BerryDunn

City of Bangor, ME Parks and Recreation Feasibility Studies Recreation Center and Sawyer Ice Arena

Final Report

Submitted by:

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1.0 Acknowledgments

Bangor City Council

- Cara Pelletier, Council Chair
- Carolyn Fish, Councilor
- Dan Tremble, Councilor
- Dina Yacoubagha, Councilor
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2.0 Introduction

During the City of Bangor's (City's) Comprehensive Planning process, residents noted a need for a new community center and a renovated/new ice arena. The Bangor Parks and Recreation Department Master Plan, completed in October 2021, included a recommendation to "conduct a feasibility study of the Parks and Recreation Center and Sawyer Ice Arena. Combining the facilities into a single feasibility study will help the City evaluate options for improvement to address community needs."

In September 2022, the City's Parks and Recreation Department published two requests for proposals (RFPs): One for a feasibility study for a new community center and another for the review of Sawyer Ice Arena. The RFP for Sawyer Ice Arena outlined the City's desire to determine if the existing facility should be renovated or replaced. BerryDunn submitted two proposals in response to these RFPs. In February 2023, The City contracted with BerryDunn to complete both studies as part of one project. The BerryDunn team included CHA Architects and MacLaughlin Management & Design, LLC.

The goals of the feasibility study were to determine what the public wanted in terms of new facilities, where new facilities might be located (existing park site or another site), how much the new facilities would cost to construct, and how much it would cost to operate them.

The first meeting between the consulting team and Bangor Parks and Recreation staff was held on March 6, 2023, and the kickoff meeting with the full team took place on March 30, 2023. The project was initially divided into seven phases:

1. Initial project planning
2. Community engagement
3. Market and competitive analysis
4. Proposed community center site analysis and plans
5. Sawyer Ice Arena site analysis and plans
6. Financial modeling
7. Draft and final reports

Following the engagement phase, it was determined that the two facilities should be located on the same site and combined into one connected facility. This determination merged Phases 4 and 5 into one long phase.

The final concept and site plans resulting from this study were presented by the BerryDunn and CHA consulting teams to the City Council and the School Committee at a public meeting on Wednesday, November 29, 2023, and at a City Council Workshop on February 12, 2024

3.0 Executive Summary

This executive summary provides a high-level overview of the City's feasibility study components. This summary comprises the following elements:

- Market Study
- Community Engagement Summary
- Desired Facilities Based on Engagement
- Site Reviews
- Existing Conditions Summary
- Facility Concepts, Recommendations, and Capital Costs
- Facility Operations and Maintenance (O & M) Proforma
- Implementation and Phasing Options

Market Study

The market study includes three components: A review of community demographics (population, age distribution, and household characteristics), a Placer.ai mobility data review regarding similar ice rinks, a review of similar providers, and a trends analysis.

Demographics

In 2020, Bangor's population was 31,753, and over the past decade, there has been a slight population decline by 4%. In 2020, the age group with the largest population was those 25 to 34 years old, followed by those 45 to 54 years old. The median household income for Bangor residents has increased substantially ($24,674 to $47,538) from 1990 to 2020 but is still below the median household income of Penobscot County and the state of Maine (ME).

Placer.ai Mobility Data

Placer.ai mobility data is often used for understanding visitation patterns as well as retail space/commercial development. However, it can be useful for recreation facilities, where visitation data is not tracked or inconsistently tracked. BerryDunn conducted a visitation analysis from five selected rinks similar to the Bangor project:

- Camden National Bank Main Ice Vault
- Douglas N. Everett Arena
- Norway Savings Bank Arena
- Penobscot Ice Arena
- William B. Troubh Ice Arena

This information can help predict the potential visitation and usage of new facilities in Bangor.

Similar Provider Review

As part of the market study, BerryDunn reviewed similar recreation and ice facilities in the area. This information helps locate local programming gaps that new facilities might fill.

Trends Analysis

The trends analysis provides information regarding trends that might prove useful as the Bangor team works to fill up new programming spaces. This section includes trend information on facilities, age-based programming, and program types.

Community Engagement Summary

The project began with community engagement efforts, including focus groups, an online website, and two public meetings, to determine types of facilities and amenities the public seeks related to a new community recreation facility and indoor ice arena.

Engagement included an online Social Pinpoint site that attracted 571 unique users who completed 825 surveys. Two surveys were available: one focused on recreation center amenities and the other on indoor ice arena amenities. Site visitors were also asked which facility was a higher priority and if the two facilities should be combined.

Overall, the top ice amenities desired included ample spectator seating, additional team locker rooms, at least one full sheet of ice available 12 months of the year, and skate rental and skate sharpening services. The top facility components desired in a new recreation center included gyms, an indoor walking/jogging track, a multipurpose space, and childcare areas.

Of responses, 54% indicated a new recreation center is the facility most important to their family; 47% indicated no preference if the facilities were combined on one site or separate.

Additional public engagement included six focus groups. In addition to seeking input regarding the facility components desired, discussion topics included current Parks and Recreation Department strengths, how to finance new facilities, and potential partners and stakeholders.

The two public open houses included five stations where visitors could provide input on several topics related to the potential for new facilities.

Desired Facilities Based on Engagement

Following the conclusion of the public engagement, the project team reviewed all the results, and determined that both facilities (a new recreation center and a new ice arena) should be combined on one site (with a shared lobby and parking) and include the following amenities:

- Gyms
- Childcare space with an adjacent outdoor playground
- Indoor walking/jogging track

- Multipurpose space
- Space for Parks and Recreation Department staff offices
- Space for the Parks and Recreation Maintenance functions and staff
- Two sheets of ice with ample spectator seating in one rink
- Team locker rooms (12)
- Off-ice training space
- Ice arena staff offices
- Media space

It was also determined that if a large enough site could be secured, additional pickleball courts, tennis courts, and athletic fields are also needed.

Detailed information regarding each space was then created via a program plan. The program plan includes allocations for room areas and associated support spaces with the square footage for each. This information is then used to create a building diagram.

In terms of total square footage, the new recreation center is 69,080 square feet; the ice arena is 84,925 square feet; and the maintenance building is 42,000 square feet.

Site Reviews

Once desired amenities were determined, the consulting team worked with Parks and Recreation Department leadership to review potential sites for new facilities. A total of six sites were reviewed:

- Griffin Road
- Bass Park
- The Current Parks and Recreation Department site
- Hayford Park (the current site of Sawyer Ice Arena)
- Cleveland Street
- Grandview Avenue

Each evaluation considered several factors, and a list of benefits/detractors was created to help determine the best site for new facilities. A rough building diagram is outlined in Section 7 over each site to show the actual “fit” of a new facility on each site.

Based on all information available, the Griffin Road site was chosen as the preferred site to move forward with for further evaluation.

Existing Conditions Summary

To determine if existing facilities should be renovated or replaced, existing conditions studies were conducted on both the recreation center and ice arena. At the ice arena, the following items were reviewed:

- Building
- Refrigeration system
- Dehumidification system
- Dasher boards
- Locker rooms
- Bathrooms
- Lighting
- Offices and storage
- Zamboni

A ground penetrating survey (soil study) was also conducted, and the report is included in the Appendix 12.5. The City contracted for a follow up report for budgeting purposes which confirmed the same analysis. That report is included as Appendix 12.6

According to the Sawyer Ice Arena existing conditions study, the current condition is beyond renovation on this site, and a new facility should be pursued in a new location.

The recreation center study yielded similar results: The overall building condition is poor, which is typical of a repurposed older building modified and updated over time. This existing site is also too small to provide any meaningful expansions to this facility.

Facility Concepts, Recommendations, and Capital Costs

Based on the program plan developed following the conclusion of the public engagement, the CHA consulting team developed a facility concept. Working with the Parks and Recreation project team, the layout was refined several times to create the final draft design.

The final building plan features a new recreation center with a wing that includes a three-court gymnasium, walking/jogging track, childcare areas, multipurpose space, staff offices, and locker rooms. The shared lobby then attaches to a second wing that features two sheets of ice, spectator seating, a multipurpose space, team locker rooms, a media space, staff offices, and a support space.

The site layout also includes the maintenance area (with space for Parks and Recreation and the schools) and a new structure for the Health and Human Services Building.

The estimated construction costs for the new facilities included in the plan are:

- Recreation Center: $14,434,800 – $15,156,540
- Skating Center: $17,491,020 – $18,411,600
- Maintenance Building: $6,918,615 – $7,337,925
- Health and Human Services Building: $2,730,000 – $2,870,000

Following building design, the plan for the outdoor space surrounding the facility was determined, including parking, a walking path, athletic fields, tennis courts, pickleball courts, and a couple of shelters.

The estimated cost for the site design is $7,334,250 – $9,707,250

Facility O & M Proforma

Once the new facility layout was completed, the proforma was created. A proforma includes all the potential revenue and expenses (O & M) generated at a specific site. The consulting team worked with the staff team to review staffing assumptions (including benefits), facility hours, and opportunities for revenue generation. O & M expenses were also reviewed in detail. The result is a five-year proforma that outlines all the expenses, revenues, program net and cost recovery.

Similar to the building design, the project team went through several iterations of the proforma before it was completed.

The final proforma indicates that the new facility will achieve 45% cost recovery in Year 1, requiring a subsidy of $1,532,239 in that same year, and increasing to $1,709,217 in Year 5.

Comparing the current structure of the Parks and Recreation Department with the estimated O&M Proforma, it is estimated a new facility concept would be an approximate 29% or $1.387 million dollar increase to the current Parks and Recreation operation.

Implementation and Phasing Options

The last section of the feasibility study outlines recommendations for moving the project forward (including possible funding sources) and the order in which items should be completed. Potential phasing options are also included so that the City can build parts of the plan over time as funding becomes available.

4.0 Market Study

The market study for this project includes demographics, Placer.ai data, and a summary of similar providers.

4.1 Demographic Profile

The City's demographic profile was developed to analyze household and economic data in the area and understand the historical and projected changes that might impact the community. The demographics analysis offers insight into the potential market for the new recreation facilities in the City by understanding where and how the community will change over time.

Population, age distribution, income, race/ethnicity, and other household characteristics referenced throughout this report were sourced from the Department of Administrative and Financial Services from the State. In addition, the maps were sourced from ArcGIS Business Analyst and the U.S. Census, with estimates generated in July 2023. City boundaries were used as the geographic area for this study. Additional comparisons to Penobscot County, ME, and the United States were provided where applicable for additional context.

Population

Bangor, the third most populous city in Maine, had a population of 31,753 in 2020. Over the past decade, the City experienced a slight decline in population of about 4%; however, recent trends suggest an uncertain future for population change in the region due to potential influxes caused by COVID-19-induced migration patterns and the designation of Bangor as a resettlement site for refugees and asylum seekers. The population in the City was estimated at 31,811 in 2023, having declined since 2011. Future projections indicate the City will most likely fall to an estimated 30,623 in 2028. Figure 4.1 depicts the population from 2011 through 2028.

Figure 4.1: Projected Population Overtime (2011 – 2028)

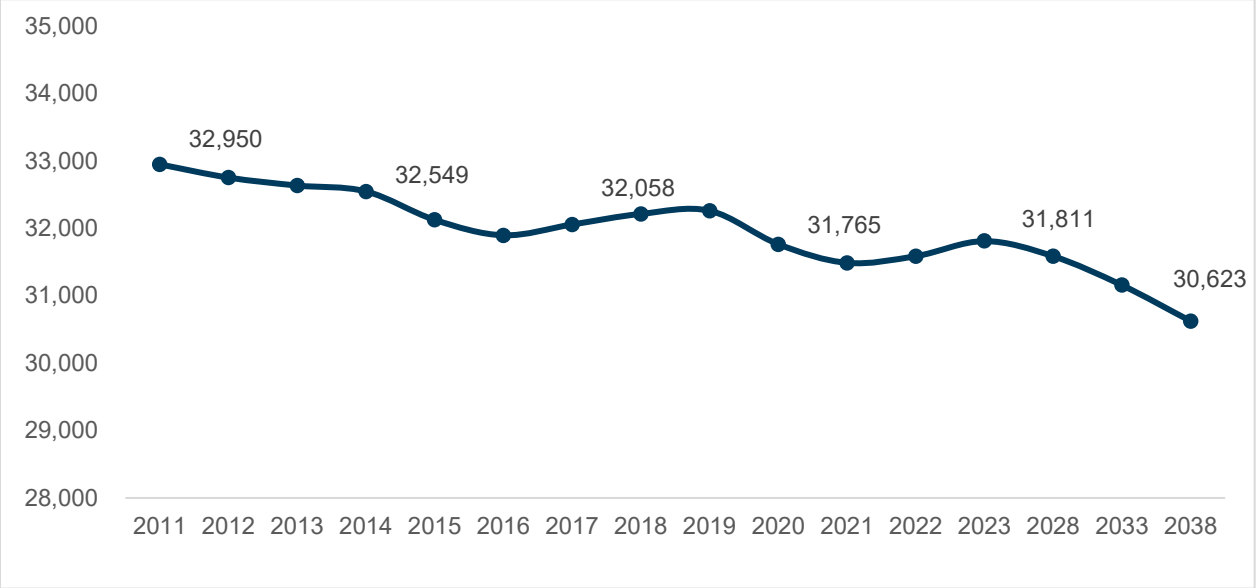
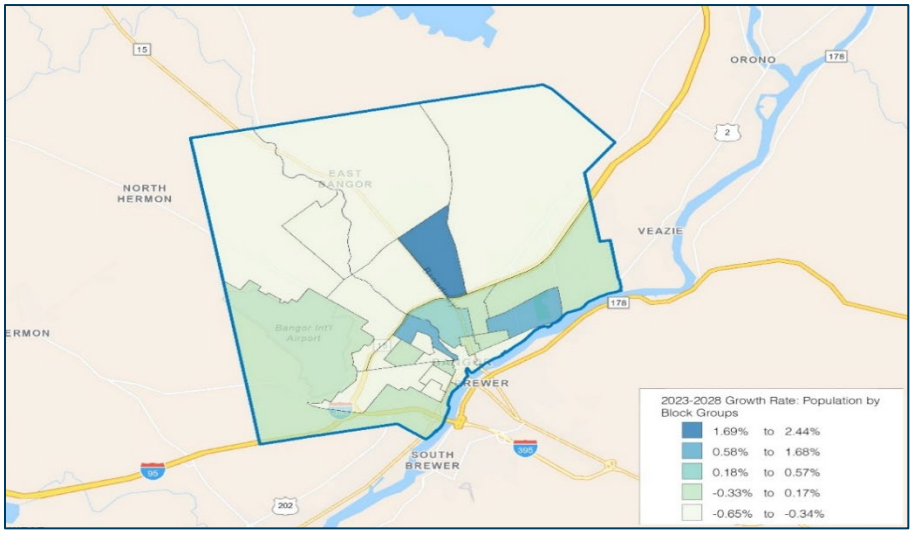


Figure 4.2 shows population growth rate by block group. Area **A** of Bangor has the highest estimated growth rate, while the areas surrounding **A** to the north, west, and east have the lowest estimated growth rates.

Figure 4.2: Bangor Population Growth Rate by Block Group (2023 – 2028)



Source: ArcGIS Business Analyst (2023)

Age Distribution

Maine holds the title of the oldest state in the nation by median age. Bangor skews younger with a median age of 37.9 years, compared to the State's median of 44.7 years. The greatest change from 2013 to 2020 has been the decline of those between 20 and 24 years old and the increase of those between 25 and 34 years old. Figure 4.3 depicts the total of each age group for 2013, 2015, and 2020.

Figure 4.3: Age Distribution (2013 – 2020)

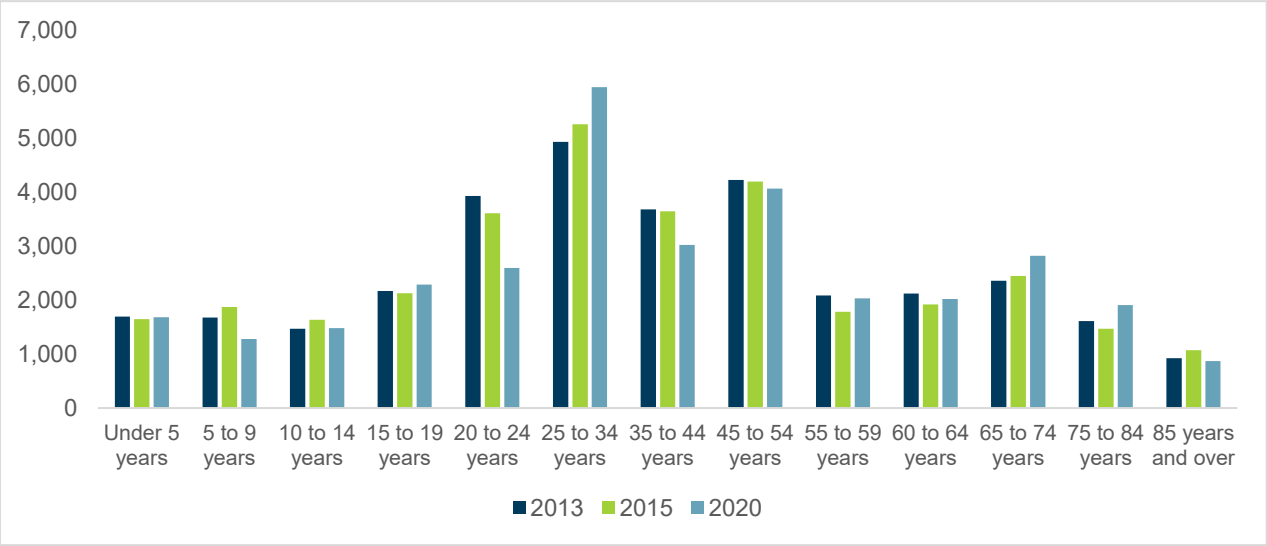
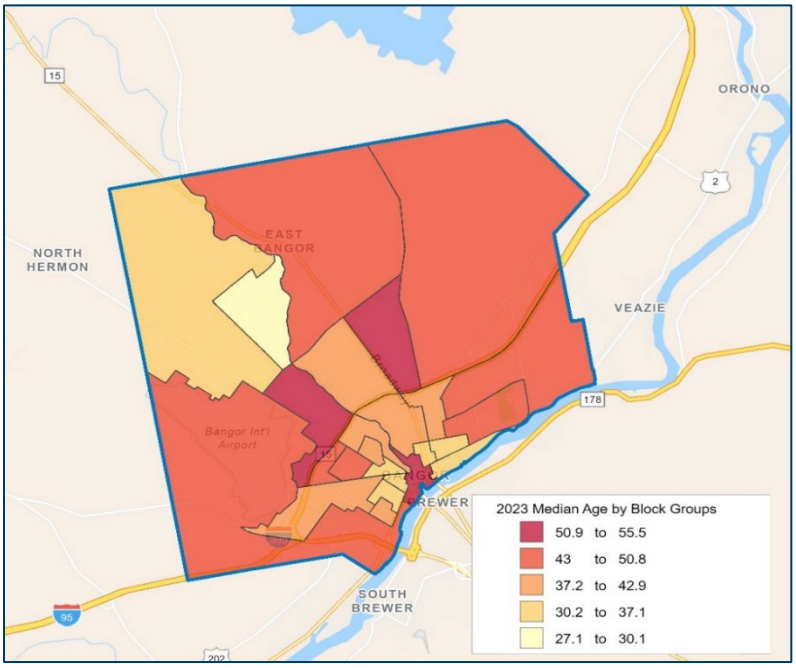


Figure 4.4 shows the median age by block groups. Area **A** of Bangor concentrates the youngest median block group (ages 27 – 30), while Areas **B**, **C**, and **D** (ages 51 – 56) house the oldest median age block group.

Figure 4.4: Bangor Median Age by Block Group (2023)



Source: ArcGIS Business Analyst (2023)

Household Characteristics

The household characteristics in Bangor indicate that the community had a similar, yet slightly lower, median household income than Penobscot County and Maine as depicted in Figure 4.5. Nearly one-fifth (19%) of Bangor's population lives below the federal poverty line, and the median household income is lower than both the County and the State.

Figure 4.5: Median Household Income (1990 – 2020)

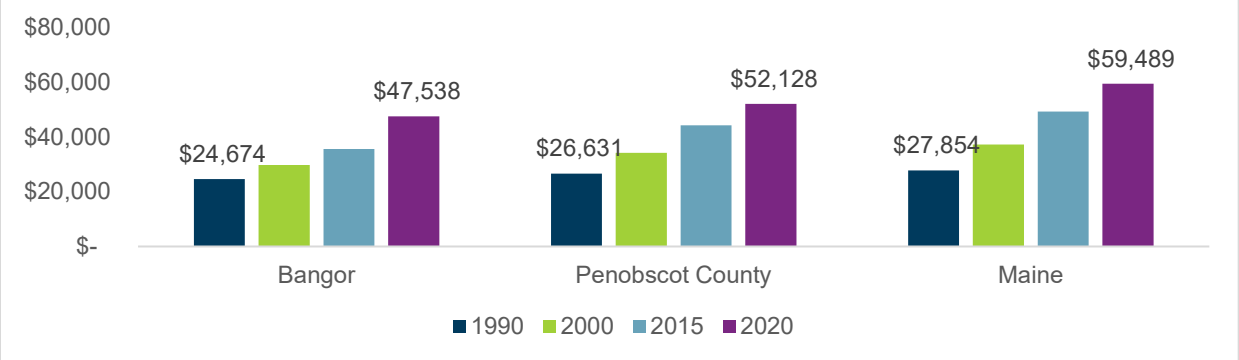
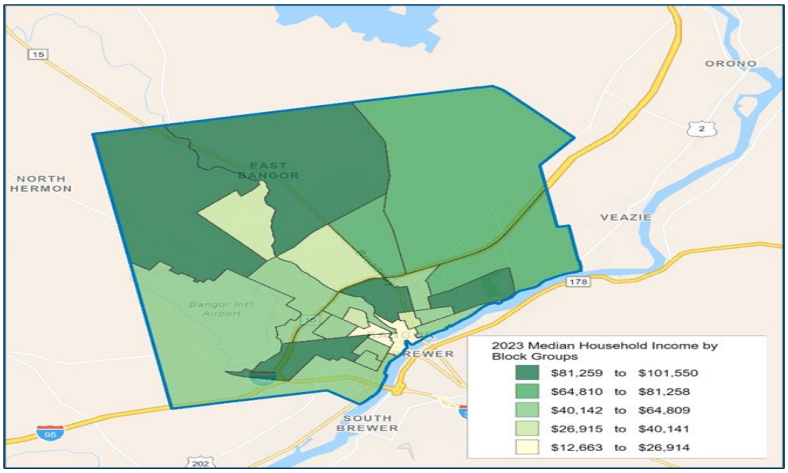


Figure 4.6 shows the median household income by block group. Areas **A**, **B**, **C**, **D**, and **E** of Bangor has the highest median household income of $81,259 – $101,550, while Areas **F** and **G** have the lowest median household income at $12,663 – $26,914.

Figure 4.6: Bangor Median Household Income by Block Group (2023)



Source: ArcGIS Business Analyst (2023)

4.2 Placer.ai Data

BerryDunn recently started using Placer.ai—a tool that leverages existing mobility data to understand visitation patterns. Placer.ai is most commonly used for retail spaces and commercial development. However, it can be especially useful for parks, trails, and recreation facilities, where visitation data is often not tracked or inconsistently tracked. Placer.ai utilizes aggregated data that respects user anonymity. It does not sell personal data or pinpoint exact device locations. To uphold user privacy, Placer.ai employs robust encryption and follows strict industry standards. Data presented in this report, unless otherwise stated, is from the last 12 months (October 1, 2022 – September 30, 2023) to provide the latest data available.

BerryDunn conducted a visitation analysis by leveraging Placer.ai mobility data captured from five selected ice rinks that share some similarities to the Bangor project:

- **Camden National Bank Maine Ice Vault:** 203 Whitten Road, Hallowell, ME
- **Douglas N Everett Arena:** 15 Loudon Road, Concord, New Hampshire, NH
- **Norway Savings Bank Arena:** 985 Turner Street, Auburn, ME
- **Penobscot Ice Arena:** 90 Acme Road, Brewer, ME
- **William B. Troubh Ice Arena:** 225 Park Avenue, Portland, ME

Metrics – Overall Visitation

The first section of the analysis presents overall visitation metrics, as shown in Table 4.1. It includes the number of visits, visitors, and visit frequency. Additionally, the table provides an

overview of the average duration of a visitor's stay, known as the average dwell time, as well as the year-over-year (YoY) change over the past three years to identify trends and patterns.

