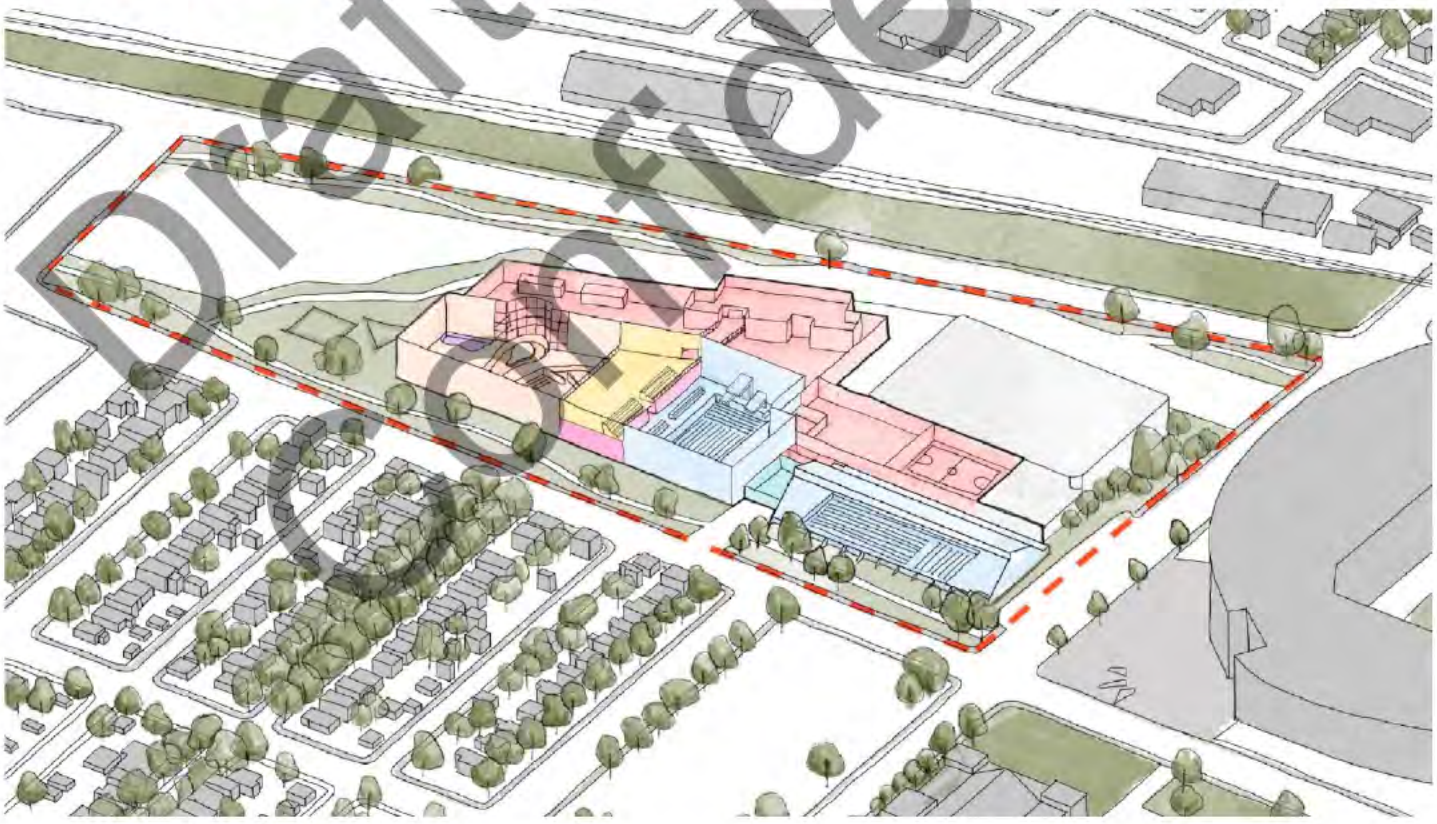
Plan: Level 1



Plan: Level 2

9.6 Concept Option 2 -Reno + Addition



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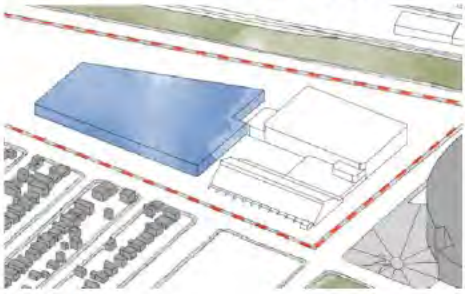
Amenities & Features:

1. 50m 10-lane Lap & Dive Tank
2. 65m 8-lane Renovated Warm-up Tank
3. Drydive
4. On-deck classrooms & Storage
5. 1500 spectator seats
6. Leisure pool with 3-lane teach pool,
7. lazy river
8. 3 slides
9. Hot Zone
10. Therapy zone
11. Fitness centre, studios, gymnasium
12. Ceremonial, multi-purpose, cafe & Lease space
13. Outdoor Playground & Splash Pad

Option 2 - Phasing Diagrams



Phase 1

Site is mobilized with adequate distances for fieldhouse and LAC to remain operational for sports groups and the community.

The new natatorium, change and support spaces are built.

Site work begins.

Phase 2

The new facility is opened and fully operational. The community and sports groups transition over from the existing LAC.

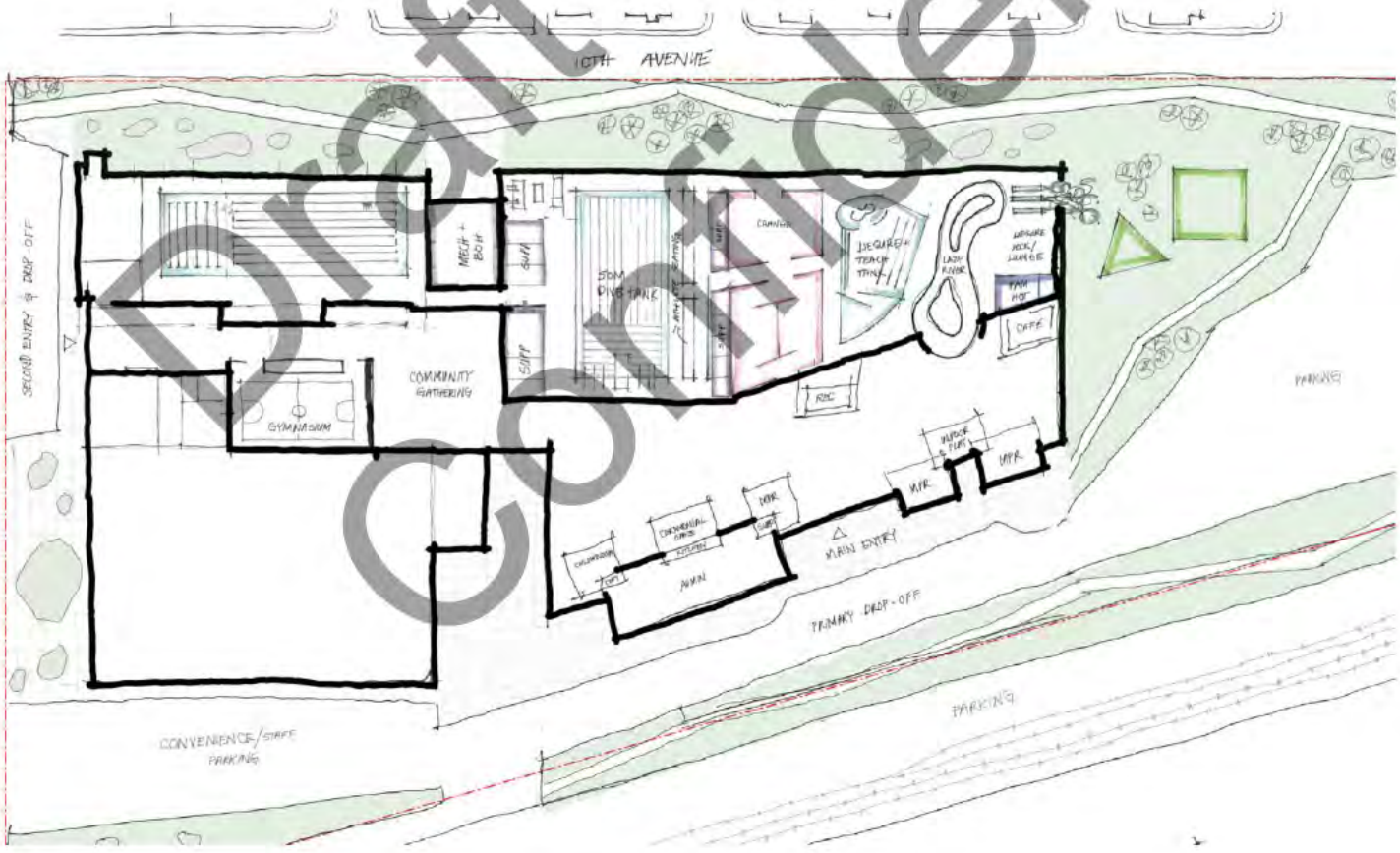
Existing building surround is moliliaed, demolition of the LAC begins. Once demolition is complete, Temporary connection to the new building is established t connect the existing concourse. Fieldhouse