Table 4.1: Overall Visitation Metrics for Ice Arenas

Metric	Camden National Bank Maine Ice Vault	Douglas N Everett Arena	Norway Savings Bank Arena	Penobscot Ice Arena	William B. Troubh Ice Arena
Visits	263.2K	278.2K	461.1K	55.5K	191.8K
Visitors	47K	95.1K	65.4K	10.6K	48.2K
Visit Frequency	5.61	2.93	7.05	5.23	3.98
Avg. Dwell Time	116 min.	93 min.	110 min.	106 min.	108 min.
Visits YoY	-13.8%	-7%	-21.4%	+62.4%	-10.5%
Visits Yo2Y	+22.7%	+27.2%	+16.9%	+98.7%	+131.5%
Visits Yo3Y	-33.4%	-7.8%	-10.8%	-28.4%	+9.2%

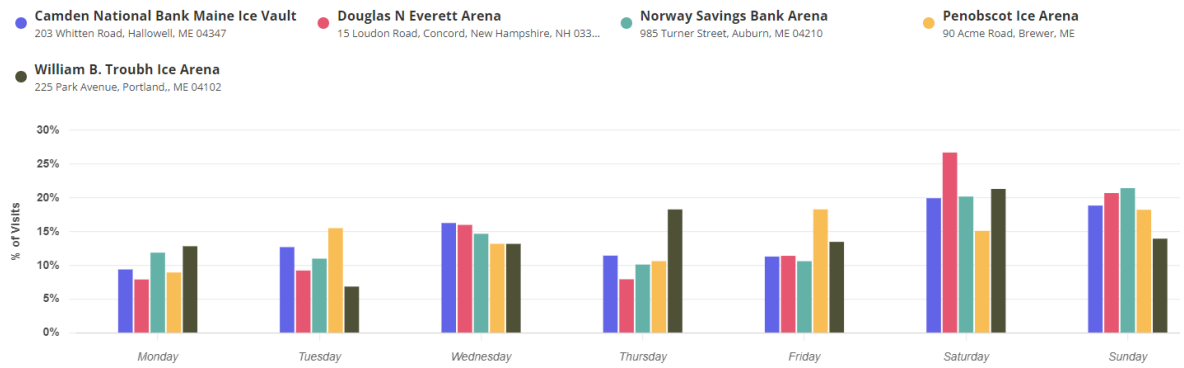
Source: Placer.ai

Penobscot Ice Arena in Brewer, ME, attracts roughly 55,500 visits a year, with a visitor frequency of 5.23. This facility has seen an almost 99% increase in visits from two years ago, indicating increased demand in the area. The other ice arenas bring in significantly more visits, ranging from 263,000 to 462,000 a year, and visit frequency hovering between 2.93 and 7.05; however, YoY change has decreased for all facilities during that time except for Penobscot Ice Arena.

Daily Visitation

Data in Figure 4.7 illustrate the percentage of visits by day of the week. Knowing which days attract the most visitors is essential for staff decisions, program scheduling, and event planning.

Figure 4.7: Daily Visits (% of Visits) to Similar Facilities



Source: Placer.ai

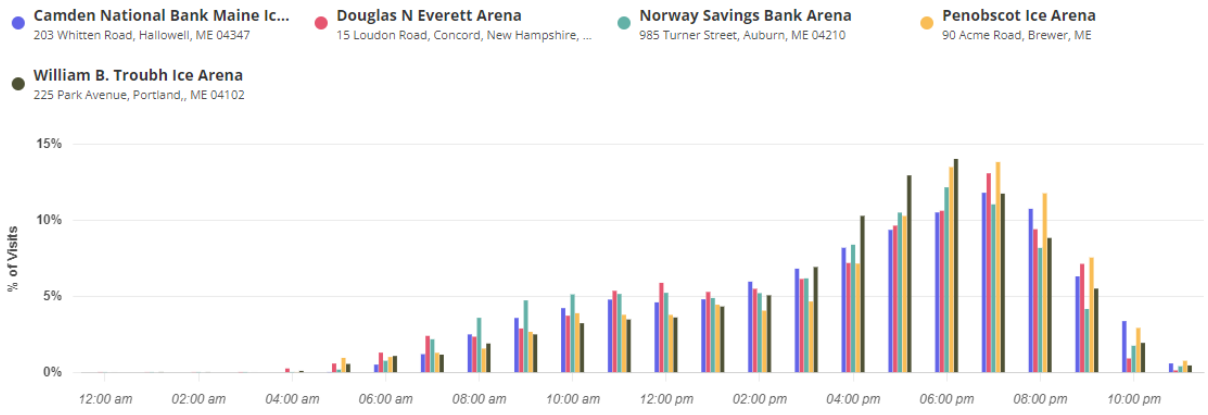
The facilities in this study indicate increased visits during the weekend, especially on Saturdays. This trend is common for recreational facilities, as people tend to have more free time during the weekends.

Midweek days show varied patterns for different properties. For example, the Norway Savings Bank Arena visitor numbers peak on Wednesday, while the Penobscot Ice Arena has a higher percentage of visits on Thursday. Monday is the slowest day of visitation for most facilities.

Hourly Visitation Trends

Hourly visits (Figure 4.8) shows the total number of visits to a property throughout the day. To optimize facility management and resource allocation, understanding the peak hours of visitation throughout the day can be helpful. This section breaks down visitor frequency by hour, showing patterns and trends in visitation across all facilities.

Figure 4.8: Hourly Visits (% of Visits) to Similar Facilities



Source: Placer.ai

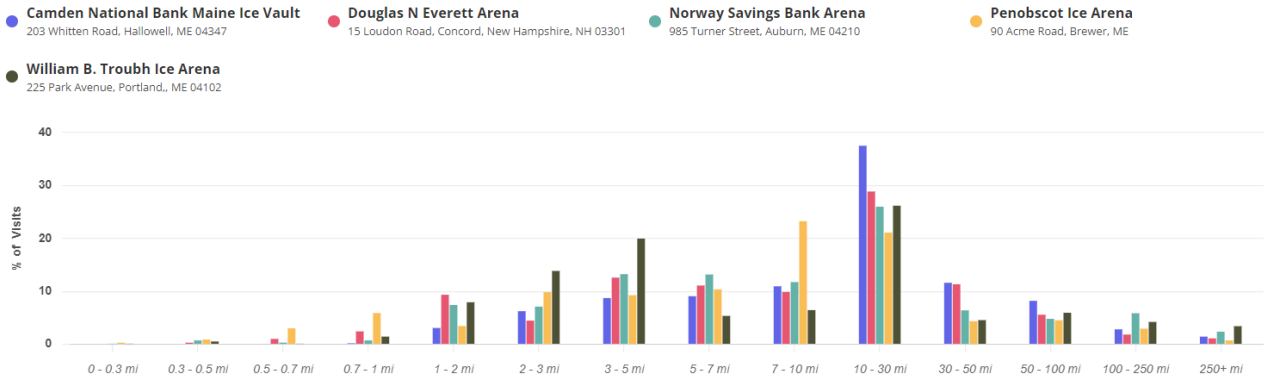
The data indicates that the busiest times of the day are generally between 5 and 8 p.m., offering a bell-like curve across the majority of facilities. Visitation is typically lower in the morning hours until 4 p.m. and then again after 9 p.m.

Trade Area

Understanding how far visitors are willing to travel can help detect patterns related to regional and local visitation (Figure 4.9). Placer.ai calls this metric “trade area coverage.” The intent of this data is to estimate how far visitors are willing to travel to other ice arenas and determine the possible reach for a similar facility in Bangor. The graphic in Figure 4.9 shows the miles people drove from home to visit these five ice arenas. The data indicates that people come from near and far to use these ice rinks.

The distribution view of the trade area shows visits across varying distances (i.e., 55% of people in selected audience group live in a range of 1 to 10 miles from the property).

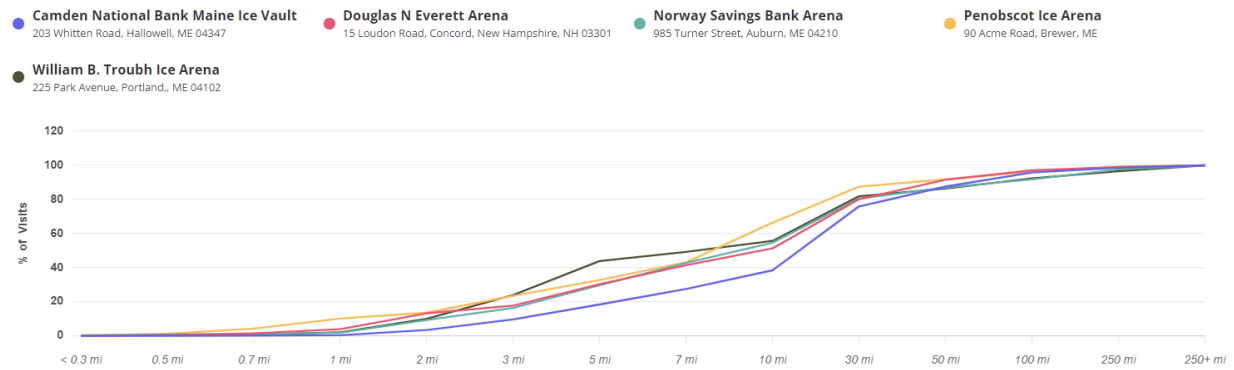
Figure 4.9: Trade Area Coverage Distribution (% of Visits) to Similar Facilities



Overall, most people travel between 10 and 30 miles to visit these facilities. While the exact distance traveled varies for each location, generally very few people travel less than 2 miles to get to the facilities. Ice arenas in the study seem to attract visitors from farther away, with some facilities garnering visitors who live more than 100 miles away. The Penobscot and Troubh Ice Arenas attract more visitors from a wider area than others.

The cumulative view of trade area aggregates visits at mile intervals is depicted in Figure 4.10.

Figure 4.10: Trade Area Coverage Cumulative (% of Visits) to Similar Facilities



4.3 Similar Provider Review

As part of the market analysis, BerryDunn reviewed similar service providers in the Bangor area that offer recreation activities and ice programming. This review helped the project team finalize the components needed in a new recreation center and ice arena. This data was also used to finalize the proforma information.

Area Recreation Programming

This review in Table 4.2 highlights gaps with public access to gyms, multipurpose spaces, and an indoor walking/jogging track.

Table 4.2: Area Recreation Programming

Facility	City	Facility Amenities	Facility Programs	Additional Information
Bangor YMCA	Bangor	Pool Fitness Center Food Pantry	Aquatics: Instruction/swim team/family & lap Swim Health and fitness classes Youth camps Family Events Afterschool Care Childcare Certifications (First Aid, Lifeguard, etc.)	Requires membership
Fields4Kids	Bangor	Synthetic Turf fields Baseball and softball fields Batting cages, hitting tees, pitching machines	Field Hockey Clinics Dodgeball Disc Golf Lacrosse Soccer Summer Camps	River City Athletics/Fields4Kids is a non-profit and run by a volunteer-based board of directors.
Eastern Maine Sports Academy	Veazie	Turf field Basketball Court Banquet Room Party Room	Basketball: Training, youth and adult teams Personal Training Sports Performance Fitness Classes Before/Afterschool Care Programs Camps	Requires membereship
University of Maine: New Balance Student Recreation Center	Orono	Pool Cardo and Weight Equipment Multipurpose Rooms Volleyball and Basketball Courts Badminton and Pickleball Courts Multiple Activity Court Racquetball and Sqaush Courts Facility Rentals	Aquatics Group Exercise Personal Training Intramurals Sports Clubs Kids/Youth Camps Special Events Ice Skating	Requires membership, being a student, or purchasing a day pass
Husson University	Bangor	Pool & locker rooms Athletic Training Facility Weight Room Fitness Center	Volleyball Basketball Intramurals Classes Special Events	The fitness studio and gym require a student ID, the pool is open for community membership.
Orono YMCA	Old Town	Pool	Aquatics: Swim Club, Lessons Childcare: After School Care, Preschool Family Programs Group Exercise: Pickleball, Yoga, Fitness Gymnastics Personal Training Silver Sneakers Youth Sports	Requires membership

Area Ice Programming

Table 4.3 includes similar providers in the area providing ice activities.

Table 4.3: Area Ice Programming

Facility	City	Facility Amenities	Facility Programs
Penobscot Ice Arena	Brewer	On Demand/Live Streaming Equipment Rentals Café Private Ice Rentals Skate Sharpening Party Packages	Figure Skating Light & Sound Skate Youth Hockey Leagues Adult Hocket Leagues Camps & Clinics Public Skate Stick & Puck Adult Learn to Skate
University of Maine: Alfond Arena	Orono	Skate Rental	Public Skate Stick & Puck
Piscataquis Ice Arena	Dover Foxcroft	Conference Room Rental Dining Room Rental Nerf Battle Rentals Party Packages On Demand/Live Streaming Equipment Rentals Café Private Ice Rentals	Camps & Clinics Learn to Skate Programs Adult "Basics" Hockey Individual Private Skate Instruction Youth Hockey League Curling Public Skate (Figure Skating) Broomball Tournaments
Harold Alfond Athletics & Recreation Center/The Jack Kelley Rink	Waterville	Locker Rooms	Learn to Skate Open Skate Open Hockey

The review of ice facilities also shows a deficit in the Bangor area for the number of programs seeking ice time.

4.4 Trends Analysis

This analysis examines current and future multipurpose facility trends, levels of interest, and participation in various activities, and overall trends in recreation. This process provides insights into the evolving needs and preferences of the Bangor community, informing recommendations for effective service delivery and aligning with changing trends. This report is divided into two sections: relevant sports participation and growth and

Relevant Sports Participation and Growth

This section aims to identify and analyze the current trends in sports and recreation, with a particular focus on participation trends derived from the Sports and Fitness Industry Association (SFIA) 2022 Report. Understanding the latest trends in sports is crucial for the City of Bangor to effectively plan and develop programs and utilize space in a way that reflects participation data.

- Basketball is the most popular team sport with 27.1 million participants.
- Tennis is the most popular racquet sport with 22.6 million participants.
- Pickleball is the fastest-growing racquet sport with a growth rate of 11.5%, attracting 4.8 million. participants.
- Dance, step, and other choreograph exercises have grown by 2.6% since 2016, attracting 24.8 million participants.

Figure 4.11 shows the top sports activity and the growth from 2016 to 2021.

Figure 4.11: SFIA Top Sports by Activity

Sport	Participation (Millions)	Five-Year Growth (2016 – 2021)
TEAM SPORTS		
Basketball	27.1 M	4.1%
Baseball	15.6 M	1.1%
Soccer (Outdoor)	12.6 M	1.1%
RACQUET SPORTS		
Tennis	22.6 M	4.9%

Sport	Participation (Millions)	Five-Year Growth (2016 – 2021)
Table Tennis	15.4 M	-1.2%
Badminton	6.1 M	-3.7%
STRENGTH AND CONDITIONING		
Free Weights	28.2 M	4.9%
Yoga	34.3 M	-1.2%
Weight-Resistance Machines	30.6 M	-3.7%
Treadmill	53.6 M	0.9%
Running/Jogging	49.0 M	0.7%
Stationary Cycling (Recumbent/Upright)	32.5 M	-1.8%

Participation by Income

The SFIA report provides data related to what inactive Americans were most interested in by income. The City of Bangor has a median income of $47,538. By comparing the SFIA "aspirational activities by income," the top activities are most Bangor residents ($25,000 – $49,999 and $50,000 – $74,999 categories) are likely fishing, camping, cardio fitness working out with weights, working out with machines, and cardio fitness.

Figure 4.12: Inactive Aspirational Activities by Income

Less than $25,000	
1	Fishing
2	Camping
3	Working out with weights
4	Hiking
5	Cardio fitness
6	Running/jogging
7	Working out using machines
8	Hunting
9	Swimming for fitness
10	Yoga

$25,000 to $49,999	
1	Fishing
2	Camping
3	Working out with weights
4	Working out using machines
5	Cardio fitness
6	Running/jogging
7	Hiking
8	Swimming for fitness
9	Shooting
10	Hunting

$50,000 to $74,999	
1	Fishing
2	Camping
3	Cardio fitness
4	Working out using machines
5	Working out with weights
6	Running/jogging
7	Hiking
8	Swimming for fitness
9	Yoga
10	Shooting

$75,000 to $99,999	
1	Fishing
2	Camping
3	Running/jogging
4	Swimming for fitness
5	Hunting
6	Working out with weights
7	Hiking
8	Working out using machines
9	Cardio fitness
10	Yoga

$100,000+	
1	Cardio fitness
2	Fishing
3	Working out with weights
4	Working out using machines
5	Camping
6	Hiking
7	Yoga
8	Running/jogging
9	Swimming for fitness
10	Tennis

Participation by Age

The SFIA report also provides data related to what inactive Americans were most interested in participating in by age. The City of Bangor has a median age of 44.7 years. By comparing the SFIA “inactive aspirational activities by age,” the top activities for most Bangor residents (falling in categories 35 to 44 years and 45 to 54 years) are likely fishing, camping, cardio fitness, working out with weights, and working out using machines.

Figure 4.13: SFIA Inactive Aspirational Activities by Income

6 to 12	
1	Fishing
2	Camping
3	Running/jogging
4	Soccer
5	Basketball
6	Swimming for fitness
7	Hiking

13 to 17	
1	Fishing
2	Bicycling
3	Tennis
4	Swimming for fitness
5	Shooting
6	Working out using machines
7	Hunting

18 to 24	
1	Working out with weights
2	Running/jogging
3	Cardio fitness
4	Camping
5	Hiking
6	Working out using machines
7	Yoga

25 to 34	
1	Fishing
2	Running/jogging
3	Camping
4	Working out using machines
5	Cardio fitness
6	Hiking
7	Working out with weights

35 to 44	
1	Fishing
2	Camping
3	Cardio fitness
4	Working out with weights
5	Working out using machines
6	Running/jogging
7	Hiking

45 to 54	
1	Fishing
2	Camping
3	Cardio fitness
4	Working out using machines
5	Working out with weights
6	Shooting
7	Hiking

55 to 64	
1	Fishing
2	Camping
3	Swimming for fitness
4	Working out with weights
5	Working out using machines
6	Cardio fitness
7	Yoga

65+	
1	Fishing
2	Camping
3	Swimming for fitness
4	Working out using machines
5	Working out with weights
6	Shooting
7	Cardio fitness

Regional and National Trends

The following information summarizes regional and national trends that are relevant to the Bangor Parks and Recreation Department. This section of the report details the trends and interests that were identified within the public engagement process and recognized on a regional or national level. The information contained here can be used by staff when planning

new programs, considering additions to parks and new park amenities, and creating the annual budget and capital improvement plan. Understanding trends can also help an organization reach new audiences and determine where to direct additional data collection efforts within an organization.

A wide variety of sources were used in gathering information for this report, including:

- American College of Sports Medicine (ACSM)
- American Council on Exercise (ACE)
- Forbes
- Harris Poll Results/The Stagwell Group
- Impacts Experience
- National Recreation and Park Association (NRPA)
- The Aspen Institute
- The Learning Resource Network (LERN)
- The New York Times
- The Outdoor Industry Association
- The Society of Health and Physical Educators (SHAPE America)
- USA Pickleball website

Facility Trends

Community Centers

Park and recreation agencies serve their communities in many ways; one of the primary facilities that many agencies operate are community centers. These facilities may host a variety of amenities, such as sport courts, multipurpose rooms, fitness gyms, aquatic facilities, and much more. There has been a shift from traditional fitness and general activities in community centers to a more modern approach, which includes healthy living classes, computer classes/internet access, and older adult transportation. Data from NRPA indicates that recreation centers play an important role in communities across the country. Figure 4.14 demonstrates the potential for non-traditional community services.[1]

[1] National Recreation and Park Association. n.d. "Recreation Centers Play an Important Role in Communities." *National Recreation and Park Association*. Accessed September 2019. https://www.nrpa.org/publications-research/park-pulse/park-pulse-survey-recreation-centers-role-in-communities/

Some of the activities, both traditional and non-traditional, are listed below:

- Art/dance/exercise studio
- Drama/voice/instrument instructional studio
- Esports such as competitive video gaming competitions, tournaments, and classes
- Fitness classes such as yoga, meditation, martial arts, and cycling
- Health club/fitness center
- Ice skating
- Indoor archery
- Indoor gardening
- Indoor play center (rock climbing or indoor playground)
- Indoor soccer facility
- Lacrosse
- Tennis, handball, badminton, racquetball, pickleball
- Wrestling

Figure 4.14: Non-Traditional Services Desired in Community Centers

Age-Related and Generational Trends

Generation Alpha	~Born 2010 – Present
Generation Z	Born 1997 – 2010
Millennials	Born 1981 – 1996
Generation X	Born 1965 – 1980
Baby Boomers	Born 1946 – 1964
Silent Generation	Born 1928 – 1945

Activity participation varies based on age, but it also varies based on generational preferences. The SFIA issues a yearly report on generational activity. In the 2020 SFIA report, millennials had the highest percentage of those who were "active to a healthy level," but a quarter also remained sedentary. Nearly 28% of Generation X were inactive, with baby boomers at 33% inactive. Baby boomers prefer low-impact fitness activities such as swimming, cycling aquatic exercise, and walking for fitness.

A condensed list of generational trends that might impact recreational services are below, consolidated from the Pew Research Center:

- Baby boomers are staying in the workforce longer than generations before them (2019).
- Millennials have more financial hardships, such as student loan debt, poverty, and unemployment, and lower levels of wealth but are optimistic about their future (2014).
- Approximately 13% of teens (Generation Z) said they have had a major depressive episode in the last year (2019).
- Those 60 and older (baby boomers) spend about four hours a day in front of a screen (2019).
- Generation Z is the most racially and ethnically diverse generation, with only 52% identifying as non-Hispanic white (2018).

Generational Programming

There has been an increase in the number of offerings for families with children of all ages. This is a departure from past family programming that focused nearly entirely on younger children and preschoolers. Activities such as Family Fossil Hunt and Family Backpacking and Camping Adventure have proven very popular for families with teens. This responsiveness to the Generation X and millennial parents of today is an important step, as these age groups place a high value on family. GameTime's "Challenge Course" is an outdoor obstacle course that attracts people of all ages and backgrounds to socialize with family and friends while improving their fitness. This type of playground encourages multigenerational experiences.

Trends for Youth Ages 13 and Younger

Traditional Sport Programming

Prior to the COVID-19 pandemic, the number of youths involved in team sports was beginning to decline. From 2008 – 2018, the participation rate of kids between the ages of 6 and 12

dropped from 45% to 38% due to the increasing costs, time commitments, and competitive nature of organized sports leagues.

According to the Aspen Institute, after most athletic programs were shut down in the spring of 2020, 30% of children who previously played team sports now say that they are no longer interested in returning. It is estimated that up to 50% of the private travel sports clubs will fold following the pandemic, putting pressure on municipal recreation programs to fill the gaps for children who do want to continue playing organized sports. There is a heightened need to save and build low-cost, quality, community-based sports programs that can engage children of all abilities in large numbers.

Science, Technology, Engineering, and Mathematics (STEM, STEAM) Programs

STEM, STEAM programs—including arts programming—are growing in popularity. Some examples include learn to code, design video games, Minecraft, create with Roblox (an online gaming platform and game creation system), engineer robots, print 3D characters, and build laptops.

Summer and School Break Camps

Participation in parks and recreation youth camp programs continues to be very strong. For some agencies, these programs are the most significant revenue producers.

Nature-Related Programming

There is an international movement to connect children, their families, and their communities to the natural world called the New Nature Movement, and it is having an impact. In addition to new nature programming, nature-themed play spaces are becoming popular. Some park and recreation agencies are now offering outdoor preschool where the entire program takes place outside.

Youth Fitness

The organization Reimagine Play developed a list of the top eight trends for youth fitness. The sources for this information include the ACSM's Worldwide Survey of Fitness Trends, ACE Fitness, and SHAPE America. The top eight trends include:

- Physical education classes are moving from sports activities to physical literacy curriculums that include teaching fundamentals in movement skills and healthy eating
- HIIT classes that involve bursts of high-intensity exercise followed by a short period of rest with classes ranging 30 minutes or less
- Wearable technology and digital fitness media, including activity trackers, smartwatches, heart rate monitors, GPS tracking devices, and smart eyeglasses and virtual headsets
- Ninja warrior training and gyms as a result of NBC's premier shows American Ninja Warrior and Spartan Race

- Outdoor recreational activities including running, jogging, trail running, and BMX biking
- Family (intergenerational) fitness classes such as family fitness fairs, escape rooms, and obstacle races are gaining in popularity among Gen X and Gen Y families who place a high value on family time
- Kids' obstacle races in conjunction with adult obstacle races such as the Tough Mudder, Spartan Race, and Warrior Dash
- Youth running clubs that also teach life skills such as risk-taking, goal setting, and team building

Trends for Teens/Younger Adults Ages 13 – 24

Local parks and recreation agencies are often tasked with finding opportunities for teen programming beyond youth sports. As suicide is the second highest cause of death among U.S. teens, mental health continues to be a priority for this age group. Activities such as meditation, yoga, sports, art, and civic engagement can help teens develop life skills and engage cognitive functions. Beyond interacting with those of their own age, many agencies are developing creative multigenerational activities that may involve seniors and teens assisting one another to learn life skills. Agencies that can help teens develop career development skills and continue their education are most successful in promoting positive teen outcomes and curbing at-risk behavior. [2]

Esports

Esports (also known as electronic sports, e-sports, or eSports) is a form of competition using video games. Forbes reported in December 2019 that esports audiences exceed 443 million people across the world, and the International Olympic Committee is considering it as a new Olympic sport. Local recreation offerings can include training classes, open play, tournaments, and major competition viewing. A new recreation center in Westerville, Ohio includes a dedicated esports room, and college campuses across the country are also launching esports programs. Florida Southern College offers esports as a club sport for both community and competitive players. Florida Tech, in Melbourne, FL, has a dedicated esports facility. As a result of the COVID-19 pandemic, many parks and recreation agencies are including esports in their programming mix.

[2] Kardys, Jack. June 5, 2019. "Park Afterschool Programs: A Vital Community Resource" National Recreation and Park Association." *National Recreation and Park Association*. Accessed December 11, 2023. https://www.nrpa.org/parks-recreation-magazine/2019/june/park-afterschool-programs-a-vital-community-resource/

Holistic Health

Parks and recreation's role in maintaining a holistic lifestyle will continue to grow. People are seeking opportunities to practice mindfulness, authentic living, and disconnection from electronic media. Programs to support mental health, including those that help to combat anxiety, perfectionism, and substance abuse in youth and young adults, are increasingly needed. The United Nations has urged governments around the world to take the mental health consequences of COVID-19 seriously and help to ensure the widespread availability of mental health support to constituents.

Trends for Adults Ages 25 – 54

Cornhole (or Bags)

Cornhole is a low-impact, low-cost activity that can be played by people of all ages. Young adults are signing up for leagues (that can be held indoors or outdoors and are offered all year long). It does not take any skill, and it is a social activity. Although it can be offered recreationally, some competitive leagues are offered as well.

Trends for Adults Ages 55 and Over

Lifelong Learning

A Pew Research Center survey found that 73% of adults consider themselves lifelong learners. Do-it-yourself project classes and programs that focus on becoming a more "well-rounded" person are popular. Phrases such as "how to" can be added to the agency website's search engine optimization, as consumers now turn to the internet as their first source of information regarding how to projects. Safeguarding online privacy is also a trending course.

Fitness and Wellness

Programs such as yoga, Pilates, tai chi, balance training, chair exercises, and others continue to be popular with the older generation.

Encore Programming

This is a program area for baby boomers who are soon to be retired and focuses on a broad range of programs to prepare people for transitions into retirement activities. Popular programs for the 55+ market include fitness and wellness (specifically yoga, mindfulness, tai chi, relaxation, personal training, etc.), drawing and painting, photography, languages, writing, computers and technology, social media, cooking, mahjong, card games, volunteering, and what to do during retirement.

Creative Endeavors

Improv classes promote creative endeavors. Workshops and groups help seniors play, laugh, and let loose while practicing mental stimulation, memory development, and flexibility.

Indoor Ice Skating Trends

Ice skating is a popular option for parks and recreation departments who want to provide a wide variety of recreation opportunities to their community. While some agencies may offer pop-up ice skating rinks in the winter, others like the City of Bangor may choose to install a permanent indoor ice skating rink as a revenue generating opportunity.

Shaker Heights, OH, Parks and Recreation has a very robust inventory of ice-related programs and activities. It includes a Learn to Skate program that follow the Learn to Skate USA curriculum—the most widely used and nationally recognized skating education program. Examples of their Learn to Skate programs include Baby Blades (ages 1.5 to e), Snowplow Sam (ages 3 to 5), Basic (ages 6 and up), Hockey, and adult (ages 18 and up). Every spring, Shaker's Learn to Skate participants are invited to participate in the Annual Ice Show sponsored by the Recreation Department.

The City of Miami Beach offers adaptive ice skating—a program type not commonly offered.

Additional activities for indoor ice rinks include:

- Adult drop-in hockey over lunch
- Hockey instruction
- Summer skating camps (hockey and/or figure skating)
- Curling instruction and events
- Private lessons
- Public skating sessions
- Private events that include skating
- Ice hockey leagues
- Figure skating training/competitions
- Speed skating training/competitions
- Broomball
- Concessions and/or vending
- Pro shop sales and/or rentals
- Advertising and sponsorships

The SFIA report on ice skating indicates a general decline in total participation, with a -3.80% change from 2020 to 2021 and a minor 0.20% increase from 2019 to 2021. The two-year change (from 2019 – 2021) in core participation (from those who ice skate 13+ times per year), has increased 6.40%. The data suggests potential opportunities for targeted efforts to engage and retain frequent participants in ice skating. It should be noted that this decline is representative of nationwide trends and may not be reflective of local or statewide trends.

Table 4.4: SFIA Ice Skating Participation, 2016 – 2021

Ice Skating	One-Year Change	Two-Year Change	Five-Year Average Annual Growth
Total Participation	-3.80%	0.20%	-1.60%
Casual 1 – 12 Times	-4.80%	-0.90%	-1.80%
Core 13+ Times	1.50%	6.40%	-0.70%

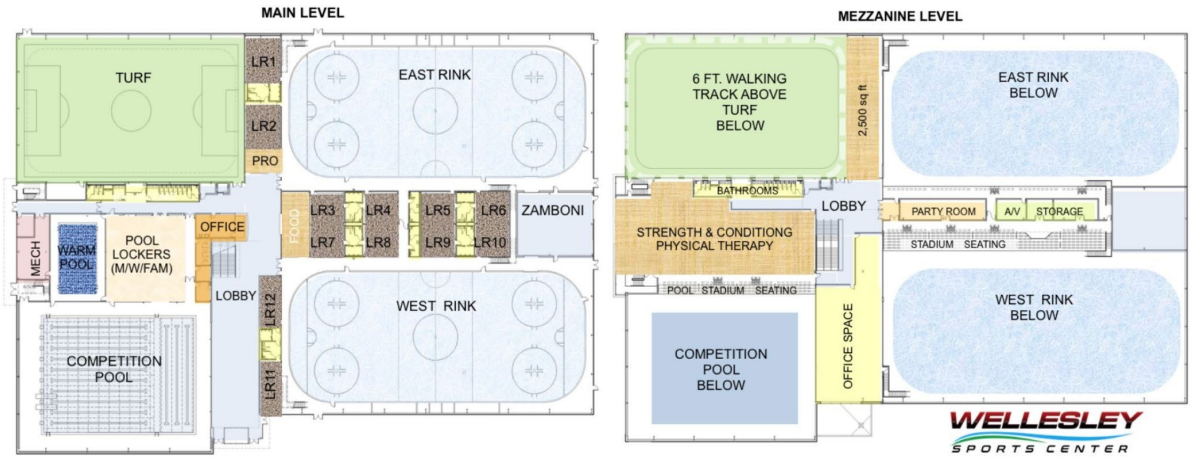
Case Study

As the City considers the future of its new recreation center, a case study from Boston Sports Institute (BSI) offers valuable insights. BSI, conceptualized by Edge Sports Group (ESG), is a mixed-use recreational facility designed with a unique public-private partnership model.[3] The facility features two National Hockey League (NHL) regulation ice surfaces, indoor synthetic turf field, competition swimming pool, warmup pool, sports rehabilitation, strength training, track, and an academic coaching center.

ESG, as a long-term lessee, constructs, manages, and owns facilities, while the town retains land ownership and ensures priority scheduling for schools and dedicated community hours. BSI is a 130,000-square-foot facility costing $23.3 million.

BSI's architecture and design focus on managing environmental demand and optimizing energy use. To reduce operating costs, thermal energy extracted from the rinks is reclaimed to heat the pools. Glare in the competitive pool, a potential safety hazard, is minimized by strategically placed windows on the north side. The facility is accessible and inclusive, featuring a chair lift, drop-in stairs for the pools, private gender-neutral changing spaces, elevators, and accessible walkways. The BSI case study demonstrates how these types of facilities can offer value to the community while operating as a sustainable business model. Figure 4.15 depicts the BSI Facility layout.

Figure 4.15: BSI Facility Layout



Source: ESG

[3] Boston Sports Institute. n.d. “About Boston Sports Institute.” *Boston Sports Institute*. Accessed December 11, 2023. https://bostonsportsinstitute.com/edgesportsgroup/

Administrative Trends

Municipal parks and recreation structures and delivery systems have changed, and more alternative methods of delivering services are emerging. Certain services are being contracted out and cooperative agreements with nonprofit groups and other public institutions are being developed. Newer partners include the health system, social services, justice system, education, the corporate sector, and community service agencies. These partnerships reflect both a broader interpretation of the mandate of parks and recreation agencies and the increased willingness of other sectors to work together to address community issues. The relationship with health agencies is vital in promoting wellness. The traditional relationship with education and the sharing of facilities through joint-use agreements is evolving into cooperative planning and programming aimed at addressing youth inactivity levels and community needs.

In addition, the role of parks and recreation management has shifted beyond traditional facility oversight and activity programming. The ability to evaluate and interpret data is a critical component of strategic decision-making. In an article titled "The Digital Transformation of Parks and Rec" in the Parks and Recreation Magazine from February 2019,[4] there are several components that allow agencies to keep up with administrative trends and become an agent of change, such as developing a digital transformation strategy, anticipating community needs through data, and making sure the public knows how to find information and ways they can be involved.

Agency Accreditation

Parks and recreation agencies are affirming their competencies and value through accreditation. This is achieved by an agency's commitment to 150 standards. Accreditation is a distinguished mark of excellence that affords external recognition of an organization's commitment to quality and improvement.

NRPA administratively sponsors two distinct accreditation programs: It is the only national accreditation of parks and recreation agencies and is a valuable measure of an agency's overall quality of operation, management, and service to the community.

Diversity, Equity, and Inclusion

There is growing recognition that access to parks and recreational spaces is not equitable. According to the Urban Institute, in many cities across the United States, there are fewer quality parks in proximity to residents with low incomes and communities of color. As a result, many large cities have started to establish data-driven criteria to guide investment in public recreation

[4] National Recreation and Park Association. n.d. "The Digital Transformation of Parks and Rec." *National Recreation and Park Association.* Accessed December 11, 2023. https://www.nrpa.org/parks-recreation-magazine/2019/february/the-digital-transformation-of-parks-and-rec/

to improve equity. The City Parks Alliance identified five common elements that are critical to developing, implementing, and evaluating a data-driven equitable investment strategy:[5]

1. **Leverage leadership from one or more sectors.** Strong leadership is critical for making the case for creating and implementing an equitable approach. In addition to various governmental bodies, involving local foundations and those from the nonprofit sector can help to bring the need for equity into focus.
2. **Define equity goals and collect data to support the goals.** Data collection and analysis must be reliable, consistent, and transparent and guided by agreed-upon equity goals. The data collected in each city may vary but often includes statistics on poverty, crime, health, youth population, park access, unemployment, past capital and maintenance investment, and access to parks.
3. **Educate and engage the community on equity data.** Educating all levels of government, residents, nonprofits, foundations, and the private sector on data findings is important for building awareness and buy-in, as well as a commitment to implementation. Extensive outreach and engagement are critical to help ensure the data aligns with reality and that the process builds ownership of the results.
4. **Establish and sustain equitable funding practices.** A variety of strategies can be implemented to help ensure that equity becomes a reality, including new ordinances, voter-approved measures, strategic plans, and internal reorganization.
5. **Institute consistent tracking and evaluation procedures.** Tracking new funding initiatives with an oversight committee that is required to produce an audit, reports, or study results helps to ensure consistent implementation over time.

As the recreation field continues to function within a more diverse society, race and ethnicity will become increasingly important in every aspect of the profession. More than ever, recreation professionals will be expected to work with, and have significant knowledge and understanding of, individuals from many cultural, racial, and ethnic backgrounds. According to the 2020 Outdoor Participation Report, participation rates among diverse groups are evolving quickly but still do not reflect the diverse populations throughout the country. Black Americans represent approximately 12.4% of the population but only 9.4% of outdoor participants. Hispanics, who make up almost 18% of the population, only make up 11.6% of outdoor participants. These two groups are particularly underrepresented, although they are rising over time.

- Ensure images in marketing campaigns are diverse and representative
- Celebrate diverse organizations

[5] City Parks Alliance. Urban Institute. July 1, 2019. *Investing in Equitable Urban Park Systems: Case Studies & Recommendations.* Washington, .D.C: City Parks Alliance. https://cityparksalliance.org/resource/investing-equitable-urban-park-systems-case-studies-recommendations/

Program-Related Trends

Niche Programming

Decades ago, recreation agencies focused on offering an entire set of programs for a general audience. Since that time, market segments have been developed, such as programming specifically for seniors. Recently, more market segments have been developed for specialty audiences, such as the LGBTQ+ community, retirees, military veterans, cancer patients, people needing mental health support, and individuals with visible and invisible disabilities. Organizations are taking a much more holistic approach to program and service offerings, beyond what is typically thought of as a recreation program.

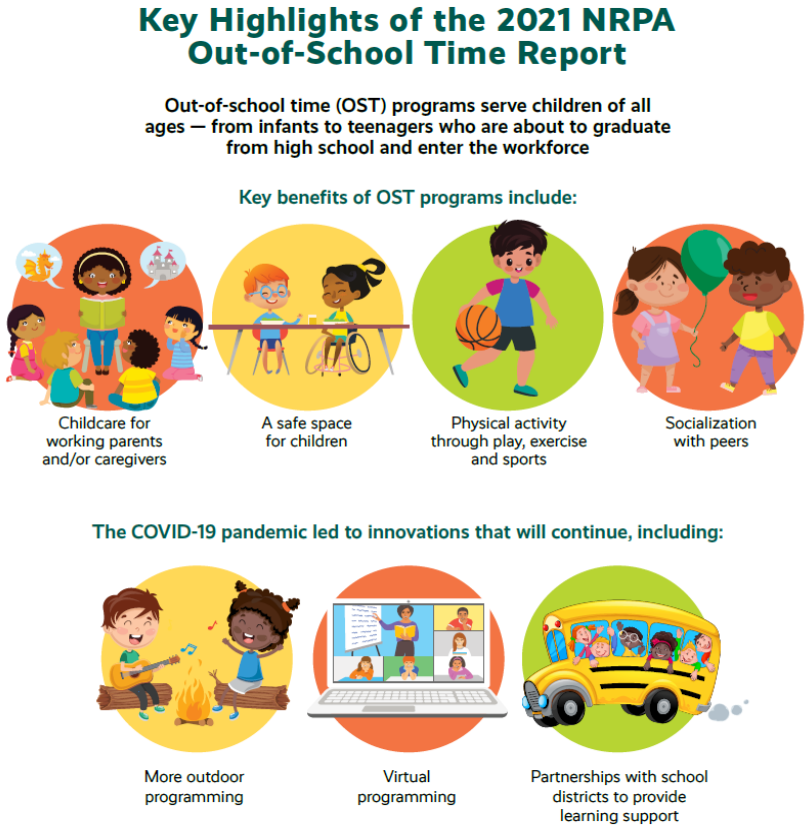
Before- and After-School Care Programs

Many park and recreation agencies offer before- and after-school care programs. These programs may include fitness/play opportunities, healthy snacks, and tutoring/homework services. According to an NRPA poll, 90% of U.S. adults believe that before- and after-school programs offered by local park and recreation agencies are important. According to the 2021 Out-of-School Time Report, approximately 58% of local parks and recreation agencies offer after-school programming, 20% offer before-school programming, and 36% offer preschool programming. Key benefits of out-of-school time programs include:[6]

- Childcare for working parents and/or caregivers
- A safe space for children
- Physical activity through play, exercise, and sports
- Socialization with peers

[6] National Recreation and Park Association. January 8, 2021. *Out-of-School Time Report*. Ashburn: National Recreation and Park Association. Accessed December 11, 2023. https://www.nrpa.org/publications-research/research-papers/out-of-school-time-survey-results/

Figure 4.16: Overview of NRPA Park Pulse Report on Before- and After-School Care



Source: 2021 NRPA Out-of-School Time Report

Summary

The results of the market study in totality indicate programming gaps in Bangor—both in indoor recreation opportunities and with ice programming. The new facilities proposed in this study would support Bangor and surrounding communities now and into the future.

5.0 Engagement Summary

When the City of Bangor (City) released its RFPs for feasibility studies for a new or renovated Sawyer Ice Arena and a new Parks and Recreation center, it noted a strong desire for community participation to help ensure the final plans included resident needs.

The first deliverable, an Engagement Strategy, summarized opportunities where constituents could provide input regarding these two important community facilities.

For those interested in providing feedback, they could do so via online surveys and two public open houses. Additionally, six focus groups were conducted, with participants invited by Parks and Recreation Department (Department) staff according to current interest and usage of either the recreation center or Sawyer Ice Arena.

Social Pinpoint is an online engagement tool BerryDunn uses to gather community input. With assistance from City staff, BerryDunn customized the Social Pinpoint site for this project, including information on the history of the arena and center, current photos of both facilities, and two surveys—one focusing on ice programming needs and the other on general recreation programming. The Social Pinpoint site was opened for public comment on Tuesday, April 25, 2023, and was publicized in conjunction with the public open houses.

During the week of May 8, 2023, the BerryDunn and CHA consulting teams conducted in-person engagements regarding the feasibility studies for a new/renovated Sawyer Ice Arena and a new recreation center. Consultants met with two staff groups, provided an update on the feasibility study process to City Council, conducted six focus groups, and facilitated two public open houses.

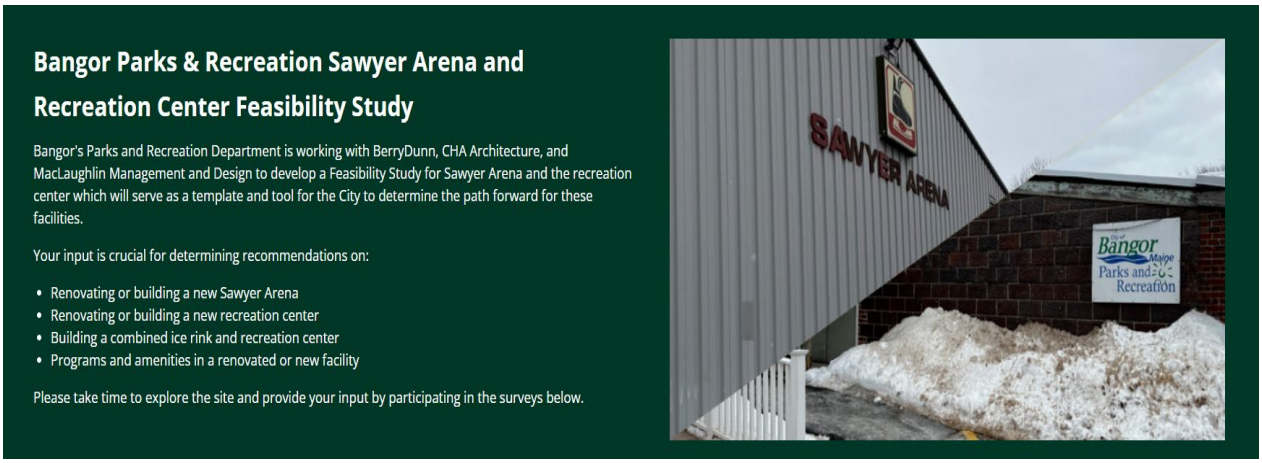
Bangor staff promoted both the Social Pinpoint site and the public open houses via two email communications to its database of 8,500 names. The first notice went out on May 8, 2023, at 9:15 a.m. and the second was sent on May 24, 2023, at 4 p.m. Both of these emails included a link to the Social Pinpoint site.

This section of the report provides a summary of all the community input gathered for these feasibility studies.

5.1 Social Pinpoint Results

The Social Pinpoint site (depicted in Figure 5.1) for this project was available to the community from Tuesday, April 25, to Wednesday May 31, 2023 (five weeks). As noted, the site included a history of each facility, photos of existing conditions at each location, and two surveys (included in Appendix 12.1). The site attracted 571 unique stakeholders who completed 825 surveys: 450 for the Sawyer Ice Arena and 375 for the Recreation Center.

Figure 5.1: Social Pinpoint Page



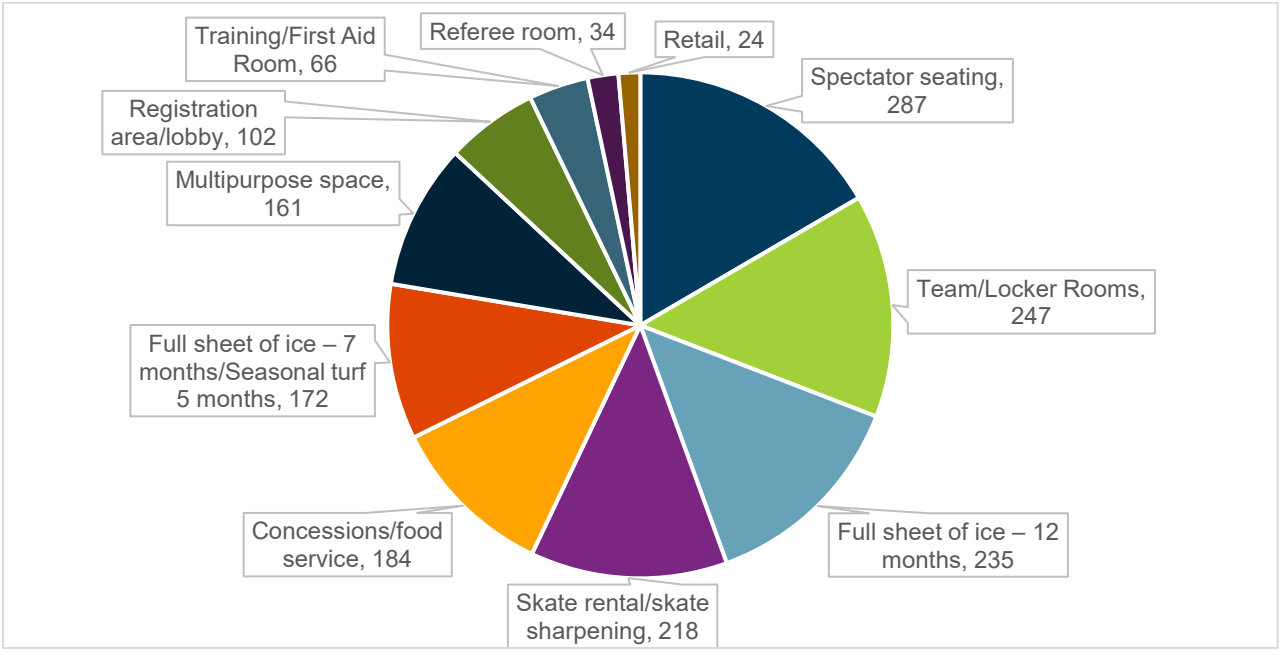
Sawyer Ice Arena Survey Results

The Sawyer Ice Arena Survey comprised four questions; the following section summarizes the results of those questions.

Question #1: What are the most important ice arena components for you and your family? Please select up to five options.

A total of 441 people responded to this question. According to results, the most important elements were spectator seating (287), team/locker rooms (247), full sheet of ice – 12 months (235), and skate rental/skate sharpening (218). Full results are depicted in Figure 5.2.

Figure 5.2: Important Ice Arena Components



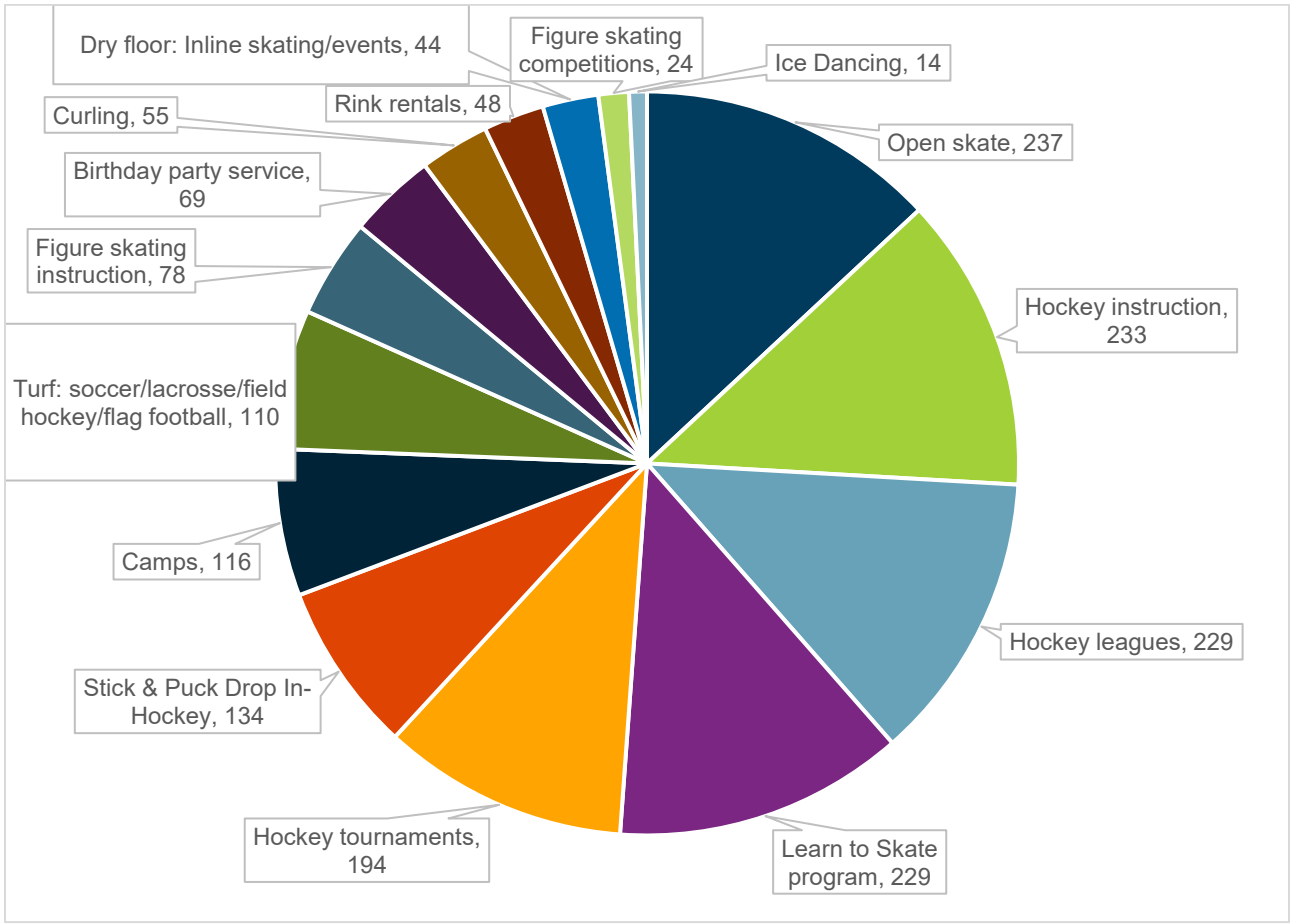
Respondents could also provide additional suggestions for components; those suggestions included the following:

- Warm room with good sound system (4)
- Concrete arena floor for multisport use off season (2)
- Changing table for infants (1)
- Double rink (3)
- Roller rink in summer (1)
- Dry floor for inline or velodrome (1)

Question #2: What are the most important ice-related programs for you and your family? Please select up to five options.