change-rooms and admin re decommissione and re vati of e existing concourse begins.

Phase 3

Temporary c ector is r moved and new community space re built o connect the new b lding o the e ng concourse.

Site w rk is comp ted.



Plan: Level 1

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Plan: Level 2

10.0 Project Delivery

There are several different mode of pr je delivery that can be consi red for project o his scale and complexity. The determination on which model is best suited should t ke nto coun a number of factors. f prim ry co ideration are: risk profile of owner, complexity of the project, need for cost certainty, and schedule Addi onal consideration mig in lude apacity expertise of the owner, site complexities, funding requirements and or restric ons and m ket conditions or certainty.

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Design-Bid-Build (DBB)

Risk level: Medium-high City
Admin effort: medium
Construction contingency: high

Pros: well understood, highly competitive, owner design control until procurement

Cons: contract price not guaranteed/checked in market until tender, contractor involved late (can create adversarial relationship), owner carries majority of risk (design error/ omission), ridged schedule

Construction Management at Risk

Risk level: Medium City
Admin effort: Medium
Construction contingency: low-medium

Pros: well understood, highly competitive, owner design control until procurement, CM involved during design as advisor, high transparency, schedule acceleration, change in construction made simpler, risk for schedule delay & scope gap transferred

Cons: Higher admin effort than DBB, numerous points of accountability (contractual risk),

Design-Build

Risk level: low-Medium City
Admin effort:
Medium-high
Construction contingency: low

Pros: owner has a single point of responsibility with the design builder who has contractual relationships, early schedule & cost certainty, risk transferred for design errors & omissions

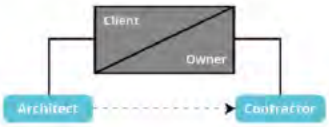
Cons: potentially reduced quality, limited design control, challenging with complex/ renovation projects, owner has reduced flexibility to changes as design evolves

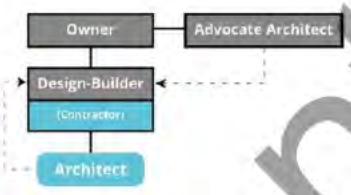
Integrated Project Delivery (IDP)

Risk level: Medium-high City
Admin effort: high
Construction contingency: N/A – Risk Pool

Pros: shared accountability (only to the extent that the risk pool is allocated), potentially compressed schedule, promotes coordination & alignment (when lean construction principles are applied)

Cons: Contract familiarity – CCDC 30 (relatively new, 2018), Lack of marke familiarity, Challenges arou market familiarity (potentia reduced design/con r avail bility, ch llenge around financ & insu nce Owner solely esponsib for cost overruns





Recommendation

There are several reasons that CM at Risk s ld be s lected as the delivery method First a d for mos the projects schedule will benefit from the ability to start the construction earlier by tend ring in se al stages and completing he des while c nstruction has started (fast track). In addition, the CM can provide valuable i ight into onstructability of building eleme nd into k t conditions that can inform the design choices and mitigate cost pressure. he pr ct requ ement to keep the Lawson peration ntil service is replaced will require complex phasing and logistics. A CM can assist in ev luating th best strategies and bal nce the pr rities of c truction and operational continuity.