A total of 442 people responded to this question. The top four most important ice-related programs were within eight responses: open skate (237), hockey instruction (233), hockey leagues (229), and the Learn to Skate program (229). Full results are depicted in Figure 5.3.

Figure 5.3: Most Important Ice-Related Programs



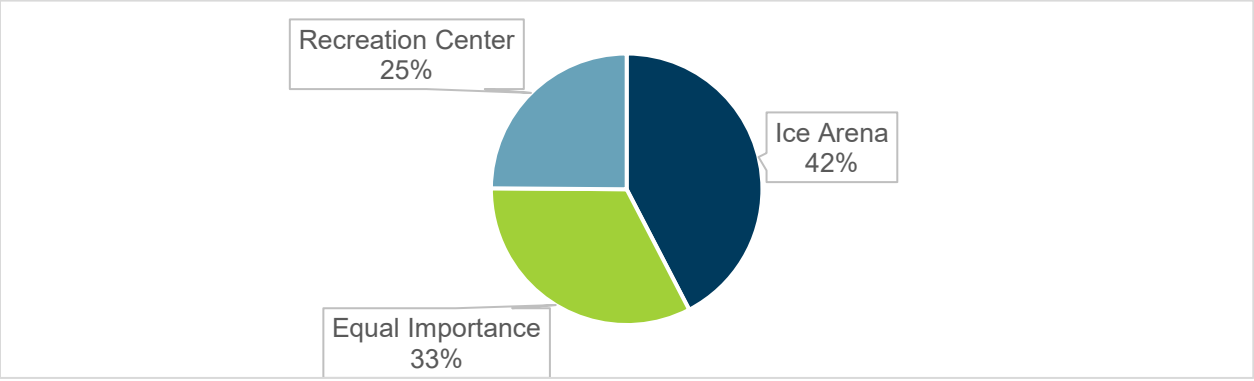
Respondents were also asked if there were any other programs they would like to see in a new or renovated ice arena. Their responses included the following:

- Men's hockey league with flexible hours (2)
- Open skate lessons (2)
- Dedicated open ice time for working adults (1)
- Inline skating and roller derby (2)

Question #3: Which facility is most important to you and your family?

A total of 446 people responded to this question, which offered three response options: ice arena, recreation center, and equal importance. Of respondents, 42% indicated the ice arena was the most important facility, with 33% indicating equal importance. Full results are depicted in Figure 5.4.

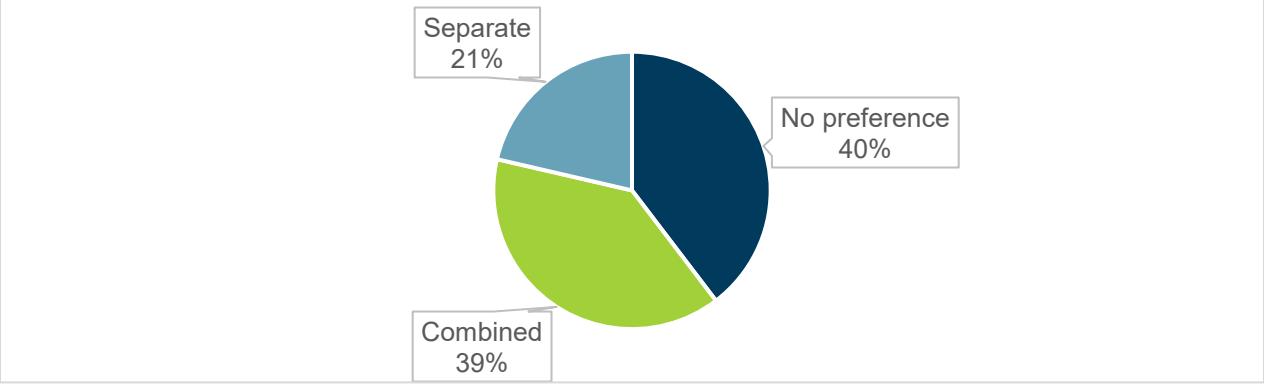
Figure 5.4: Facility Importance



Question #4: Do you think the facilities should be combined on one site or separate?

A total of 449 people responded to this question, which offered three response options: combined, separate, and no preference. Of respondents, 40% indicated they had no preference, with 39% selecting the combined option. Full results are depicted in Figure 5.5.

Figure 5.5: Combined or Separate Facilities



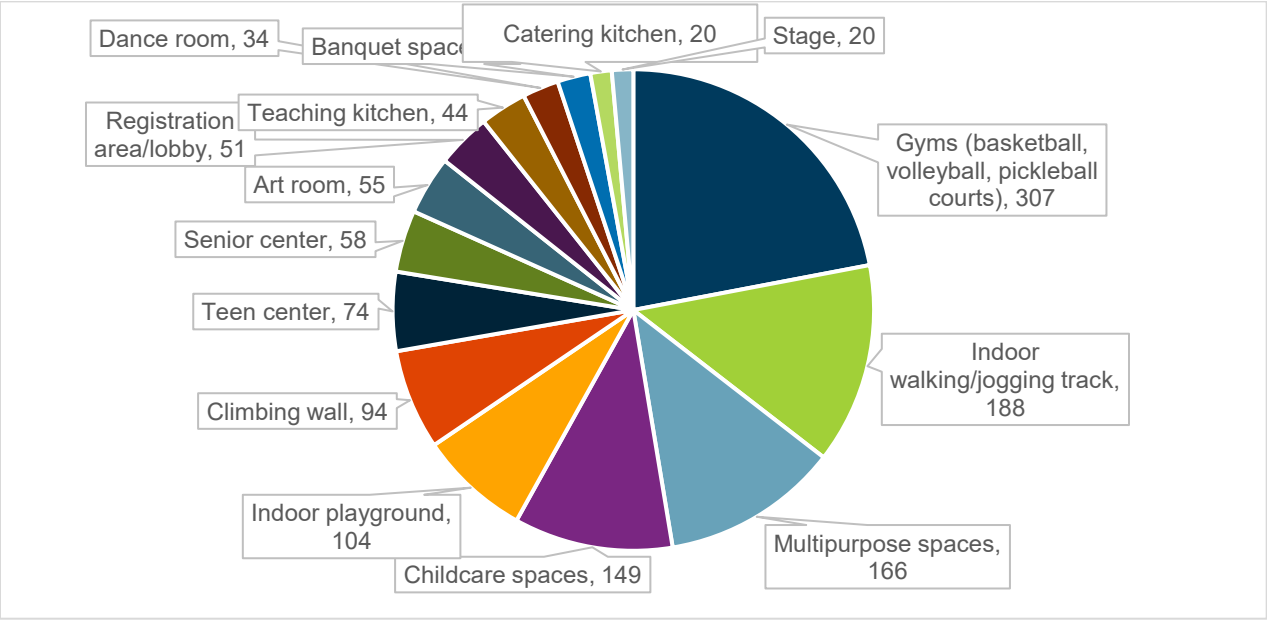
Recreation Center Survey Results

The recreation center survey also comprised four questions; 375 people responded. The results are summarized in the following sections.

Question #1: What are the most important recreation center components for you and your family? Please select up to five options.

A total of 375 people responded to this question. The most important components to respondents are gyms (307), an indoor walking/jogging track (188), multipurpose spaces (166), and childcare spaces (149). Results for this question are depicted in Figure 5.6.

Figure 5.6: Most Important Recreation Center Components



Respondents could also suggest additional spaces they would like to see in a new facility. Those responses included the following:

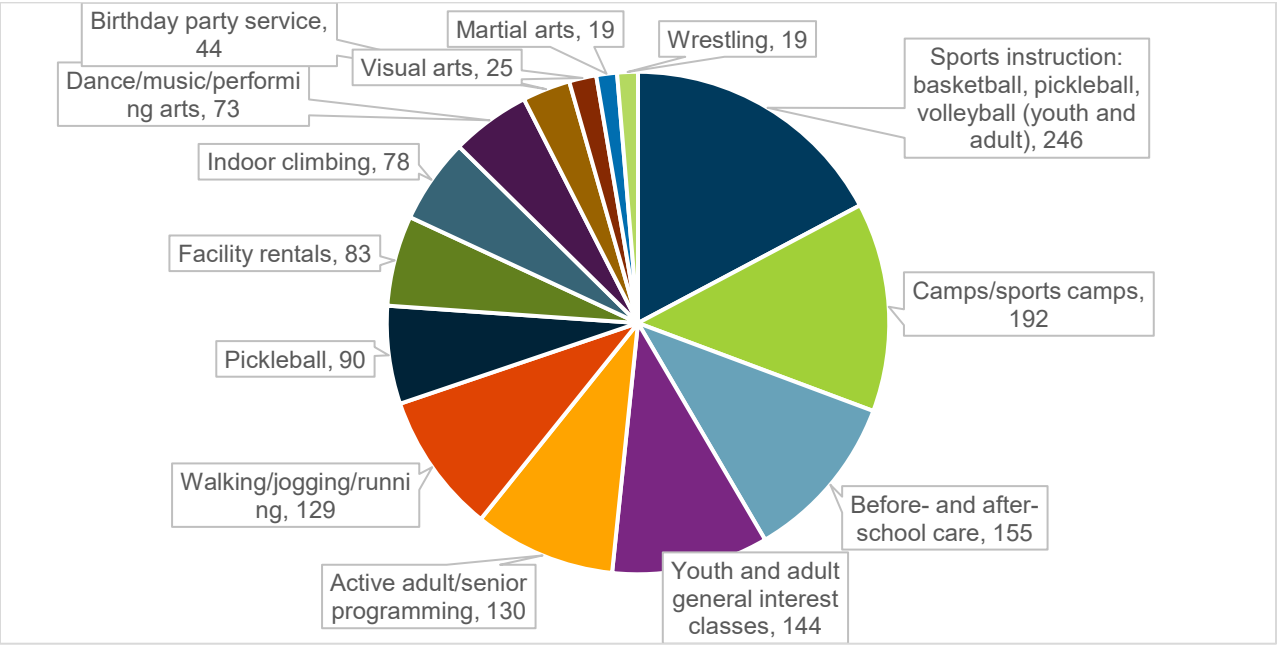
- Indoor lacrosse court (6)
- Pickleball courts (1)
- Squash courts (1)
- Roller rink (1)
- Indoor pool (1)
- Indoor skateboarding (1)
- Sensory-friendly spaces and ADA-appropriate playground (1)
- Group exercise rooms (1)

- Band room (1)

Question #2: What are the most important programs for you and your family? Please select up to five options.

A total of 368 people responded to this question. The most important programs for respondents were sports instruction (246), camps/sports camps (192), before- and after-school care (155), and youth and adult general interest classes (144). Results are depicted in Figure 5.7.

Figure 5.7: Most Important Programs



Respondents could also suggest additional programs they felt were important to a new recreation center; their responses are as follows:

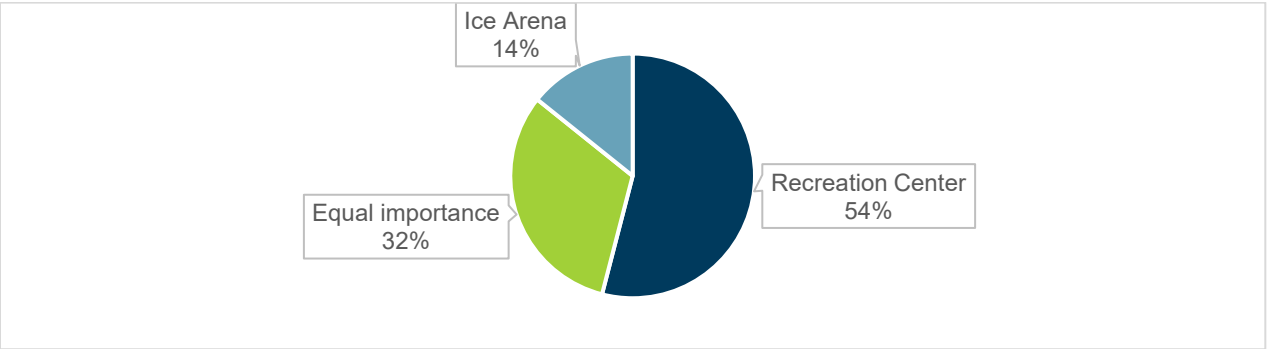
- Lacrosse (6)
- Baton twirling (2)
- Squash (1)
- Basketball at night (1)
- Skateboarding (1)
- Sensory-friendly programs (1)
- Yoga (1)
- Preschool playtime (1)
- Line dance (1)

- Open gym (1)
- Cooking and craft classes (1)
- Roller-skating, inline skating (1)

Question #3: Which facility is most important to you and your family?

A total of 372 people responded to this question, which offered three response options: recreation center, ice arena, or equal importance. Of respondents, 54% indicated that the recreation center was the most important facility, and 32% indicated the facilities were of equal importance. The full results for this question are depicted in Figure 5.8.

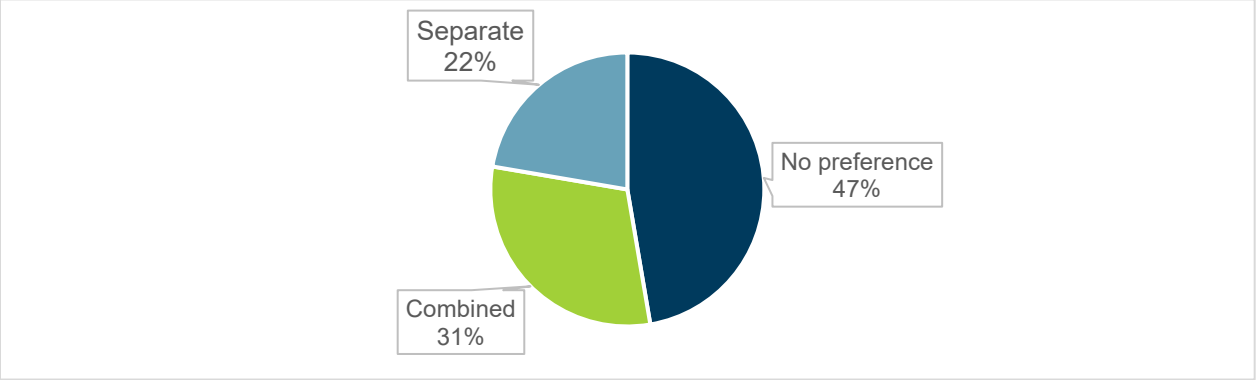
Figure 5.8: Facility Importance



Question #4: Do you think the facilities should be combined on one site or separate?

A total of 372 people responded to this question. Of respondents, 47% indicated they had no preference, and 31% noted the facilities should be combined on one site. The full results from this question are depicted in Figure 5.9.

Figure 5.9: Combined or Separate Facilities



Summary of Focus Groups

Across six focus groups, 33 participants answered similar questions about program participation and usage. The results are summarized in the following sections. The list of questions is included in Appendix 12.2, and the names of participants are included in Appendix 12.3.

Demographics

Focus group participants included short-time Bangor residents (less than a year) as well as longtime residents (more than 20 years). A few non-residents (but heavy users of the Parks and Recreation Department) also participated. Attendees ranged in age from young adults (with children) to seniors with grandchildren.

Current Program Usage

Focus group attendees shared that they or someone in their family have participated in nearly every program and visited every facility the Department provides. One attendee noted the following: “You name it, we have done it!” Another commented “they offer something for everyone.” The following sections list programs and facilities noted during focus groups, with many of these items repeated several times.

Program Participation

- Baseball
- Basketball (as a participant, volunteer coach, and spectator)
- Before- and after-school care
- Field hockey
- Figure skating
- Golf lessons
- Hockey (players and coaches)
- Lacrosse
- Mountain bike club
- Pickleball
- Senior bingo
- Senior dinners
- Ski lessons
- Soccer
- Softball
- Special events: father/daughter dance
- Summer camps
- T-ball

- Tennis
- Tot time
- Wrestling

Facility Usage

- Athletic fields
- Dog park
- Golf: playing the course, walking, skiing, sledding on the course
- Mountain bike trails
- Parks (City Park for cross-country skiing)
- Playgrounds
- Pools
- Recreation Center – programs and meeting spaces
- Sawyer Ice Arena

Additional Discussion

In addition to sharing the programs and facilities they use, participants also noted the following:

- Bangor is at a turning point with population and density; many appreciated the focus on new facilities.
- There are not enough activities offered for senior veterans.
- Effective, collaborative relationships have been created with Parks and Recreation staff (Tracy, Debbie, and Joe), which makes permitting facilities and partaking in programs easy.
- Current facilities do not meet the effort of staff; new facilities are needed to enable Bangor to bring new life into programs.
- Bangor residents have never voted a referendum down; if packaged correctly, a bond should pass (it was noted that during COVID-19 a bond passed for the new track).
- These facilities will help provide cultural identity for Bangor; according to participants, it is important that the community invest in new facilities to meet resident needs.
- The Parks and Recreation Department plays a critical role in the development of Bangor youth; therefore, better indoor facilities are needed.

Parks and Recreation Department Strengths

There was a great deal of conversation regarding current Department strengths. Often, focus group attendees concentrated on the people—Department leadership, employees, and volunteer coaches—as the primary strength of the Department. They also said the wide variety of available programming, despite the lack of facilities, is a primary strength. One person commented the following: "You don't hear much negative about Parks and Recreation." Below are the highlights regarding Department strengths.

- Staff are friendly, kind, creative, and accommodating
    - Although some spaces may not be the best fit for programming, staff make the best of it and squeeze out every bit from resources
    - Clean parks
- Programming
    - Wide variety of youth offerings that keep children engaged
    - Variety – something for every age and interest
    - Affordable
    - Before and after care: division of ages, transportation, security, and flexibility are all amazing
    - Swim lessons
    - Wrestling (new staff and numbers are up)
- Communication (good website)
- Ski passes
- Cooling center/warming shelter for the public during weather emergencies

Sawyer Ice Arena Strengths

When identifying strengths of the Sawyer Ice Arena, many attendees noted Joe Nelson as the primary strength, commenting that he truly cares about kids, is very welcoming, and works very hard to accommodate all the groups (including three high schools) who desire ice time. Other strengths mentioned include:

- Programming
    - Learn to Skate – numbers are up, and classes are consistently filled
    - Hockey – numbers are declining a bit, and the house program needs strengthening
    - Figure skating is growing but untapped

    - Public skating – well-attended program but limited hours available

- Central location – the rink is easy to get to in its current location
- Affordable – the program fees are reasonable
- Warm room – this space is nice—comfortable gathering space, which allows parents and spectators to get together and connect while watching a hockey game.

Desired Ice Arena Amenities

Attendees noted many issues that a new ice rink could address/solve. They expressed challenges with limited ice time, as many groups compete for the same slots, and limited hours for open skate and programming. Some groups call looking for ice time when the facility is closed for the spring and summer months. The current chiller system is old (though it has been refurbished several times), and it is becoming difficult to find repair parts. The current floor is dirt and will not sustain ice in the summer months.

Whether to build one sheet ice or two, and the number of months the ice would be available throughout the year were significant conversation topics. Some attendees suggested considering opportunities for expansion in the future. Below are the facility components that focus group attendees suggested when brainstorming about a new ice arena in Bangor:

- A new, modern, accessible facility is needed, as the existing rink is antiquated and cannot be used 12 months a year; year-round ice is desired by most.
- Two sheets of ice—at least one sheet open for 12 months and one open for open for part of the year—to accommodate the needs of all teams and to increase programming for the community.
- More spectator seating (1,000 per sheet) is needed to accommodate all the groups who permit ice time and to control and separate different groups of fans during some games.
- More rink amenities (spacious lobby, team rooms, spectator seating, skate rental, quality concessions, pro shop) to draw large tournaments to the facility.
- More team rooms are needed (potentially 16 for two sheets; maybe two can be combined into one for the older teams).
- Additional storage is needed, and some groups (Bangor High) who permit a great deal of ice time would like dedicated storage for their program (in Auburn, they have rolltop storage for players to securely allow their equipment to dry and air out).
- Space for warm-ups, stretching, and off-ice training is needed (multipurpose space).
- Classroom space adjacent to the ice for people wearing skates.
- A room for coaches to meet and review film.
- A training room and a room for referees are needed.

- A media room and a dedicated space for event photos (for social media purposes).
- VIP boxes would be a nice addition in a new rink (like the University of Maine).

Additional Discussion Regarding New Ice Arena

- The current facility is a great place to learn how to skate, but it is a terrible location for hockey competition for all the reasons listed above.
- Is there an opportunity for a partnership with Husson University for their hockey program?
- Some people now travel to Augusta in the summer months for ice, so the perception is that a year-round ice facility in Bangor would be utilized.
- Learn to skate numbers are on the rise with waiting lists. If these children cannot be accommodated, they will go elsewhere for find another sport.
- A hybrid facility for the second sheet of ice that can provide ice in the winter and other activities in the summer (turf, batting cages, cornhole, and pickleball) should be considered.

Opportunities With New Recreation Center

Like a new ice facility, there was a great deal of discussion about the possibilities a new recreation center could bring to the community. When the new Cross Center was proposed, some community members expressed that the City could not afford it and that it was unrealistic; however, it has been an incredible addition to the community, and much more has come out of it than originally planned.

Several focus group attendees noted that it is very important that kids and families stay engaged in physical activities and that a new centrally located community hub is needed for this purpose. A one-stop-shop was described as the ideal facility—a place that is welcoming, fun, multigenerational and multipurpose to address community needs as a whole. Many expressed the need for modern technology, improved acoustics, and a one-story building with fewer stairs than the current facility.

Losing the YMCA gym space has impacted the community, which attendees noted several times.

There was a great deal of excitement when discussing possible recreation center components and programming. Below is a high level list of each.

Desired Recreation Center Components

- American Legion space – can be shared space with other programs or renters
- Arts and crafts room with sinks
- Climbing wall

- Computer lab
- Dedicated childcare spaces: This program is a huge success (and necessity) in Bangor, and people would like to see it expand. A separate, secured entrance (but with a direct connection to the rest of the center) was suggested along with a fenced playground adjacent to the space
- Employee lounge for breaks, meals, meetings away from the public
- Field house with turf that could support soccer, field hockey, and lacrosse and include drop-down batting cages from the ceiling to support baseball and softball programming
- First aid space/nurse's station
- Fitness room with exercise equipment; some noted other entities are providing these opportunities
- Greenhouse for programming
- Group exercise spaces with a wood floor, mirrors, barres, and a sound system
- Gyms/hard courts with spectator seating; the number needed for all types of sports (basketball/with adjustable rims, volleyball, pickleball, etc.) varied from two to six. It was noted that using the variety of grade schools for park and recreation programming can be difficult for parents if they have children in different age groups. And several courts with spectator seating would allow Bangor to host tournaments and provide space for parents to observe programs
- Indoor playground/ball pit
- Indoor tracks (two types) were described as needs: One raised over the gyms for walking and jogging (for recreational, drop-in purposes) and one as part of a field house with a turf infield for local track teams to use for indoor workouts and track meets during the winter months
- Library space
- Lobby/registration area: large, comfortable space with coffee and concessions/vending – large enough for people to gather and kids to complete homework while they wait for programs to begin or for a ride home
- Locker rooms
- Multipurpose spaces for trainings, meetings, birthday parties, drop-in programs, rentals, and events (with technology built in, such as a projector). A large space with access to a kitchen that can be divided into smaller spaces was suggested
- Office for social services

- Preschool spaces – this could potentially provide an opportunity for a nine-month preschool or early childhood programming
- Quiet room
- Senior spaces on first floor – do not need to be dedicated but must have secured storage
- Teaching kitchen

Desired Recreation Center Programming

Expanded programming for all ages is desired: early childhood, youth, teens, adults, and seniors. Some specific programs noted include:

- Adult programming evenings and weekends – opportunities for parents with children to have alone time (Christmas shopping, date nights)
- Arts programming – programs for people who are not into sports
- Batting and pitching practice
- Cheer
- Childcare for City staff
- Cooking and baking classes for all ages
- Esports/interactive games/enhanced technology
- Events/indoor movies
- Expanded childcare/babysitting
- Group exercise: yoga, chair yoga, and others
- Gymnastics
- Line dancing
- Localize youth programming into one facility (Kids Cave and summer camps)
- Martial arts
- Sports: baseball, flag football, field hockey, lacrosse, pickleball, soccer, volleyball, and wrestling
- Youth drop-in program

Additional Discussion Regarding a Recreation Center

Some additional items that were discussed in conjunction with a new recreation center included:

- Covered entryway from parking lot to make it safer for seniors to access the facility
- Dedicated entrances for some activities (before- and after-school care and social services)
- Parking near the entrance and enough to cover all the activities offered in the facility simultaneously/easy drop-off for buses and bus parking
- Playground and outdoor basketball court with adjustable rims on-site, and the playground should be in a safe location (not across the parking lot)
- Public transportation – easy access from a new recreation center site

Financing New Facilities

When asked how a new ice arena or recreation center should be funded, nearly every focus group included a contingent that suggested a referendum be held to issue bonds. Historically, Bangor has a great deal of success passing bond issues (none have ever failed according to staff). Participants noted that if the appropriate building was designed that met the needs of all age groups, it was likely a referendum would pass.