11.0 Costing Analysis

11.1 Capital Cost

It is anticipated that the construction costs will be approximately $146,161,800 based on a Preliminary Class D Estimate conducted in April 2022. This estimate includes typical contingencies that are reflective of the early stage of the project development and assumes a construction start in the year 2024. Class D estimates have a degree of variability (+/-25%) that reflects the early stage of the design process. The costing was based on program areas for both new build and renovation and addition scenarios. Key elements of the analysis include:

- Elemental breakdowns were utilized (meaning each building component was assessed – structure, envelope, interior partitions)

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- Allowances were applied where not enough detail available at this time (typical for Class D estimates)
- Contingencies have been applied to capture areas of risk.
- Construction duration is assessed an accounted for.
- Additional sustainability design features beyond LEED Gold considerations were excluded from this cost estimate pending further review and discussion regarding the City's objectives for this project
- This estimate includes typical contingencies and assumes a construction start in the year 2024.

Net Construction Cost	$104,993.500
Design Contingency (15%)	$15,539,000
Construction Contingency (5%)	$6,026,600
Total Construction Cost	$126,559,100
Escalation (6.5%)	$19,602,700
Escalated Construction Cost	$146,161,800
Professional Fees (7.0%)	$10,231,326
Project Contingency	$5,000,000
Furnishing, Fitting & Equipment (Estimate)	$1,500,000
Provincial Sales Tax (6% PST)	$9,773,587
Goods & Services Tax (5% GST)	$8,144,656
Estimated Total Project Cost (Apr 2024)	$180,811,369

A cost analysis exercise was also performed on the Renovation and Addition option. This exercise confirmed that renovation an ddition as effectively equivalent in cost, with an escalated construction cost of $144,745,500. The similarity in cost being the result of e exte ive sco e and intensity of renovation, high contingencies associated with renovations due to the complexity of the work, and add tional p ject ched le required. For more information related to capital costs estimates, please refer to the Appendix.

11.2 Life Cycle Cost

An elemental Life Cycle cost analysis has been completed that indicates approximately $50,000,000 in life cycle costs over a 50 year period. These costs are represented in 2022 dollars. Life Cy le cost alysis can be found in Appendix

11.3 Operational Cost

Although capital costs are a major conside ation for hese types of public investments, so too re th ongoing perating obligations related to making sure the facility is accessible to those who n d it. At is stage of planning, the foll wing es ma s sho d be considered +/`20%. Facilities like the one proposed require operating subsidy, and in is case the operational costs of the n w facil will be omewhat offset by those incurred to operate the existing LAC. The new fa ity expect d to generate approximately $3.4M in venues and incur approximately $8.3M in operating expenses for a required subsidy of 4.8M T equates to a 40% cost re very ra , not inclu ing capital amortization or life cycle reserve budgeting. For more information related t operati n cos please refer to the ppendix

11.4 Economic Imp ct

Economic im act is also portan o consider when contemplati i vestme t in a public recreation centre. The following summarizes the expected economi mpact of this pr ect during construction, normal op ration nd spec l events. Detailed analysis can be found in Appendix

Impact through onstructio
Based on the capi cos f approximately $146 milli n.

- Total economic o tput associated (direct, indir t, induced $235,758,983
- Total GDP generated (direct, indire ced): 115,321,6 0
- Total employment created (dire , indirect, induce in FTE): 886

These expenses will be incurred by he City of Regin over a multi-year period.

Impact through Operations
Annual operating projections for the ne indoo quatics facility were developed based on staff input on estimated revenues, expenses on salaries and benefits, and other annual operating expenses such as maintenance, utilities, and so forth. Inputs for this analysis are derived from the Operational Budget Forecasts report

- Total economic output: $10,696,006
- Total GDP $2,344,982
- Total Employment (FTEs) 99

Impact through Event hosting

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Sports tourism and event hosting is an important dimension of Canada's tourism economy overall. Unlike more traditional forms of tourism, sports tourism is equally driven by domestic and interprovincial and therefore is more resilient to disruptions such as pandemics and other unforeseen events. Sport Tourism Canada estimates that sport tourism contributed $7.4 billion to the
Canadian economy in 2019,
If on an average year the City were to host 10 regional events, 8 provincial events, and 2 national or international events, the total economic impact generated by the facility is estimated to be:

- $101,780 for 10 regional events
- $511,640 for 8 provincial events
- $811,700 for national / international events

While not all of this economic activity generated by event hosting would go directly to the City to support facility revenues, it can be assumed that at least some of this activity will help to support facility operations through spending on admissions, tickets, rentals, food, and other goods and services.