There was some conversation about the current YMCA funding campaign and if this would affect the City's plans for new public facilities. Others suggested sponsorships, naming rights, and fundraising from local businesses could help raise funds for construction. Federal grants were also noted as a potential option to help fund new construction.

Nearly all noted that program fees should cover overhead but not the debt service.

Key Partners and Stakeholders

When asked about potential partners and stakeholders who might assist with new facilities, the following were suggested:

- Banks
- Car dealerships
- Hospitals
- Husson University
- Local schools
- Paper companies

Key Issues and Values

Focus group attendees were asked about key City issues and values that should be considered as new facilities are explored. The following items were noted.

- Inclusive, accessible

- Life safety
- Standby power to provide shelter during weather emergencies
- YMCA is currently conducting a campaign for a new facility
- A low entry point is needed for youth programming; the children who need it most have several barriers to participation
- It is critical to provide something (not everything) for everyone
- Homelessness issue – how will this rising issue relate to a new facility?
- Public buy-in could be an issue
- Need to frame the benefits of a recreation center appropriately and completely for community well-being

Facility Importance

Most focus group attendees indicated that both facilities are important for Bangor's future. A few indicated that a recreation center was more important, and a couple of others indicated that a new ice center was most important, but these groups were small.

Combined on One Site or Separate

Focus group attendees were asked if the City were to build both facilities, should they be combined on one site or constructed in different locations. Overwhelmingly, people preferred one site due to streamlining of registration, staffing, parking, and building maintenance to name a few. A couple of people felt there would be too much on one site depending on the size of the property.

Parks and Recreation Department Maintenance Facility

With the potential construction of a new recreation center, parks staff were asked about current issues and their space needs in a new facility. Parks staff currently operate seven days a week and maintain more than 400 acres of land. In addition to maintaining the parks, they also maintain three core facilities for the schools. The staff are trailering to many different places each day. Currently, the maintenance operations are on the edge of town, and a more central location would be ideal due to the travel time across the community.

Many staff believe there are benefits from being on the same site as Parks and Recreation administration. The highlights of this conversation included the following:

- They are currently lacking space – more indoor storage is needed.
- The mechanic shop should be separate from storage.
- The wash bay should be connected to the mechanic shop.

- One additional vehicle bay is needed.
- In the current location, it is difficult to store snow and provide enough parking for weekend activities.
- The high school may need an off-site maintenance space, and this could potentially be combined with Parks and Recreation maintenance.

Other Items for Consideration

When discussing the possibility of new recreation facilities in Bangor, the following topics related to Parks and Recreation in Bangor were raised:

- Bathrooms are needed in existing parks
- Bicycle access if needed to new facilities
- A pump track is desired for children, with a suggestion that this could go next to an equestrian track
- Indoor equestrian arena
- The grandstand needs to be rebuilt; a new recreation center could be placed in this location
- If an ice arena and a recreation center were combined, they should have dedicated entrances

Public Open Houses

The consulting teams and staff collaborated to provide two public open houses on the evenings of Tuesday, May 9 and Wednesday, May 10. These were held at the recreation center and included five stations:

- **Station 1: Greeter.** At this station, attendees signed in and obtained directions on the details of the open house.
- **Station 2: PowerPoint.** At this station, attendees watched a PowerPoint presentation that provided an overview of the project (what are we doing, why, where are we now, purpose of open house) and next steps.
- **Station 3: Ice Arena.** At this station, attendees viewed photos of existing conditions and were provided five stickers to vote on new facility components and five stickers to vote on desired ice programming.
- **Station 4: Recreation Center.** At this station, attendees viewed photos of existing conditions and were provided five stickers to vote on new recreation center components and five stickers to vote on desired recreation programs.

- **Station 5: Priorities.** At this station, two more questions were presented for voting, and everyone was provided one sticker for each question. The questions were:
    - Which facility is most important to you and your family?
        - Ice arena
        - Recreation center
        - Equal importance
    - Do you think the facilities should be combined on one site or separate?
        - Combined
        - Separate
        - No preference

Open House Results

A total of 17 people attended the two open houses (13 on Tuesday and four on Wednesday). The names of open house attendees are in Appendix 12.4 Attendees were provided 22 stickers: five to vote on ice components, five to vote on ice programming, five to vote on recreation center components, five to vote on recreation programming, one sticker to vote for the most important facility, and one sticker to vote on whether the two facilities should be combined or separate. For the components and programming, attendees could put all their stickers on one item or spread them out. Blank sheets were also available so attendees could provide additional ideas on ice arena components, ice programming, recreation center components, and recreation center programming. The results of the voting are summarized in the following sections.

Ice Arena Voting

The voting for the ice arena components is as follows:

- Full sheet of ice (20)
- Team locker rooms (13)
- Seasonal ice providing turf for five months (12)
- Spectator seating (10)
- Concessions/food service (9)
- Registration/lobby and multipurpose space (8)
- Skate rental/skate sharpening (7)
- Referee room and retail (3)

- Training/first aid room (1)

Additional Ideas for Ice Components

- Minimum of two sheets of ice: examples include Uniplex and Willie O'Ree in Canada. Both facilities have one rink with an overhead gallery. One rink is stadium-style seating with an indoor walking and fitness track above. The locker rooms and concessions are in the middle. Have a cement floor for inline, ball, hockey, lacrosse, and community events.
- Two sheets of ice are needed. There is not enough ice here for the programs, and it would allow more time for figure skating programs, power skating, stick and puck, and skill development. With a better facility, tournaments could be hosted with economic impact to Bangor.
- A fitness room and an outdoor, cement covered shooting area surrounded by chain-link fence would be great.
- Two full sheets are required. One sheet should be year-round. There are plenty of opportunities for it to be used year-round.
- Two sheets – revenue generating from tournaments.
- Elevated walking track and multigenerational spaces.
- One full sheet of ice and a mini sheet that can be used for instruction, mite, and private rentals.
- Year-round ice.
- Two full sheets of ice and bigger team rooms.

Ice Center Programming

- Hockey tournaments (17)
- Soccer/lacrosse/field hockey/flag football (11)
- Hockey instruction, open skate, and stick and puck drop-in hockey (9)
- Hockey leagues (6)
- Figure skating and Learn to Skate Program (4)
- Curling and rink rentals (3)
- Camps, dry floor (inline skating), and ice dancing (1 each)
- Birthday party service (0)

Additional Ideas for Ice Arena Programs

- Broom ball (2)

Recreation Center Components

- Gyms (for basketball, volleyball, pickleball) (22)
- Indoor walking/jogging track (16)
- Childcare spaces and registration area/lobby (7 each)
- Multipurpose spaces and climbing wall (6 each)
- Indoor playground (5)
- Art room (4)
- Dance room, senior center, and teen center (3 each)
- Teaching kitchen and stage (2 each)
- Banquet space (1)
- Catering kitchen (0)

Additional Ideas for Recreation Center Components

- Locker rooms
- Mini golf
- Indoor tennis/pickleball
- Indoor turf field
- Multiple gyms – need more gym time for baton twirling program
- Multigenerational space
- Combine all the elements: elevated walking track over ice/field/multipurpose space/lounge/food, etc.
- Turf fields – indoor/outdoor

Recreation Center Programming

- Pickleball (13)
- Before- and after-school care and sports leagues (11)
- Camps/sport camps and walking/jogging/running (9 each)

- Youth and adult general interest classes (8)
- Sports instruction (6)
- Active adult programming (4)
- Facility rentals (3)
- Birthday party service, dance/music/performing arts, martial arts, indoor climbing, and visual arts (2 each)
- Wrestling (1)

Additional Ideas for Recreation Center Programs

- Esports for teens
- Bocce ball
- Field hockey
- Ultimate frisbee
- Open gym time for baton twirling program
- Intro-to classes for adults: dance, pickleball, cooking, finance, etc.
- Pickleball
- Meeting space with media and stadium seating for:
    - Nonprofit groups
    - Youth sports board meetings
    - Officiating classes/certification
    - Instruction
    - Team meetings

Facility Importance

For the last two questions, more votes were received than the number of people who signed in; therefore, it appears that either some people received a few extra stickers, or some people did not sign in (it is possible a couple of youth attended with their parents and voted but did not sign in).

The following question was posed: “Which facility is the most important to you and your family?” The responses were as follows:

- Ice Arena (11)

- Recreation Center (8)
- Equal importance (4)

Facility Locations

The following question was posed: “Do you think the facilities should be combined on one site or separate?” The responses were as follows:

- Combined (16)
- Separate (2)
- No preference (1)

6.0 Facilities Desired Based on Engagement

The full project team (including City Parks and Recreation Department leadership and the consulting team) met to review the results of the engagement. Based on community feedback, the project team determined CHA Architects would begin to compile concept plans for a **combined facility** with the following components as a starting point:

- Shared parking
- Combined registration/lobby area/main point of entry
- An ice arena (one wing) to include:
    - Two full sheets of ice/one for 12 months and one for 7 months
    - Ample spectator seating/warm room
    - Eight team rooms/locker rooms
    - Concessions
    - Referee room
    - Training room
    - Multipurpose space
    - Media space
- Recreation center (another wing) to include:
    - Three gyms
    - Elevated walking/jogging track above the gym (with storage underneath)
    - Dedicated space for the before- and after-care program with access to outdoors
    - Multipurpose space
- Space for the Parks Department
- Potential space for the schools

The combined facility will require a large site (minimum of 16 acres), so several potential sites that were under consideration were eliminated as options.

For two months, the consulting team lead by CHA Architects worked to create a facility plan that would meet community needs based on public engagement and staff input.

In addition to the combined recreation center and ice arena, the City asked for a maintenance space that could accommodate the needs of the Parks Department and the schools (for a total of 42,000 square feet). In addition, the City asked for a potential structure to be included on the site to house Health and Community Services in a standalone facility of 14,000 square feet.

Due to the selected site's size and the park-like setting, staff requested the site also include:

- Athletic fields
- Pickleball courts
- Tennis courts
- A fenced-in playground for childcare
- A walking path around the site
- Two shelters (one for the athletic fields and one for the fenced-in playground)
- A courtyard near the senior spaces to provide outdoor program space

6.1 Program Plan

The design team gathered Social Pinpoint site data as well as multiple stakeholder and user meetings/interviews and compiled a tentative list of program spaces for the new facilities. The list of various spaces were vetted in multiple meetings with stakeholders and the design team to develop a final preferred building program.

Allocations for room areas and associated support spaces and circulation were established based on similar building typologies. This was then formalized into the proposed building programs for the community/recreation center, the maintenance building, and ice arena. These programs serve as the basis to develop plan diagrams and establish approximate building size.

Once the building size is determined, the various sites could be analyzed for building accommodation, parking, service access, and other site amenities.

Proposed Recreation Center and Ice Arena

The new 69,000-square-foot recreation center is anticipated to be primarily a single-story facility to minimize cost and enhance accessibility. The proposed suspended walk-jog track would be the only component on an upper level that requires two egress stairs and a two-stop hydraulic elevator. The recreation center program comprises public/activity spaces, an administrative suite, childcare, and building support spaces.

The public/activity spaces include entrance and reception areas, lounge spaces, multipurpose spaces, a three-court gymnasium, an indoor playground, and locker rooms. Strength training was eliminated from the program to prevent competition with other existing facilities in the City. The administration suite anticipates future growth and includes offices and meeting space. The childcare component comprises five classrooms and associated support spaces.

The 85,000-square-foot ice arena is also anticipated to be a single-story structure with multipurpose and media space over a locker/changing room core centered between the two ice sheets. This overlooking mezzanine will require elevator access and two stairs. The locker core will have 12 locker changing rooms, and half will feature shower facilities.

The two ice sheets have spectator seating, with planned seating for 250 and 750 spectators. The facility will also have spaces to maintain the ice sheets, a refrigeration plant, two Zambonis, and storage. An administrative suite is programmed as is a lobby/entrance, concessions, and skate rental/sharpening. An ice-level multipurpose room is planned for events and parties.

The proposed design envisions a shared, single main entrance plaza serving both lobbies. The lobbies would interconnect but could also be separated to accommodate competing schedules. A separate entrance would be provided for childcare. Simple linear circulation routes have been developed to avoid circuitous and difficult wayfinding. The single-story and large linear footprint could allow for significant solar collection on the south-facing roofs.

Table 6.1: Recreation Center Program Plan

Recreation Center Group	Program Space	Quantity	Area	Total	Notes
1.00	**Public**				
1.10	Vestibule	1	150	150	
1.11	Lobby	1	300	300	
1.12	Reception Desk	1	120	120	
1.13	Lounge/Seating Area	1	200	200	
1.20	Men's Restroom	1	250	250	Serving 250 men: 2 urinal, 2 toilets, 2 lavatories
1.21	Women's Restroom	1	350	350	Serving 250 women: 7 toilets, 3 lavatories
1.22	Gender Neutral/Family Restrooms	2	75	150	
1.30	Concessions/Food Service	1	175	175	
1.31	Concessions Support/Storage	1	125	125	
1.40	Catering Kitchen	1	350	350	
1.41	Kitchen Storage	1	200	200	
1.50	First Aid/Quiet Room	1	150	150	
1.00	**Subtotal Public NSF**			**2,520**	
2.00	**Activity Spaces**				
2.10	3-Court Gymnasium	1	22,300	22,300	84' x 50' courts; spectator seating for 150 @ each court
2.11	Gymnasium Storage	1	400	400	Possible storage lockers within gymnasium
2.13	Suspended Walk-Jog Track	1	6,640	6,640	3-lane over court run-out
2.20	Multipurpose/Party Rental/Instruction	1	1,800	1,800	Subdividable into 2 @ 900
2.21	Multipurpose/Party Rental/Instruction	1	900	900	
2.22	Multipurpose Storage	3	130	390	
2.23	Multipurpose Kitchenette	1	120	120	
2.30	Arts & Crafts Room	1	900	900	
2.31	Arts & Crafts Room Storage	1	120	120	
2.40	Multigenerational Lounge	1	750	750	Shared senior & teen center; lockable millwork
2.41	Multigenerational Lounge Storage	2	100	200	Storage for seniors & teen use
2.50	Esports Room	1	450	450	
2.51	Esports Data/IT/Storage	1	100	100	
2.60	Activity Wall	1	800	800	Bouldering low wall
2.70	Indoor Playground	1	1,000	1,000	Adjacent to multipurpose rooms
2.00	**Subtotal Activity NSF**			**36,870**	
3.00	**Administration Suite**				
3.10	Reception	1	250	250	
3.11	Open Office	1	300	300	
3.12	Private Office	2	150	300	
3.13	Private Office	4	120	480	
3.14	Work Room	1	120	120	
3.15	Kitchenette	1	100	100	
3.16	Gender Neutral Restroom	1	75	75	
3.17	Conference Room	1	350	350	Accessible from Administration Suite and public corridor
3.18	Storage	1	100	100	
3.00	**Subtotal Administration Suite NSF**			**2,075**	
4.00	**Locker Rooms**				
4.10	Womens Locker Room	1	250	250	20 capacity
4.11	Women's Locker Room Toilet/Shower	1	260	260	3 toilets, 1 lavatory, 3 showers
4.20	Men's Locker Rooms	1	250	250	20 capacity
4.21	Men's Locker Room Toilet/Shower	1	240	240	2 toilets, 1 urinal, 1 lavatory, 3 showers
4.30	Single Occupancy Changing/Toilet/Shower	1	150	150	
4.40	Officials/Referees	2	200	400	
4.00	**Subtotal Locker Rooms NSF**			**1,550**	
5.00	**Building Support**				
5.10	Mechanical	1	350	350	
5.20	Electrical	1	200	200	
5.30	IT/Data	1	120	100	
5.40	Building Storage	1	500	500	
5.50	Janitorial	2	50	100	
5.60	Receiving Area	1	150	150	
5.70	Employee Break Room	1	250	250	
5.80	Emergency Generator	1	500	500	If anticipaced use as storm shelter
5.00	**Subtotal Building Support NSF**			**2,150**	

6.00	**Child Care**				
6.10	Classrooms	5	900	4,500	
6.12	Restrooms	5	75	375	Age appropriate restrooms
6.13	Cubbie/Coat Storage	5	150	750	Possible centralized location
6.14	Classroom Storage	5	100	500	
6.20	Open Office	1	300	300	
6.30	Quiet Room	2	100	200	
6.40	Conference Room	1	150	150	
6.00	**Subtotal Child Care NSF**			**6,775**	
	Subtotal NSF			**51,940**	
	Total GSF			**69,080**	75% efficiency

Table 6.2: Skating Center Program Plan

Skating Center Group	Program Space	Quantity	Area	Total	Notes
1.00	**Public**				
1.10	Vestibule	1	200	200	
1.11	Lobby/Lounge/Seating	1	700	700	
1.12	Reception Desk/Registration	1	150	150	
1.13	Warming Lounge/Seating Area	1	300	300	
1.20	Men's Restroom	1	500	500	Serving 550 men: 5 urinals, 3 toilets, 3 lavatories
1.21	Women's Restroom	1	700	700	Serving 550 women: 13 toilets, 4 lavatories
1.22	Family Restrooms	2	75	150	
1.30	Concessions/Food Service	1	175	175	
1.31	Concessions Support/Storage	1	125	125	
1.32	Vending	1	150	150	
1.40	Skate Rental/Sharpening	1	350	350	
1.50	Staff Room	1	250	250	
1.00	**Subtotal Public NSF**			**3,750**	
2.00	**Activity Spaces**				
2.10	Ice Sheet 1	1	26,000	26,000	85' x 200' sheet, player & penalty boxes, fixed seating for 250
2.11	Ice Sheet 2	1	29,600	29,600	85' x 200' sheet, player & penalty boxes, fixed seating for 750
2.12	Media Room	1	300	300	Shared media room overlooking ice sheets
2.20	Multipurpose Room	1	800	800	Subdividable
2.20	Multipurpose Storage	1	150	150	
2.20	Multipurpose Kitchenette	1	120	120	
2.00	**Subtotal Activity NSF**			**56,700**	
3.00	**Administration**				
3.10	Reception	1	200	200	
3.11	Open Office	1	300	300	
3.12	Private Office	3	120	360	
3.13	Work Room	1	100	100	
3.14	Kitchenette	1	100	100	
3.15	Conference Room	1	250	250	Accessible from Administration Suite and public corridor
3.16	Storage	1	100	100	
3.00	**Subtotal Administration Suite NSF**			**1,410**	
4.00	**Locker Rooms**				
4.10	Team Locker Rooms	12	410	4,920	25 capacity
4.11	Team Locker Room Toilet	6	250	1,500	2 toilets, 1 lavatory, 3 showers
4.12	Team Locker Room Toilet/Shower	6	200	1,200	2 toilets, 1 lavatory
4.30	Single Occupancy Changing/Toilet/Shower	2	150	300	
4.40	Officials/Referees	2	200	400	
4.50	First Aid/Training	1	200	200	
4.00	**Subtotal Locker Rooms NSF**			**8,520**	
5.00	**Building Support**				
5.10	Mechanical	1	200	200	
5.20	Electrical	1	150	150	
5.30	IT/Data	1	120	100	
5.40	Building Storage	1	600	600	
5.50	Janitorial	2	50	100	
5.60	Receiving Area	1	150	150	
5.70	Refrigeration	1	1,500	1,500	
5.80	Offices	2	120	240	
5.80	Zamboni	1	1,100	1,100	(2) zambonies & ice melt pit
5.00	**Subtotal Building Support NSF**			**4,140**	
	Subtotal NSF			**67,940**	
	Total GSF			**84,925**	80% efficiency

Proposed Maintenance Building

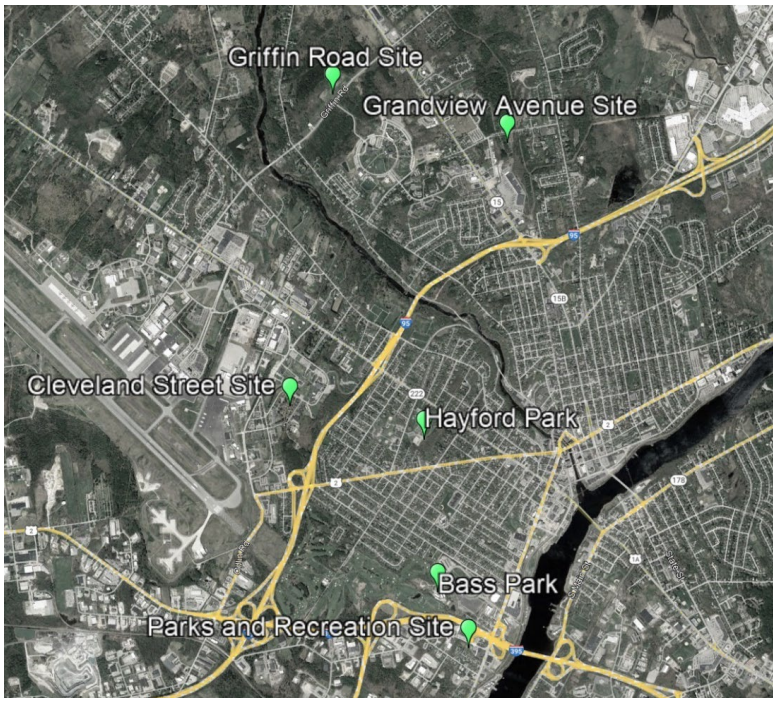
The 42,000-square-foot maintenance building is programmed to combine the municipal and school needs in one shared facility. A pre-engineered, single-story steel building with support wing/headhouse is anticipated to be the most cost-effective solution. The pre-engineered building would contain the work space and storage; the support wing would house the offices, break room, restrooms, and lockers. A large outdoor fenced area would be included with secure/roofed material bins. Similar to the recreation center and ice arena, the large footprint could allow for significant solar collection on the south-facing roof.

Table 6.3: Maintenance Building Program Plan

Maintenance Building Group	Program Space	Quantity	Area	Total	Notes
1.00	**Front Office**				
1.00	Vestibule	1	120	120	
1.11	Open Office	1	350	350	
1.12	Work Room/Office Storage	1	150	150	
1.13	Private Office	2	120	240	
1.00	**Front Office NSF**			**860**	
2.00	**Staff Support**				
2.10	Break Room	1	300	300	Includes kitchenette
2.20	Men's Staff Lockers	1	200	200	
2.21	Men's Restroom & Showers	1	250	250	2 toilets, 1 lavatory, 2 showers
2.22	Women's Staff Lockers	1	200	200	
2.23	Women's Restroom & Showers	1	250	250	2 toilets, 1 lavatory, 2 showers
2.00	**Staff Support NSF**			**1,200**	
3.00	**Municipal Work Space & Storage**				
3.10	Maintenance Shop	1	8,300	8,300	
3.20	Automotive Shop	1	4,400	4,400	
3.30	Heated Wash Bay	1	350	350	
3.31	Equipment Wash Space	1	300	300	
3.31	Garage	8	350	2,800	(8) bays @ 350
3.31	Storage	1	5,775	5,775	
3.31	Hazardous Material Storage	1	600	600	
3.00	**Municipal Work Space & Storage NSF**			**22,525**	
4.00	**Schools System Work Space & Storage**				
4.10	Maintenance Shop	1	2,000	2,000	
4.20	Automotive Shop	1	2,400	2,400	
4.30	Heated Wash Bay	1	350	350	
4.31	Equipment Wash Space	1	300	300	
4.31	Garage	8	350	2,800	(8) bays @ 350
4.31	Storage	1	2,500	2,500	
4.31	Hazardous Material Storage	1	600	600	
4.00	**School System Work Space & Storage NSF**			**10,950**	
Notes:					
1	Outdoor fenced area				
2	Secure/roofed material bins				
3	Loading ramp				
	Subtotal NSF			**35,535**	
	Total GSF			**41,931**	85% efficiency

7.0 Site Reviews

BerryDunn and CHA staff toured and reviewed several sites for the development a community/recreation center for the City of Bangor. Because the majority of residents and the Parks and Recreation Department desired to have all of the facilities in one location, site capacity was a key factor. The following sites were reviewed as options for new recreational facilities:



A. Griffin Road
B. Bass Park
C. Current Parks and Recreation Department Site
D. Hayford Park (current Sawyer Ice Arena site)
E. Cleveland Street
F. Grandview Avenue

During our evaluation, the consulting team considered several factors:

- Size of site and buildable area
- Location
- Accessiblity
- Environmental constraints
- Topography
- Utilities

This section of the report provides detailed descriptions of sites, the benefits and detractions for each, and potential fit of the desired program. These diagrams illustrate how the proposed program will or will not fit on each site.