12.0 Partnerships

Partnerships are becoming more and more common during the development and operations of public recreation facilities. Partners can include user oups, n n ofit or private sector facility operators, sponsors, post-secondary institutions or even other regional municipalities.

In order to understand the level of partnership interest in the New Indoor Aquatic Facility project, the City administered an partnership ession Interes l) process. This entailed the creation and posting of a formal Expression of Interest package that outlined information about the project and some ideas re ed to pote ial partnerships the City might entertain. Groups or organizations interested in partnering were encouraged to respond to the EOI with details about their partnership oposal.

It was important for the City to under take a formal EOI process as it was a transparent and fair opportunity for any group to e pond to.

The EOI was facilitated during early 2022 and respo s we eceived. Although partnership may materialize durin phase f the project, none of the proposals received have a significant impact on the program or concep esign at feasibility stage of planning.

Sponsorship is also very commonplace in recreation facilit in Canada Naming rights for different amen es with a facility r even for the overall facility, enable sponsors to get desired brand recognition and exposure, and d strate co mitment to the community while help g reco r capita perating costs of a facility. Potential sponsors were also able to participate in the EOI process and a more for sponsorship campaign would occur if and w en the proj t progresses to the next stages of design and gets closer to taking physical form.

13.0 Conclusions & Recommendations

Vision: Regina's New Indoor Aquatics Facility is an inclusive, accessible and sustainable communi y hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

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The objective of the feasibility process was to produce building program and concept options that have been guid d by sta hold an public input, tested by careful analysis, and are programmatically, functionally and financially supportable. The information in this r port sho ld gui e key decisions for the future progression of this project and should be used as the basis for the schematic design. Key decisio are:

- To undertake a significant renovation of the Lawson Aquatic Centre coupled with an addition to meet p gramma needs, or, replace the Lawson Aquatic Centre with a larger, entirely new facility
- To determine the service level (Functional, Optimized, or Enhanced) that best meets the City s needs w and in the future

Renovate and Expand vs. New Build - Key ons de ations

1. The detailed Condition Assessment o he Law n Aquatic Centre identifies the significan cost re uired t extend the facility's life. Furthermore, even with the required investment, an graded wson will not be able to me best pr ctice n a n mber of key areas.
2. Planning a significant addition to the Laws is possi (see Reno and Addition Co cept); wever, e planning presents significant operational challenges relating to circulation rol and djacencies. These operations in icie ies wo urpass any capital savings associated with renovating.
3. The technical challenges in ren vati g the wson and the extent f the renov ion neces a y are financially inefficient.
4. Undertaking a renovatio and exp nsion equires a significantly nger co truct pe d to complete the project, resulting in more disruption to the area and facility use

Recommen tion:

The New ild represents b ter value, performs better operat onally, d responds better to siting and urban design priorities. It does not represent a significantly gher capital c t and has advantages in cost in erations a d lifecycle.

Service Level D very - Ke Considerations

1. The current an pro cted demand for fitness, tr ining a d com etitive swimming indicates that a secondary tank for this program is needed now, and that it should be a second 50m length poo o meet de and due to future growth of Regina.
2. Demand for training support space uxilia programs s high.
3. The level of competition targete is National Level ith he desire to promote economic development and sport tourism.
4. Engagement findings indicate t at a robust rec ation program is supported and should appeal to a broad spectrum of users.
5. Engagement findings indicate t t additional no aquatic community amenities are in demand and desirable at this site.