Site Option A: Griffin Road

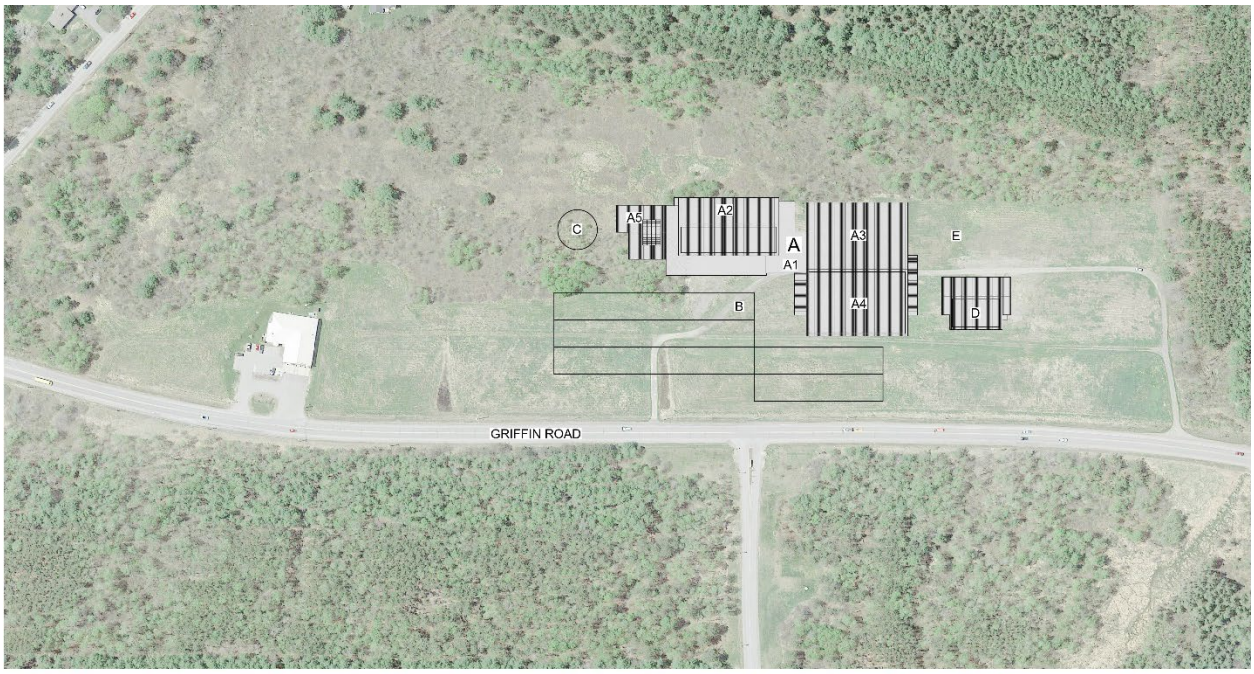
The Griffin Road site is a large, 41-acre, relatively flat rectangular parcel bounded by Griffin Road and Kenduskeag Avenue. It is geographically in the center of Bangor and directly opposite Husson University's Husson Way main entrance. The site surrounds the new Bangor Fire Department Station #6.

Site Option A Benefits:

1. Large site; single-story development potential with ample parking
2. Central Bangor location
3. Programmatic possibilities with Husson University
4. Proximity to Bangor High School
5. Close proximity to Interstate 95 (5 – 10 miles)
6. Minimal residential neighborhood impact
7. Possible outdoor activity incorporation

Site Option A Detractions:

1. Not directly accessible from Interstate 95
2. Remoteness from downtown (2.75 miles)
3. Lack of Public Transportation



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium A3. Ice Sheet 1 A4. Ice Sheet 2 A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard D. Maintenance Building E. Service Yard

Site Option A Fit Diagram: The site accommodates the full desired program with ample room for parking, circulation, the children's playground, and room for additional outdoor recreational facilities.

Site Option B: Bass Park

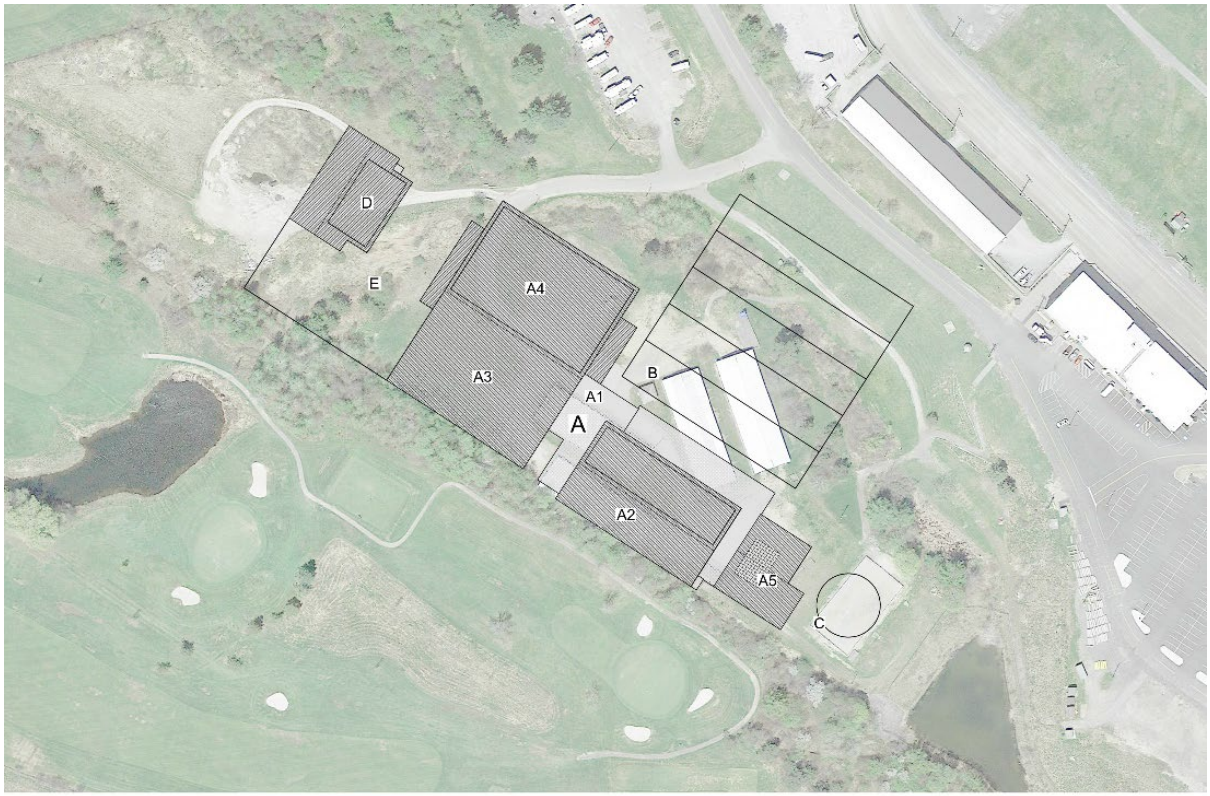
The 69.23-acre Bass Park site is adjacent to the Bass Park Racetrack and Bangor Municipal Golf Course. The developable parcel is south of the racetrack and relatively flat (shaded yellow).

Site Option B Benefits:

1. Convenient access to Interstate 95, Interstate 395, and downtown
2. Close to current Parks and Recreation building
3. Programmatic opportunities with Bass Park
4. Large parcel; approximately 15 acres – 11 acres usable with shared parking possibilities
5. Limited visibility from I 395

Site Option B Detractions:

1. Remote location behind Bass Park
2. No direct access to available site location
3. No visibility from a public way
4. Requires dedicated access drive and wayfinding
5. Potential traffic/parking conflicts with concurring events
6. Stream/pond/wetland constraint



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium A3. Ice Sheet 1 A4. Ice Sheet 2 A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard D. Maintenance Building E. Service Yard

Option B Fit Diagram: The desired program does not fit very well on the site. While the buildings for the community center and the park and school maintenance will fit, there is not enough room for the Health and Community Services building nor enough parking to accommodate the facility. There is also minimal room for a playground and no room for additional outdoor recreation facilities.

Site Option C: Parks and Recreation

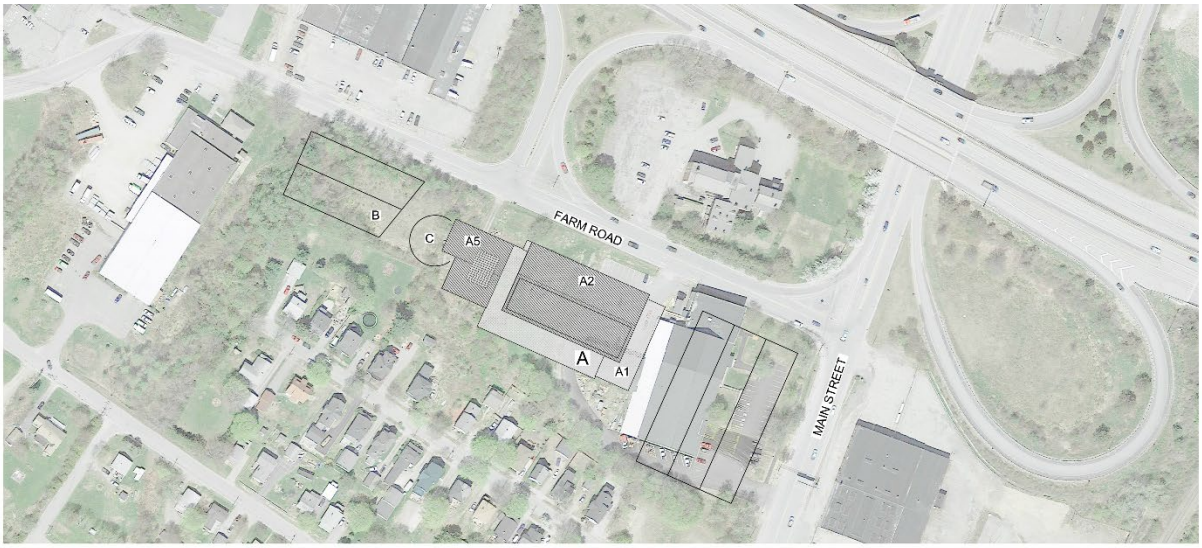
The current site of the Parks and Recreation Department is located on 647 Main Street. The parcel is directly off Main Street near downtown.

Site Option C Benefits:

1. Easy access and convenient location off Main Street and near Interstate 395 and downtown
2. Current Recreation Center and familiarity with location

Site Option C Detractions:

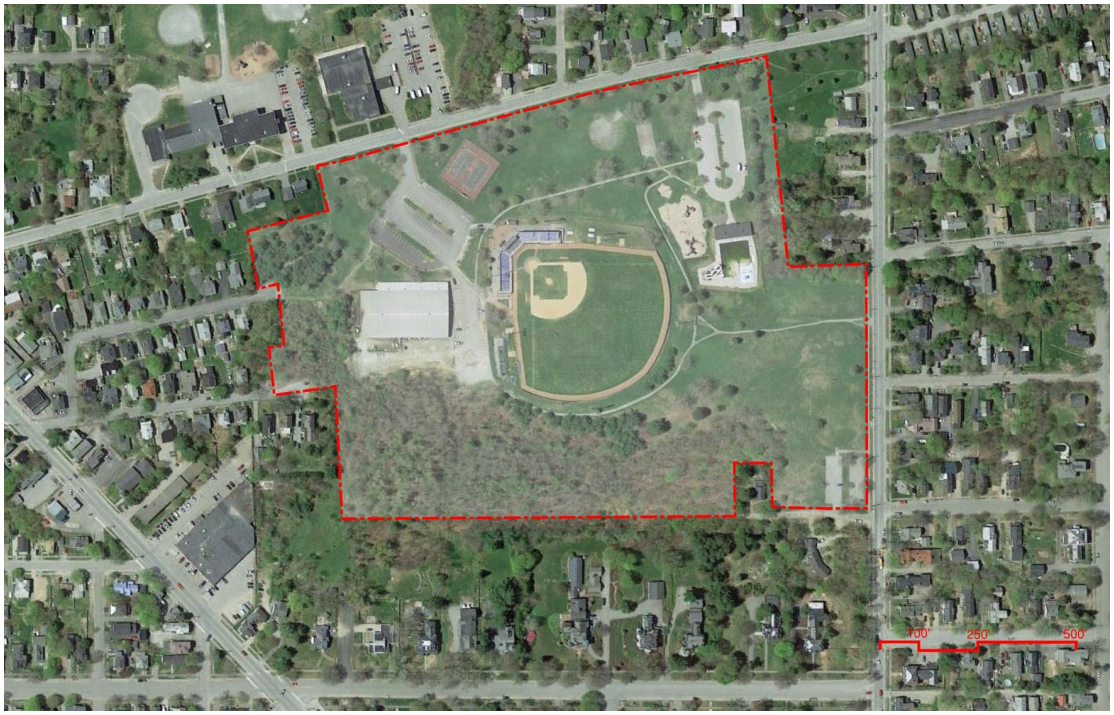
1. Small parcel size (6.42 acres), limiting development and parking
2. Significant slope to the west behind the existing facility
3. Need for temporary location for the Parks and Recreation Department during the two-year site development and construction window



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium ~~A3. Ice Sheet 1~~ ~~A4. Ice Sheet 2~~ A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard ~~D. Maintenance Building~~ ~~E. Service Yard~~

Site Option C Fit Diagram: The full desired program does not fit on the site. While the building for the community center will fit, there is not enough room for the park and school maintenance building/yard nor the Health and Community Services building. There is also minimal room for a playground and no room for additional outdoor recreation facilities.

Site Option D: Hayford Park



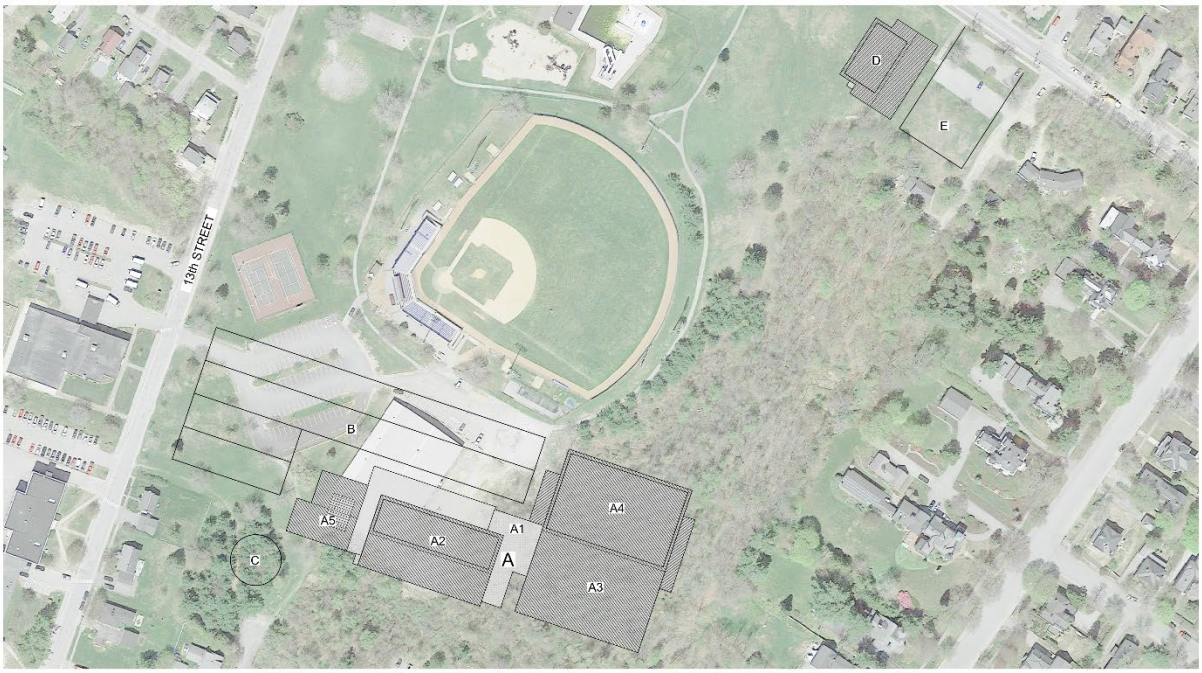
Hayford Park is the current location of the Sawyer Ice Arena in the Whitney Park Historic District. It is conveniently located near Routes 222, 2, and Interstate 95.

Site Option D Benefits:

1. Central location; convenient to downtown and Interstate 95
2. Relatively large site of 29.67 acres with 9 acres of usable land in two locations
3. Adjacent to Beth Pancoe Aquatic Center, Hayford Park/Bangor Baseball Field, skatepark, and tennis courts

Site Option D Detractions:

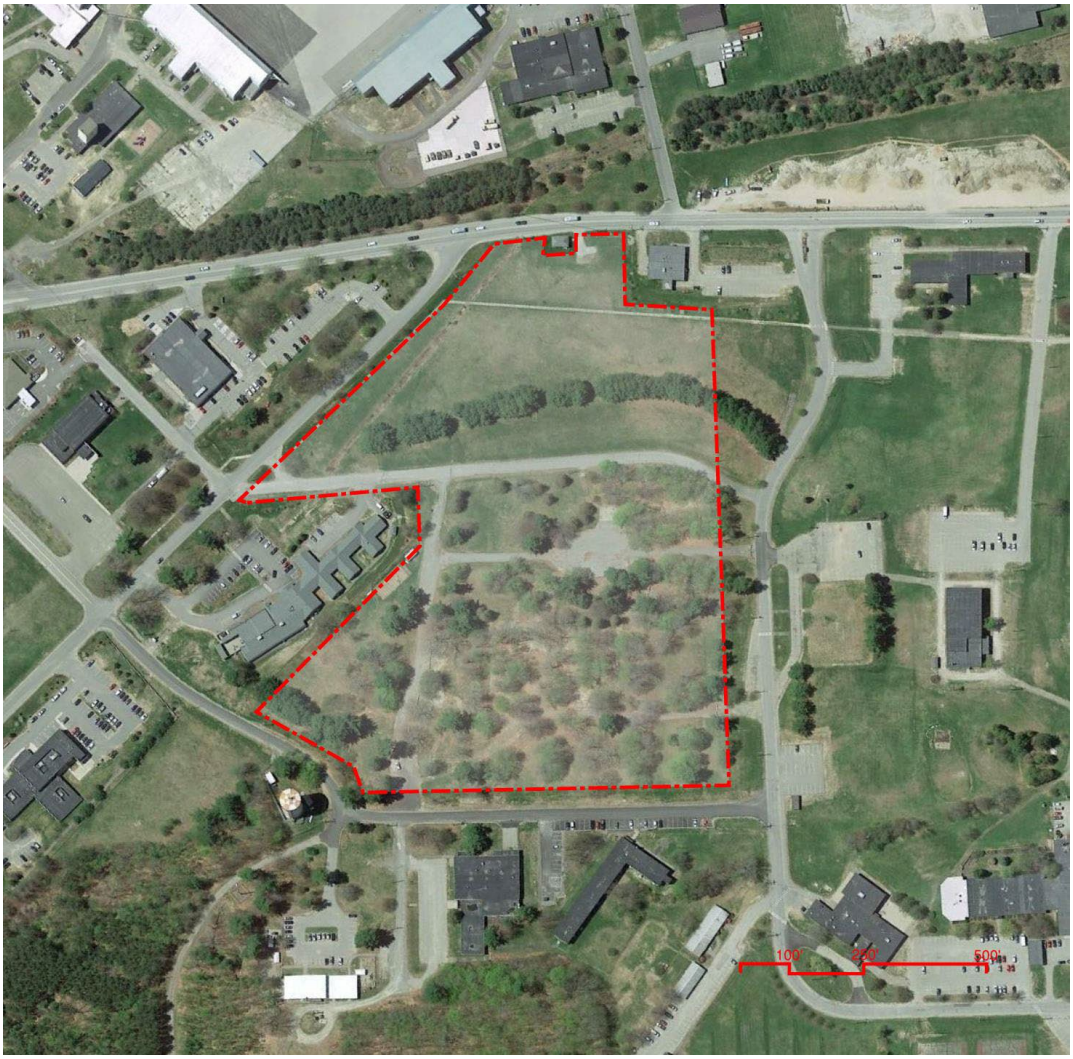
1. Siting difficulties, as some facilities would have to relocate
2. Requires buffer to the residential street to the southeast (West Broadway), limiting development
3. Additional parking required
4. Wetland mitigation required
5. Sawyer Ice Arena phasing issue during new facility construction window
6. Lot #022-036-A, the old pool site to the northeast, is too small at 2.3 acres



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium A3. Ice Sheet 1 A4. Ice Sheet 2 A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard D. Maintenance Building E. Service Yard

Site Option D Fit Diagram: The desired program does not fit very well on the site. While the buildings for the community center barely fit in the location of Sawyer Ice Arena, the park and school maintenance building would need to be placed across the site at the former pool location, and there is not enough room for the Health and Community Services building nor enough parking to accommodate the facility. Also, the City would be without a hockey rink for the development period with the demolition of Sawyer Arena. There is also little room for a playground and only minimal outdoor recreation facilities.

Site Option E: Cleveland Street



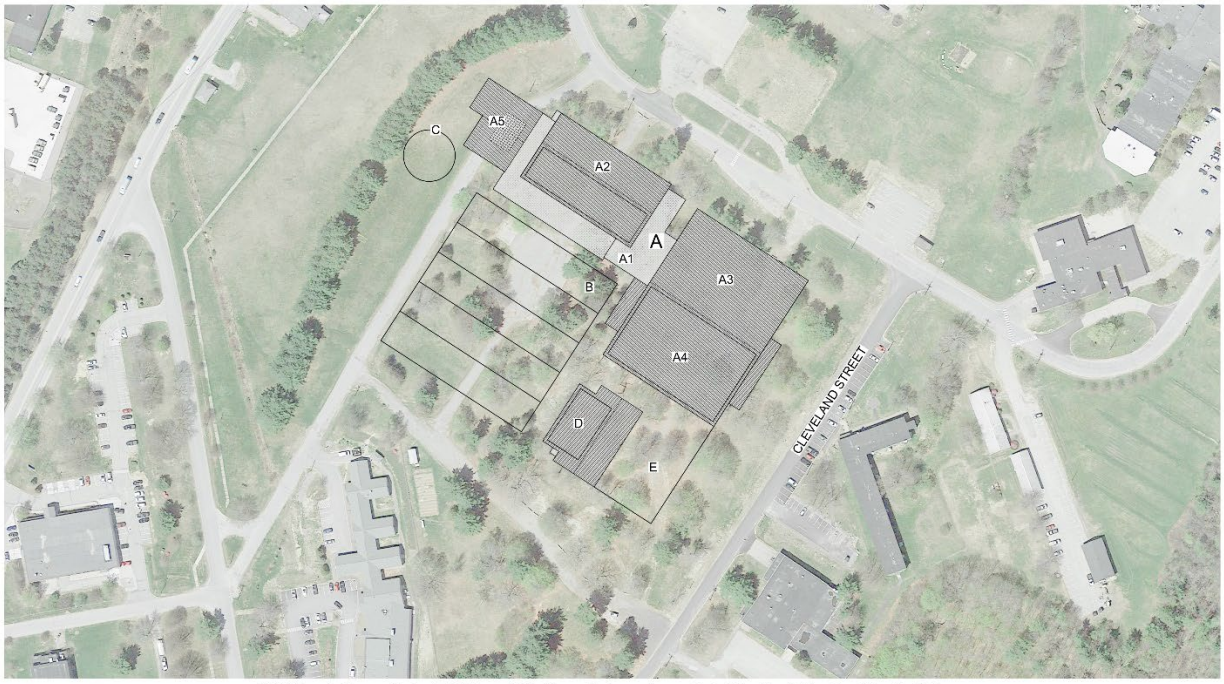
The 20-acre site is on a hilltop west of I 95 in a light industrial area.

Site Option E Benefits:

1. Large site

Site Option E Detractions:

1. Sloped topography of the hilltop due to a large portion of the site being between Texas and Maine Avenues
2. Poor access; remote from downtown Bangor (1.5 miles) and I 95
3. Located in a light industrial area
4. Limited visibility



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium A3. Ice Sheet 1 A4. Ice Sheet 2 A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard D. Maintenance Building E. Service Yard

Site Option E Fit Diagram: The desired program does not fit very well on the site. While the buildings for the community center and park and school maintenance will fit, there is not enough room for the Health and Community Services building nor enough parking to accommodate the facility. The City would also have to contend with the steep topography of the site, which is not ideal for a large community center facility.

Site Option F: Grandview Avenue

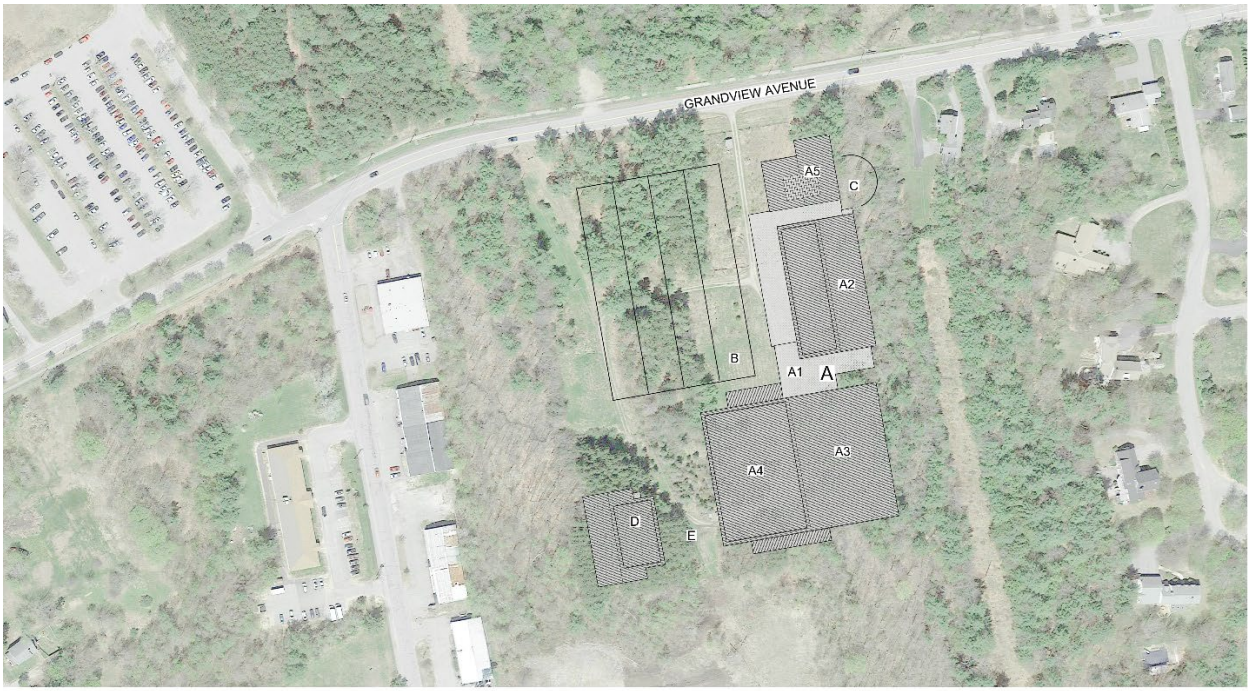
The Grandview Avenue site is 10 acres of an old tree farm near Bangor High School.

Site Option F Benefits:

1. Programmatic synergies and adjacency to the high school
2. Access to Interstate 95
3. Fairly flat topography

Site Option F Detractions:

1. Narrow site; limited street frontage
2. Small site
3. Remote from downtown Bangor (2 miles)
4. Since the initial review the parcel has been identified for housing.



LEGEND: A. Community Center Building: A1. Lobby A2. Gymnasium A3. Ice Sheet 1 A4. Ice Sheet 2 A5. Childcare
B. Parking Lot / Drop Off C. Playground / Play Yard D. Maintenance Building E. Service Yard

Site Option F Fit Diagram: The full desired program does not fit on the site. While the buildings for the community center and the park and school maintenance will fit, there is not enough room for the Health and Community Services building nor enough parking to accommodate the facility. There is also minimal space for a playground area and no space for outdoor recreational facilities.

Conclusion

After reviewing the six sites and evaluating the fit, the Griffin Road site was chosen as the preferred site for further evaluation. Concept plans for the Griffin Road site were developed, and outdoor programming was added. The results of this effort are articulated in the following recommendations section.

8.0 Existing Conditions Summary

8.1 Sawyer Ice Arena

CHA staff visited Sawyer Ice Arena in March and May 2023. MacLaughlin Management & Design also made multiple trips to the arena in May and June 2023 to evaluate existing conditions.

In the late 1980s, the facility was an outdoor ice rink run by Bangor Youth Hockey; in the 1990s, it was taken over by the City of Bangor. The facility slowly transitioned to an indoor ice rink through the addition of walls.

In 2002, locker rooms were switched to the other side of the rink; a concessions area, bathrooms, and updated seating were also added. This was the last major upgrade to the facility.

Overall, the ice rink faces multiple challenges to provide safe, consistently reasonable conditions to users. The facility is under the management of an experienced, dedicated staff, but it has reached a point where the condition of the rink is below industry standards.

Existing Conditions

Building

The metal building is not insulated, and many areas have holes in the wall, allowing unconditioned air into the rink. The aging roof has also allowed moisture to enter the facility, corroding the fire protection sprinkler system. Although a portion of the sprinkler system has been replaced, additional replacement will soon be necessary. The low-emissivity ceiling above the sprinkler system has multiple tears and needs to be repaired or replaced.

Refrigeration System

The refrigeration equipment is original to the building and well beyond its useful life. The Trane-manufactured equipment is air cooled and sits outside behind the rink. Because of its age (30 years), obtaining equipment and replacement parts is very difficult. A local Trane engineer has been servicing the equipment and had to build parts no longer available for purchase. The equipment is outdated, lacks energy efficiency, and could fail at any point.

The ice floor is sand based, featuring a mat piping system used to distribute glycol over the sand to make ice. A mat system, as opposed to an individual polyethylene tubing system installed in the sand, is much less effective and less efficient in making and maintaining ice.

The ice floor has significant issues. The consulting team conducted a ground-penetrating radar survey (included in Appendix 12.5) on the floor and discovered many anomalies in the soil on which the rink is built, including abandoned piping from old housing developments. This can lead to floor heaving issues. In fact, some areas of the floor have already begun heaving, and the operator must increase ice thickness to make it safe for skating. By increasing ice thickness, the aging refrigeration equipment is running more and increasing electricity costs. There is a significant heaving issue on the spectator side of the rink under the dasher boards where water from ice-making seeps into the subsoil and freezes.

Dehumidification System

The dehumidification system was upgraded two to three years ago and is in good operating condition. The dehumidifier is manufactured by Munters, and a duct sock to distribute air is installed down the center of the rink just below the ceiling. There are no issues with fogging since the unit was installed.

Dasher Boards

The dasher board system was installed three to four years ago and is—for the most part—in good condition (heaving on the spectator side of the rink). Starting in late December of the skating season, water from ice-making seeps underneath the dasher boards, freezes, and pushes the boards up and back toward the spectator seating area. The system along this side loosens and poses a hazard to both skaters and visitors. The City is

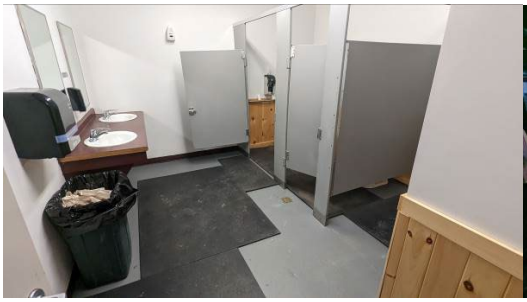
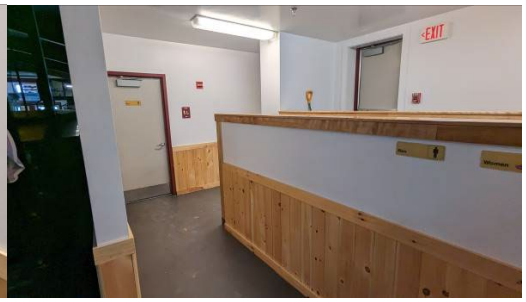
actively addressing this situation this summer, but it is symbolic of the issues with the overall condition of the ice floor.


Locker Rooms

There are six locker rooms in the rink that are all undersized for today's hockey teams. Because they are too small, teams must use two or three locker rooms, creating space issues during tournaments. There are also gender identity considerations to examine, as locker rooms are, by default, sex-segregated spaces. Furthermore, the hallway between the rink and locker rooms is very tight, with floor height transitioning along the length.

Bathrooms

The bathrooms flood during parts of the season. Outside water seeps into the bathrooms and often leaves a 2-inch puddle. There have been attempts to fix the flooding issue, but no solution has worked.

Lighting

Existing lighting fixtures over the rink do not provide as much light as most other ice rinks. The City should consider adding more lighting to bring the facility up to today's ice rink lighting standards and provide spectators an enjoyable viewing experience.

Offices and Storage Space

Office and storage space are inadequate. More front-of-office storage capacity is needed for the management team and skating instructors. There also needs to be office space in the rear of the rink for the operations manager who is responsible for the ice-making system and Zamboni.

Zamboni

The Zamboni is in good operating condition and, if well maintained, can be used effectively for 10 to 15 more years. There is no snow melt pit in the rink, so the ice shavings are dumped outside.

General Needs

- Ice off the roof is very dangerous and floods near some of the exits.
- There are a number of egress doors in disrepair.
- Exterior wooden stairs are in poor condition.
- Parking is insufficient to accommodate event capacity.
- No generator for backup power.

Conclusions

The Sawyer Arena was built in the early 1980s on a limited budget. The original site was an old military housing development, and there are issues with the soil under the arena (e.g., moisture from old piping systems causes frost heaving and adverse effects on the rink floor). It is doubtful that a 5-inch ice rink concrete floor could be sustained over the soil without extensive and costly site remediation.

The existing arena is built for skating only during the winter months. The ice rink floor has heaving issues even though the refrigeration equipment is only in use for six months of the year. The refrigeration equipment is outdated and needs to be replaced within the next few years. The building itself is in poor condition, and the program spaces within the rink are inadequate for operating an ice rink.

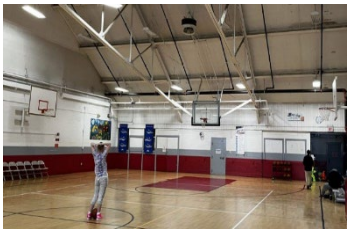
It is our opinion that the rink is beyond renovation on this site. There are issues that can be addressed to keep the facility operating until a new arena is built, but we believe the City should seek an alternative site to construct a rink that would have ice skating year-round.

8.2 Recreation Center and Maintenance Building

The three-level, 62,000-square-foot existing Parks and Recreation building is a repurposed and well-used armory building. The building combines recreation facilities, offices, multipurpose

spaces, childcare and other youth programs, an American Legion post, and parks maintenance facilities and storage.

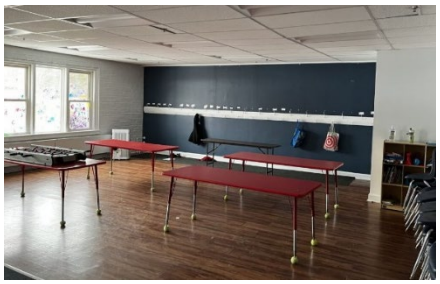
The building has three main components:



- A centralized gymnasium and garage of approximately 34,000 square feet
- A 7,000-square-foot, three-level office wing totaling 21,000 square feet
- A cold storage wing of approximately 7,000 square feet

Of the 62,000 square feet, approximately 26,000 is used for recreation, and the remaining 36,000 is used for maintenance and storage. While planning and programming for the new facilities, approximately 70,000 square feet was identified for the recreation center and 42,000 square feet for the new maintenance building.

The building is undersized for the current recreational programming. The 4,000-square-foot, single-court gymnasium is small (about 3,000 fewer square feet than standard single-court gymnasiums), with a synthetic rolled floor more than 15 years old. Accessibility is lacking and wayfinding throughout the facility is difficult: An aging lift connects the main level to the upper level but not to the lower level. There is only one lower-level handicap access point in the parking area in the back of the building. There are regular logistics issues at the main entry lobby as children enter/exit childcare at the same time as other events.



The overall building condition is poor, which is typical of a repurposed building modified and updated over time. The roof on the cold storage area leaks regularly. The gymnasium ceiling is also water stained. The mechanical and electrical systems are old but still operational. The finishes are inconsistent and aging. Ceiling heights are relatively low in the three-story wing. The exterior aesthetics and entrance do not reflect the lively and up-to-date programming occurring within the facility.

9.0 Facility Concept, Recommendations, and Capital Costs

Facilities

Recreation Center and Ice Arena

The new 69,000-square-foot recreation center (in Figure 8.1) is anticipated to be primarily a single-story facility to minimize cost and enhance accessibility. The proposed suspended walk-jog track would be the only component on an upper level, which will require two egress stairs and a two-stop hydraulic elevator. The recreation center program comprises public/activity spaces, an administrative suite, childcare areas, and building support spaces.

The public/activity spaces include entrance and reception areas, lounge spaces, multipurpose spaces, a three-court gymnasium, an indoor playground, and locker rooms. Strength training was eliminated from the program to prevent competition with other existing facilities in the city. The administration suite anticipates future growth and includes offices and meeting space. The childcare component comprises five classrooms and associated support spaces.

The 85,000-square-foot ice arena is also anticipated to be primarily a single-story structure with multipurpose and media space over a locker/changing room core centered between the two ice sheets. This overlooking mezzanine will require elevator access and two staircases. The locker core will have 12 locker changing rooms, with half of them featuring shower facilities.

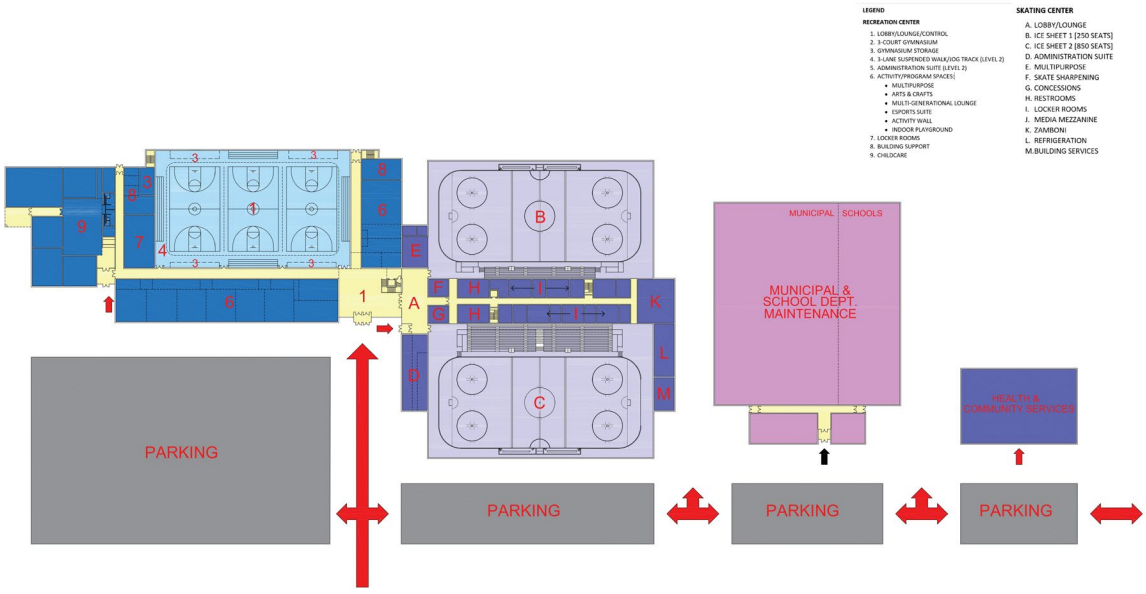
The two ice sheets have spectator seating, with planned seating for 250 and 750 spectators. The facility will also have spaces to maintain the ice sheets, a refrigeration plant, two Zambonis, and storage. An administrative suite is programmed, as is a lobby/entrance, concessions, and skate rental/sharpening. An ice-level multipurpose room is planned for events and parties.

The proposed design envisions a shared single main entrance plaza serving both lobbies. The lobbies would be interconnected but could also be separated to accommodate different schedules. A separate entrance would be provided for childcare. Simple linear circulation routes have been developed to avoid circuitous and difficult wayfinding. The single-story and large linear footprint could allow for significant solar collection on the south-facing roofs.

Proposed Maintenance Building

The 42,000-square-foot maintenance building is programmed to combine the municipal and school needs in one shared facility. A pre-engineered, single-story steel building with support wing/headhouse is anticipated to be the most cost-effective solution. The pre-engineered building would contain work space and storage; the support wing would house the offices, break room, restrooms, and lockers. A large outdoor fenced area would be included with secure/roofed material bins. Similar to the recreation center and ice arena, the large footprint could allow for significant solar collection on the south-facing roof.

Figure 8.1: Facility Diagrams



Estimated Construction Costs

The budget summary below identifies potential cost breakdowns associated with various building components. All costs are based on 2023 dollars, rounded, and estimated based on the preferred master plan designs developed for the community.

1. Recreation Center: 72,174 GSF
   - Construction Costs: $200-$210/SF x 72,174 GSF = **$14,434,800 - $15,156,540**
   - Soft Costs: 30% Construction = **$4,330,440 - $4,546,962**
   - **Total: $18,765,240 - $19,703,502**

2. Skating Center: 92,058 GSF
   - Construction Costs: $190 - $200/SF x 92,058 GSF = **$17,491,020 - $18,411,600**
   - Soft Costs: 20% Construction = **$3,498,204 - $3,682,320**
   - **Total: $20,989,224 - $22,093,920**

3. Maintenance Building: 41,931 GSF
   - Construction Costs: $165 – $175/SF x 41,931 GSF = **$6,918,615 - $7,337,925**
   - Soft Costs: 20% Construction = **$1,383,723 - $1,467,585**
   - **Total: $8,302,338 - $8,805,510**

4. Health & Human Services: 14,000 GSF
   - Construction Costs: $195 - $202/SF x 14,000 GSF = **$2,730,000 - $2,870,000**
   - Soft Costs: 35% Construction = **$955,500 - $1,004,500**
   - **Total: $3,685,500 - $3,874,500**

Soft costs, contingencies, and escalation costs have been be added to develop the Total Building Construction Cost and Total Project Cost. Suggested percentages for these are as follows:

A. Total Construction Cost:

    1. Insurance: 2.5%
    2. Bonds: 0.5%
    3. Permits: 2.0%
    4. Construction Management Fee: 3.0%
    5. Construction Design Contingency: 10% – 12%

B. Total Project Cost:

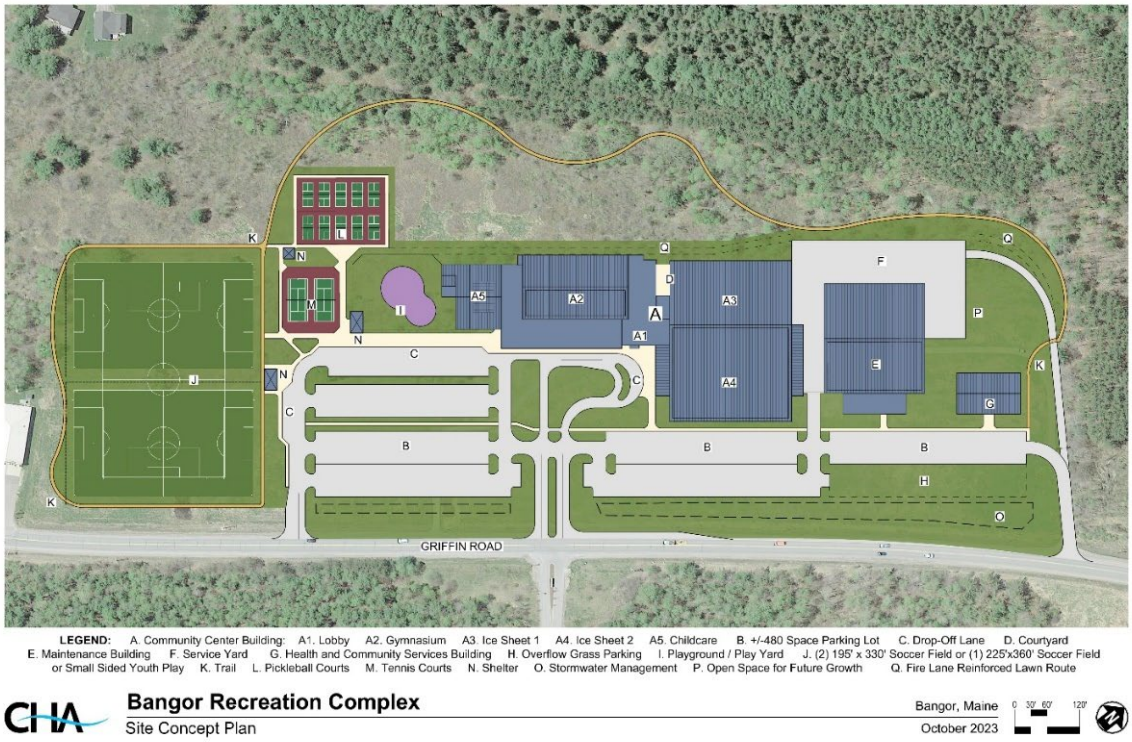
    1. Escalation (to midpoint of construction): 5.5% – 6.0% annually
    2. Owner's Construction Contingency: 5%
    3. Soft Costs* (Design, Fees, Furniture, Fixtures, Equipment): 25% – 30%

*Soft costs typically include engineering and project management services, public hearings, pre-construction permits, printing and advertising, and other project implementation efforts.

Site

There is a great opportunity to incorporate passive and active outdoor recreational facilities, as well as other features at the proposed Bangor community/recreation center. This section identifies the basic scope of recommended outdoor recreation facility improvements. The range of improvements has been informed through a public engagement and feedback process, as well as from discussions with Parks and Recreation Department leadership and staff.

Figure 8.2: Site Plan



Proposed Site Concept Plan

Recommended site improvements include the following:

- Loop pathways with potential picnic areas/playpods/fitness stations
- Children's playground
- One multiuse athletic field (two junior athletic fields and one full-size athletic field)
- Ten pickleball courts
- Two tennis courts
- Support buildings and shade shelters
- Parking areas, drop-off areas, and access drives
- Landscape enhancements

Pathways, Trails, and Picnic Areas

One consistent theme across public input was a request for amenities that would serve all ages. The preferred master plan calls for incorporating new and upgraded pathways and trails as well as picnic areas at the site. These types of passive recreational amenities provide opportunities

for residents of all generations, backgrounds, and abilities to enjoy; they also complement traditional active recreational facilities. The pathways can be constructed in compliance with accessibility regulations because most of the site has gentle terrain and no extreme slopes. Pathways—especially those that form a loop around the perimeter of a property—are attractive for walking, jogging, skating, and biking and often become one of the most appreciated park amenities. We recommend the following improvements to enhance user experience, offer additional conveniences, and promote environmental stewardship in conjunction with the installation of new paths and trails.

- Install measured markers around the main loop path to facilitate individual exercise programs
- Provide multigenerational fitness stations either in “pod” areas or regularly spaced along the loop paths
- Place benches and picnic areas for rest and/or interaction at logical social gathering points along pathways and trails and within other peaceful and attractive settings
- Install interpretive signage to describe unique natural, cultural, and/or historical characteristics if applicable
- Provide tree plantings to lend greater shade to the pedestrian corridors, provide enhanced wildlife habitats, and improve overall site aesthetics

Children’s Playground

A children’s playground is proposed in association with the childcare center. This playground will be used for the programming at the center and as an outdoor play area while center participants are awaiting pickup. The playground can also be used by the community when the childcare center is closed. Playgrounds provide a destination for neighborhood children and their parents, often becoming hubs of community life. The playground will also provide opportunities for the siblings of children involved in other recreational activities at the site like tennis, soccer, pickleball, or lacrosse.

General recommendations for the proposed play areas include:

- Install new, attractive, and exciting play equipment and swings that appeal to various age groups
- Create natural play environments if there is a desire to include natural play
- Install new and/or expanded playground infrastructure, including edging, surfacing, and utilities
- Enclose the play areas with attractive fence treatments

- Install seating, signage, and other furnishings
- Install a shade shelter that can also be used as a pickup waiting area
- Plant trees

Safety surfacing should include a combination of poured-in-place rubberized surfacing in critical fall and landing zones and engineered wood fiber for the rest of the playground areas. New and improved play areas must be compliant with all ADA requirements, such as providing play equipment for children of all abilities, providing proper access and surfaces, and meeting all current Certified Playground Safety Inspector (CPSI) safety regulations. In addition to new play equipment, we recommend all required utility infrastructure (e.g., drainage, subdrainage, water service) be in place.

Multiuse Athletic Field

Primary recommendations include a new full-size recreation multiuse athletic field for soccer, lacrosse, field hockey, football, flag football, and other sports. The field will include fencing, ball netting, players' areas, a shade shelter with an option to incorporate restrooms, and a storage area. The field could be constructed of natural or synthetic turf.

The additional field will allow for more flexible programming offerings and opportunities to support a wider array of sports league and neighborhood use requirements.

Pickleball and Tennis Courts

Recognizing the need to introduce new active recreational opportunities to support the City's programming offerings and neighborhood use, the feasibility study identifies the potential for adding new courts. It features two tennis courts and 10 pickleball courts. The courts could be constructed of asphalt or post-tension concrete.

The following features would be included as part of the improvements:

- Paving of new court surfaces and color sealcoating
- Netting and other appurtenances
- Universally accessible path connections
- New fencing at court perimeter
- Player and spectator seating where applicable

Parking Lot and Circulation

New parking areas—comprising four parking lots—are proposed for the site: Two at the community center building, one at the ice arena, and one at the maintenance and Health and Community Services building. These parking areas are not proposed to be dedicated to each facility; they are intended for shared use. There are three drop-off/pickup areas proposed: one at the community center/ice arena combined entrance, one at the childcare center and playground, and one at the multiuse athletic field.

The new parking lot will accomplish the following:

- Provide 480 parking spaces including multiple ADA-compliant parking spaces
- Provide ADA-compliant access points and pathways that allow connections to each new facility
- New lighting along parking lot edges for improved pedestrian comfort, security, and safety
- New shade tree plantings within and adjacent to the parking zone
- Resilient, green infrastructure is recommended for handling drainage runoff of the parking areas

The new parking lot would be surfaced with asphalt for maximum use, accessibility, and ease of maintenance, with some porous pavement areas where practical. New shade trees would be strategically located within parking lot islands to offer shade and improve aesthetics.