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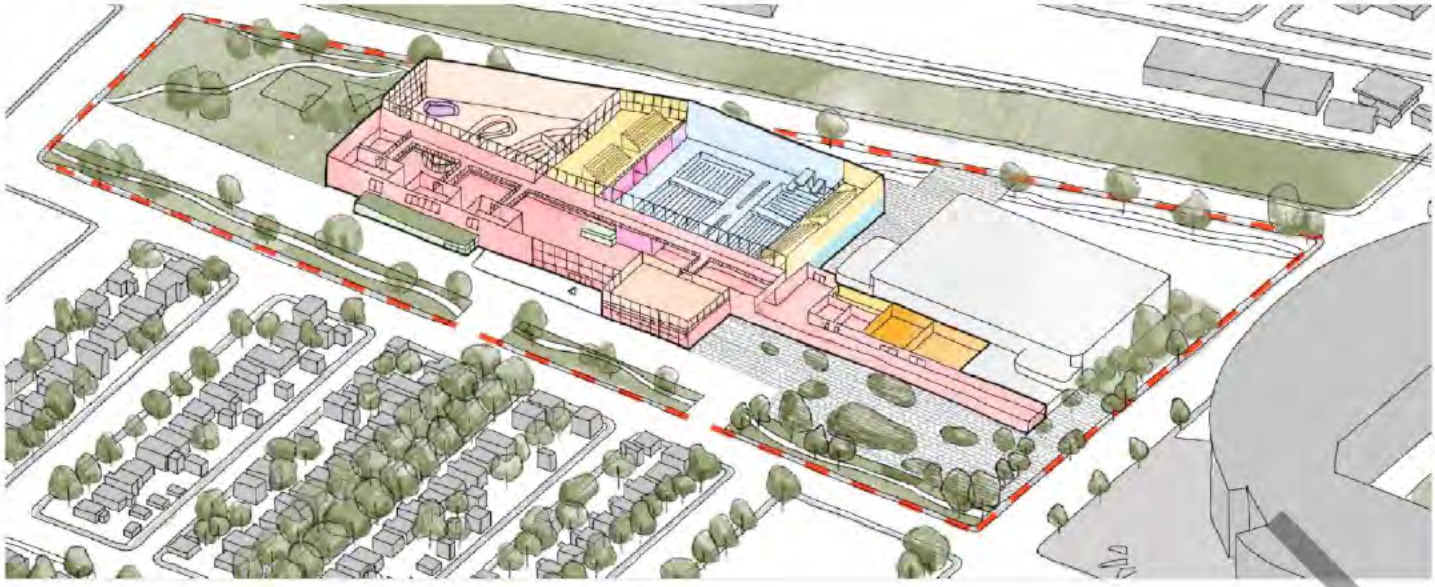

Recommendation:

The optimized program fully responds to current demand and projected future demand in all three areas (compe ve, recre ion, and non aquatic amenities). It should represent the baseline as the project moves into the design phases where the program can be f ther refi d, the analysis on utilization and capacity can be further resolved, and the construction and operational costs can be detailed i greater rt inty. Program adjustments in schematic design remain possible to bring the project within budget.

Next Steps

As part of the next stage in the process we would re mmend that this report be shared with t e com unity, d a continuation of the engagement process occur during the project's design pha .

The following studies should also be completed ior to co mencement of schematic d sign:

- Legal & topographical site surveys
- Geotechnical report and surveys the g nd con itions are currently unknow Soil cond ions need to be assessed to gain a better understanding of any associated excavation an fou datio osts.
- Environmental Assessmen Report his w also help in the unde tanding f cost rel ing to any issues surrounding the proposed facility location and potential co if remed i or disposal is required.
- A full transp tati impact sessment (TIA) - to determine the wider fects of new expanded facility on the site, such as intersection treatme s and requir signal ing.
- In orde o determine th direction prior to commencing sc ematic a d detailed design, the City should also consider conducting a business case study for uctured park g, that includes the option for a ared facili with the Mosaic Stadium.
- Determine th sustaina lity targets for the project as part of e City's wider energy objectives.

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A COLLECTIVE APPROACH TO COMPLEX CHALLENGES.

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We are hcma. We believe human connections are the best path to solving the fundamental problems of our time.

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As a gesture of respect, peace, and friendship, We acknowledge that Regina is on Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of Alberta and Manitoba and the original lands of the Cree, Saulteaux, Dakota, Nakota, Lakota, and on the homeland of the Métis Nation. and all their ancestors who have lived on and served as faithful stewards of these lands.

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