Potential Site Improvement Cost

The budget summary below identifies the potential breakdown of costs associated with various Phase 1 site improvements. All costs are based on 2023 dollars, rounded, and estimated based on the preferred feasibility study designs developed for the community.

1. General Site Work:
   - Main Sidewalks, pathways, drop off, parking areas, fencing, lighting, bike racks, landscaping.
   - **Total: $3,600,000 - $4,500,000**

2. Demolition, Earthwork:
   - Erosion control, site clearing, earthwork
   - **Total: $160,000 - $250,000**

3. Site Utilities:
   - Utility installation - anticipated
   - **Total: $300,000 - $350,000**

4. Playground:
   - Play area, surfacing, play lawn, fencing, amenities, shade shelter
   - **Total: $250,000 - $300,000**

Total Budgeted Probable Cost: $4,310,000 – $5,400,000

Assuming 1 year of escalation @ 5%: $4,525,500 - $5,670,000

Note: All anticipated costs include contractor general conditions, contingencies, and soft costs*

*Soft costs equal approximately 25% of the total construction cost and typically include engineering and project management services, public hearings, permits, printing and advertising, etc. and other efforts associated with implementation of a project.

Future Site Additions

The costs for future additions to the site are estimated as follows:

1. Turf Multi-Purpose Fields:
   - 2 Junior Fields, one full size field, either natural turf or synthetic turf, associated walkways, shade shelter or storage building with potential restrooms.
   - **Total: $1,600,000 - $2,500,000**

2. Pickleball Courts (10):
   - Asphalt or post-tension concrete, surfacing, fencing, amenities, associated walkways and amenities.
   - **Total: $500,000 - $600,000**

3. Tennis Courts (2):
   - Asphalt or post-tension concrete, surfacing, fencing, associated walkways and amenities.
   - **Total: $400,000 - $475,000**

4. Shelters/Storage/Restrooms:
   - Tennis and Pickleball Shade Shelter
   - **Total: $50,000 - $70,000**

5. Amenities:
   - Miscellaneous amenities
   - **Total: $125,000 - $200,000**

   Total Budgeted Probable Cost: $2,675,000 – $3,845,000

   Assuming 1 year of escalation @ 5%: $2,808,750 - $4,037,250

Total Estimated Project Costs

Proposed Phase 1 Project Cost:

Phase 1 Project Costs - Site

- Site Items 1-4; General Site Work, Demolition and Earthwork, Site Utilities, Playground:
- $4,525,500 - $5,670,000

Phase 1 Project Costs – Facilities

- Items 1-3; Recreation Center, Skating Center, and Maintenance Building:
- $48,056,802 - $50,602,932

Total Phase 1 Project Cost – Facilities and Site (Rounded)

- **$52,600,000 - $56,300,000**

Future Project Costs:

Future Project Costs –Site

- Turf Multi-Purpose Fields, Pickleball Courts (10), Tennis Courts (2), Shelters/Storage/Restrooms, Miscellaneous Amenities
- $2,808,750 - $4,037,250

Future Project Costs – Facilities

- Health & Human Services Building
- $3,685,500 - $3,874,500

Total Future Project Costs – Facilities and Site

- **$6,500,000 – $8,000,000**

Total Full (phase 1 and future) Project Cost (Rounded)

- **$60,000,000 – $64,300,000**

10.0 Facility O & M Proforma

The information in this section is a result of data collected during the feasibility study and meetings with key staff to discuss operations (e.g., staffing, rate of pay, benefit rates, facility hours, potential rentals). In addition, research on the operational expenses of similar facilities in the area was conducted.

This report includes a detailed list of assumptions for the annual O & M budget projections and the proforma for five years.

The operating budget is driven by the overall service philosophy of the Parks and Recreation Department, which defines the facility's purposes, identifies those served, and specifies the anticipated level of service.

An operating budget developed in this preliminary stage serves several purposes:

- Provides a foundation for understanding what will be necessary to meet budget expectations and guides how marketing plans and strategies are developed and implemented.
- Offers a guide for future project decisions by providing a framework for understanding the impact of decisions about fees, operation systems, staffing levels.
- Demonstrates potential overall impacts to the Department's budget.

The operational budget planning for this facility uses a conservative approach for estimating reasonable expenses and a moderate approach for projecting revenues.

There is no guarantee that the estimates and projections will be met, and there are many variables that cannot be accurately determined during this conceptual planning stage or may be subject to change during the actual design and implementation process.

The preliminary draft operational budget projections have been developed to determine the feasibility of operations. Additional research is suggested to refine operations and final proforma.

Recreation Center and Ice Arena Feasibility Study

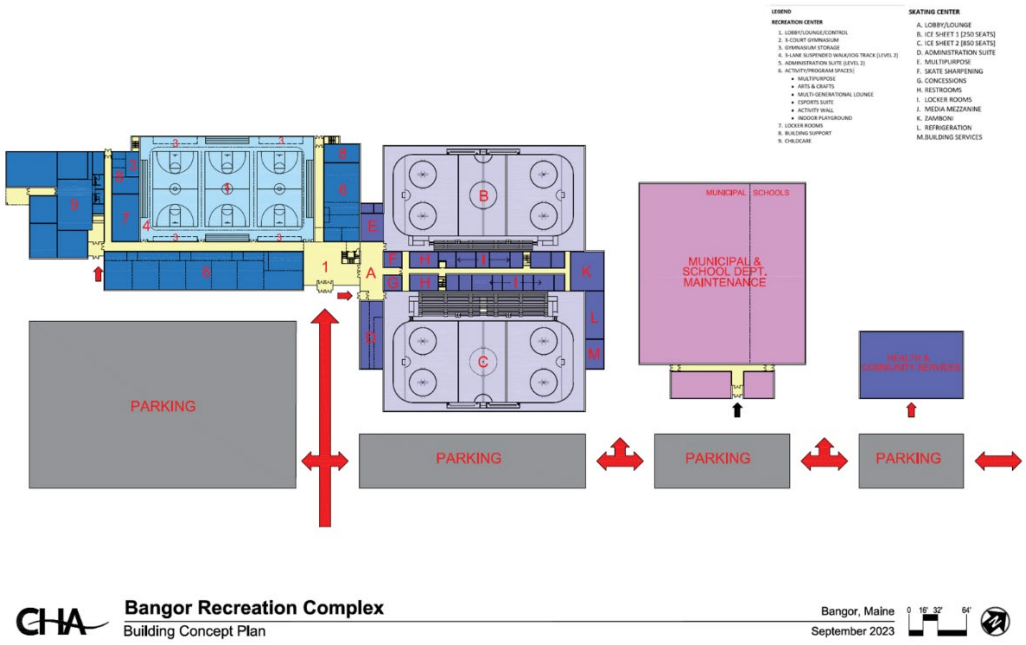
The O & M budget projections are based upon information developed during the feasibility study. The facility is anticipated to include the following components:

- Recreation Center
    - Childcare
    - Three-court gymnasium with suspended walking track
    - Multipurpose rooms
    - Locker rooms

    - Administrative offices
    - Activity spaces
- Ice Center
    - Two rinks
    - Multipurpose rooms
    - Locker rooms
    - Administrative offices
    - Activity spaces
- Municipal and School Department Maintenance Building
- Health and Community Services building
- Outdoor Area
    - Pickleball
    - Tennis
    - Athletic/sport field

Detailed expenses and revenues are included are for the O&M of the recreation center, including childcare, the ice center, the outdoor activity spaces, and the shared maintenance building. High-level expenses (utilities and facilities maintenance, not staffing) are included for the Health and Community Services building. No revenues are included for the Health and Community Services building. Expenses for the maintenance of the outdoor areas surrounding the buildings are not included in this proforma.

Figure 10.1: Facility Layout



Staffing Assumptions

- Recreation Center/Ice Center Positions
    - Full-time positions
        - Recreation center manager
        - Operations manager (rec/ice/fields)
        - Athletic events specialist/maintenance (rec/ice/fields) (2)
        - Custodians (5)
        - Senior programmer
        - Recreation programmer
        - Youth programmer
        - Marketing/special events
    - Part-time positions
        - Part-time staff to work the front desk included
        - Part-time staff to work in the ice center included
- Childcare Positions

- Full-time positions
  - Childcare coordinator
- Part-time positions
  - Part-time staff counselors and summer camp staff

Assumptions Regarding Facility Hours (50 Weeks/Year)

- Facility to be open 15 hours a day
- Monday – Thursday: 7 a.m. – 10 p.m.
- Friday: 7 a.m. – 10 p.m.
- Saturday and Sunday: 7 a.m. – 10 p.m.

Opportunities for Revenue Generation

- Court Rentals
- Ice Rentals
- Field Rentals
- City Recreation Leagues
- City Programs
  - In the gymnasium
  - On the ice
  - In the multipurpose rooms
  - On the fields
  - On the pickleball courts
  - On the tennis courts
- Special Events
  - Pickleball Tournament
  - City Basketball Tournaments
  - City Volleyball Tournaments
  - Drop-In Play
  - Instructional Programs

Staff Responsibilities (High-Level Descriptions)

Recreation Center Manager

- Be responsible for overall management of entire center
- Manage and establish standards and policies for:
    - Facility operations for all aspects of operations
    - Program coordination with other program staff
    - Maintenance coordination with contractors
    - Maintenance and housekeeping
- Develop and manage budgets
- Oversee all facilities operations, training and certifications, and in-service, budget, and capital projects; staff supervision; all staff scheduling, training, supervising, and maintenance
- Manage and establish standards for:
    - Day-to-day operations

Operations Manager (Rec/Ice/Fields)

- Assist the recreation center manager with enforcing standards and policies for:
    - Facility operations for all aspects of operations
    - Maintenance coordination with contractors
    - Maintenance and housekeeping
- Manage budgets for facility O & M operations
- Assist the recreation center manager with overseeing all facilities operations; training and certifications; in-service, budget, and capital projects; staff supervision; staff scheduling, training, supervising, and maintenance
- Enforce standards for:
    - Day-to-day operations

Athletic Events Specialist/Maintenance (Rec/Ice/Fields) (2)

- Assist the operations manager with day-to-day facility operations
    - Setups/breakdowns
    - Maintenance

- Enforce standards for:
    - Day-to-day operation

Custodian (5)

- Assist the operations manager with day-to-day facility operations
    - Daily housekeeping
    - Setups/breakdowns
- Enforce standards for:
    - Day-to-day operations

Marketing/Special Events

- Assist the recreation center manager with enforcing standards and policies for:
    - Marketing
    - Special events
    - Rentals
- Manage budgets for marketing
- Assist the recreation center manager with overseeing all marketing efforts and coordinating special events and special event rentals

Senior Programmer

- Assist the recreation center manager with enforcing standards and policies for:
    - Operations
    - Programs
    - Special events
- Assist the recreation center manager with overseeing all senior-related programming efforts and coordinating special events

Recreation Programmer

- Assist the recreation center manager with enforcing standards and policies for:
    - Operations
    - Programs
    - Special events

- Assist the recreation center manager with overseeing all recreation programming efforts and coordinating special events

Youth Programmer

- Assist the recreation center manager with enforcing standards and policies for:
    - Operations
    - Programs
    - Special events
- Assist the recreation center manager with overseeing all youth programming efforts and coordinating special events

Childcare Coordinator

- Assist the recreation center manager with enforcing standards and policies for:
    - Operations
    - Childcare programs
    - Special events
- Manage budgets for childcare
- Oversee all childcare efforts

Part-Time Staff (Part-Time Positions: TBD)

- Provide coverage at front desk and within the center for day-to-day operations, events, and rentals
    - Setups/breakdowns/event and rental support
- Support other City staff, help ensure facility policy adherence, address participant concerns
- Help ensure routine responsibilities are completed during day-to-day operations, events, and rentals, including facility counts, facility inspections, and contracted event/rental requests
- Maintain safety of facility regularly during all day-to-day operations, events, and rentals
    - Immediately report any problems or inconsistencies to supervisors
    - Participate in regularly scheduled training sessions

Part-Time Instructors (Part-Time Positions: TBD)

- Provide coverage and instruction for programs, leagues, open play, special events, and tournaments
    - Assist with setups/breakdowns/event and rental support
- Support other City staff, help ensure facility policy adherence, address participant concerns
- Help ensure routine responsibilities are completed during day-to-day operations, events, and rentals, including facility counts, facility inspections, and contracted event/rental requests
- Maintain safety of facility regularly during all day-to-day operations, events, and rentals
    - Immediately report any problems or inconsistencies to supervisors
    - Participate in regularly scheduled training sessions

Table 10.1 depicts a five-year proforma resulting in a potential 45% cost recovery.

Table 10.1: Five-Year Proforma

Bangor Maine Recreation Center
Operations & Maintenance Summary
Five-Year Proforma

	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENSES					
Personnel	$1,787,725	$1,841,357	$1,896,597	$1,953,495	$2,012,100
Contractual Services	$861,785	$879,021	$905,391	$932,553	$960,530
Commodities	$137,300	$140,046	$142,847	$145,704	$148,618
TOTAL EXPENSES	**$2,786,810**	**$2,860,423**	**$2,944,836**	**$3,031,752**	**$3,121,248**
REVENUES					
Recreation Center Revenue	$302,600	$311,678	$321,028	$330,659	$340,579
Ice Center Revenue	$288,301	$296,950	$305,859	$315,034	$324,485
Outdoor Rentals (20 weeks a year	$49,450	$50,934	$52,462	$54,035	$55,656
Childcare	$606,360	$624,551	$643,287	$662,586	$682,464
Customer Services	$7,860	$8,096	$8,339	$8,589	$8,846
TOTAL REVENUE	**$1,254,571**	**$1,292,208**	**$1,330,974**	**$1,370,904**	**$1,412,031**
NET	**($1,532,239)**	**($1,568,215)**	**($1,613,861)**	**($1,660,849)**	**($1,709,217)**
COST RECOVERY	**45%**	**45%**	**45%**	**45%**	**45%**

Based on 2023 Figures

Preliminary Draft Operational Budget Projections - No guarantee is being implied by BerryDunn that these projections will be obtained

Table 10.2 depicts a one-year summary including all expenses and revenue, resulting in a potential cost recovery of 45%.

Table 10.2: One-Year Summary

Bangor Maine Recreation Center		
Expanded Detailed Operations & Maintenance Summary		
Preliminary Draft Operational Budget Projections - No guarantee is being implied by BerryDunn that these projections will be obtained		
BerryDunn Recommendations with Entrance Fees		
TOTAL EXPENSES		**$2,786,810**
	Staffing with Benefits	$1,787,725
	Recreation Center	$972,000
	Kids Cave Before & After School Program	$373,000
	Ice Rink Staff	$170,625
	Benefit Percentage included in wages	$272,100
	Contractual Services	$861,785
	Commodities	$137,300
TOTAL REVENUE		**$1,254,571**
	Recreation Center Revenue	$302,600
	Ice Center Revenue	$288,301
	Outdoor Rentals (20 weeks a year)	$49,450
	Childcare	$606,360
	Customer Services	$7,860
TOTAL NET		**($1,532,239)**
COST RECOVERY		**45%**
Preliminary Draft Operational Budget Projections - No guarantee is being implied by BerryDunn that these projections will be obtained		

Table 10.3 outlines the color coding for the details in Table 10.4. Table 10.4 depicts the details for expenses—including staffing, contractual services, and commodities—totaling $2,786.810.

Table 10.3: Expenses Color-Coding Legend

Legend		
Recreation Center	Kids Cave Before- and After-School Program	Ice Center
Maintenance Building	Health and Human Services	Recreation Department

Table 10.4: Expenses

Bangor Maine Recreation Center Detailed Operations & Maintenance Projections						
Goal	**Estimated Cost Recovery BerryDunn Recommendations with Entrance Fees**	**45%**				**Total**
STAFFING PROJECTIONS					Sub total	**$1,787,725**
		Number	Salary	Annual Cost	**$1,179,100**	**65.96%**
Recreation Center	Recreation Center Manager	1	$80,000.00	$80,000	$840,000	
	Operations Manager	1	$80,000.00	$80,000		
	Athletic Events Specialist/Maintenance	2	$65,000.00	$130,000		
	Senior Programmer	1	$55,000.00	$55,000		
	Recreation Programmer	1	$55,000.00	$55,000		
	Youth/Teen Programmer	1	$55,000.00	$55,000		
	Marketing/Special Events	1	$55,000.00	$55,000		
	Custodians	5	$55,000.00	$275,000		
	Front Office Receptionist	1	$55,000.00	$55,000		
Kids Cave Before & After School Program	Childcare Coordinator	1	$67,000.00	$67,000	$67,000	
	Total # FTEs	15				
	Benefit Percentage included in wages	30.00%		$272,100		
Part Time Staff with Benefits		Hours	Hourly Cost		**$608,625**	**34.04%**
Recreation Center	Customer Service Staff (Recreational Specialist 1)	2000	$15.00	$30,000	**$132,000**	
	Customer Service Staff (Recreational Specialist 1)	5150	$15.00	$77,250		
Peak hours	Customer Service Staff (Recreational Specialist 1)	1650	$15.00	$24,750		
Kids Cave Before & After School Program	(20 = Part Time Employees (Counselors)	20	$7,800.00	$156,000	**$306,000**	
Summer Camp	(temporary payroll…28 part time summer camp counselors)	28	$5,357.14	$150,000		
exclusive of (temporary payroll…28 part time summer camp counselors)	Total # part Time Staff Hours	6848				
	Benefit Percentage included in wages	0.00%		$0		
Ice Rink Staff	Customer Service Staff (Recreational Specialist 1)	5775	$15.00	$86,625	**$170,625**	
skate sharpening	Customer Service Staff (Recreational Specialist 1)	2800	$15.00	$42,000		
	Maintenance Worker	2800	$15.00	$42,000		
	Total # part Time Staff Hours	11375				
	Benefit Percentage included in wages	0.00%		$0		
OPERATING EXPENSES						
Contractual Services		Multiplier	Unit Cost	Sq. Ft.		**$861,785**
	Building Maintenance Expenses to include those highlighted below					
Recreation Center	Utilities: Electrical (Gross Square Footage Cost)	1.00	$1.00	54,266	$54,266	
Recreation Center	Utilities: Heating (Gross Square Footage Cost	1.00	$1.00	54,266	$54,266	
Recreation Center	Utilities: Water & Sewer (Gross Square Footage Cost)	1.00	$0.50	54,266	$27,133	
Recreation Center	Repair and Reserve Roof, Floor, HVAC	0.25	$1.00	54,266	$13,567	
Recreation Center	Repair and Reserve Equipment (tables, chairs)	0.10	$1.00	54,266	$5,427	
Recreation Center	Buildings and Structures Maintenance	0.25	$1.00	54,266	$13,567	
Recreation Center	Equipment Maintenance	0.25	$1.00	54,266	$13,567	
Ice Rink	Utilities: Water & Sewer (Gross Square Footage Cost)	1.00	$1.00	73,646	$73,646	
Ice Rink	Utilities: Electrical (Gross Square Footage Cost)	1.00	$1.00	73,646	$73,646	
Ice Rink	Utilities: Heating (Gross Square Footage Cost)	1.00	$0.50	73,646	$36,823	
Ice Rink	Repair and Reserve Roof, Floor, HVAC	0.25	$1.00	73,646	$18,412	
Ice Rink	Repair and Reserve Equipment (tables, chairs)	0.10	$1.00	73,646	$7,365	
Ice Rink	Buildings and Structures Maintenance	0.25	$1.00	73,646	$18,412	
Ice Rink	Equipment Maintenance	0.25	$1.00	73,646	$18,412	
Ice Rink	Snow Removal	0.50	$1.00	73,646	$36,823	
Maintenance Building	Utilities: Water & Sewer (Gross Square Footage Cost)	1.00	$1.00	35,535	$35,535	
Maintenance Building	Utilities: Electrical (Gross Square Footage Cost)	1.00	$1.00	35,535	$35,535	
Maintenance Building	Utilities: Heating (Gross Square Footage Cost)	1.00	$0.50	35,535	$17,768	
Maintenance Building	Repair and Reserve Roof, Floor, HVAC	0.25	$1.00	35,535	$8,884	
Maintenance Building	Repair and Reserve Equipment (tables, chairs)	0.10	$1.00	35,535	$3,554	
Maintenance Building	Buildings and Structures Maintenance	0.25	$1.00	35,535	$8,884	
Maintenance Building	Equipment Maintenance	0.25	$1.00	35,535	$8,884	
Maintenance Building	Snow Removal	0.50	$1.00	35,535	$17,768	
Health & Human Services	Utilities: Water & Sewer (Gross Square Footage Cost)	1.00	$1.00	10,000	$10,000	
Health & Human Services	Utilities: Electrical (Gross Square Footage Cost)	1.00	$1.00	10,000	$10,000	
Health & Human Services	Utilities: Heating (Gross Square Footage Cost)	1.00	$0.50	10,000	$5,000	
Health & Human Services	Repair and Reserve Roof, Floor, HVAC	0.25	$1.00	10,000	$2,500	
Health & Human Services	Repair and Reserve Equipment (tables, chairs)	0.10	$1.00	10,000	$1,000	
Health & Human Services	Buildings and Structures Maintenance	0.25	$1.00	10,000	$2,500	
Health & Human Services	Equipment Maintenance	0.25	$1.00	10,000	$2,500	
Health & Human Services	Snow Removal	0.50	$1.00	10,000	$5,000	
	Telephone / Internet / Cable (15 connections)	12	$680.00		$8,160	
	Annual cable fee	1	$850.00		$850	
	Trash Service	1	$4,500.00		$4,500	
	Security/Fire Alarm Service	1	$1,800.00		$1,800	
current $20,000	Bank Fees - Credit Card Charges/Registration (2% registration fee, 3% credit card)	0.03	$1,254,571.00		$37,637	
Community Activity	Insurance	0.001	$1.00		$0	
Gymnasium	Insurance	0.001	$1.00		$0	
Ice Rink	Insurance	0.001	$1.00		$0	
Kids Cave Before & After School Program	(all other expenses…Busing, travel, supplies, clothing, food, departmental)	1	$20,000.00		$20,000	
Kids Cave Before & After School Program	Bus transportation	1	$30,000.00		$30,000	
Kids Cave Before & After School Program	Food	1	$6,200.00		$6,200	
Summer Camp	(all other expenses…Busing, travel, supplies, clothing, food, departmental)	1	$30,000.00		$30,000	
Recreation Program	Misc Supplies (all other expenses…)	1	$32,000.00		$32,000	
	Professional and Technical Services	1	$50,000.00		$50,000	
		1	$0.00		$0	
		1	$0.00		$0	
OPERATING EXPENSES continued						

Commodities					**$137,300**
	Office Supplies	1	$5,000.00	$5,000	
	Community Programs	1	$10,000.00	$10,000	
	First Aid Equipment	12	$200.00	$2,400	
	First Aid Supplies	12	$200.00	$2,400	
	Building Maintenance Supplies	12	$500.00	$6,000	
	Marketing/Printing	1	$18,000.00	$18,000	
	Custodial Supplies	12	$1,250.00	$15,000	
	Education/Training	1	$10,000.00	$10,000	
	Uniforms	1	$2,500.00	$2,500	
Ice Rink	Gas/Oil			$3,000	
	Uniforms			$1,000	
	Refrigeration Plant Maintenance			$12,000	
	Capital Replacement Fund			$25,000	
	Zamboni Annual Maintenance (2)			$10,000	
	Misc. Expenses			$15,000	
	Operating exclusive of staffing				**$999,085**
	TOTAL EXPENSES				**$2,786,810**

Table 10.5 depicts the details regarding potential revenue generation for the first year of operation, including rentals, programs, leagues, and special events, totaling $1,254,571.

Table 10.5: Potential Revenue Generation for Year 1

REVENUE							
Recreation Center Revenue							**$302,600**
Programs			**Fee Collected**	**Direct Program Expenses**	**Multiplier**		
Special Events		#/Year	Price	Hours	Revenue	**$41,600**	13.75%
	Birthday Parties (include 10 participants) ($200/hr. x 2 hrs.)	104	$200.00	2	$41,600	$41,600	
Tournaments/Competitions (in-house)		#/Year	Price	Multiplier	Revenue	$22,400	7.40%
	Basketball Tournaments (32 teams, $100 registration)	2	$3,200.00	50%	$3,200	$3,200	
	Volleyball Tournaments (32 teams, $100 registration)	2	$3,200.00	50%	$3,200	$3,200	
	Pickleball Tournaments (64 teams, $100 registration)	4	$6,400.00	50%	$12,800	$12,800	
	Cheerleading Competitions (64 teams, $100 registration)	1	$6,400.00	50%	$3,200	$3,200	
Programs		#/Year	Price	Multiplier	Revenue	$84,375	27.88%
	Basketball Instruction	100	$30.00	50%	$1,500	$1,500	
	Basketball Leagues	250	$30.00	75%	$5,625	$5,625	
	Basketball Clinics	100	$25.00	50%	$1,250	$1,250	
	Volleyball Instruction	100	$30.00	50%	$1,500	$1,500	
	Volleyball Leagues	200	$30.00	75%	$4,500	$4,500	
	Volleyball Clinics	100	$25.00	50%	$1,250	$1,250	
	Pickleball Instruction	100	$30.00	50%	$1,500	$1,500	
	Pickleball Leagues	200	$30.00	75%	$4,500	$4,500	
	Pickleball Clinics	100	$25.00	50%	$1,250	$1,250	
	Arts & Crafts Programs	250	$30.00	75%	$5,625	$5,625	
	Music Programs	250	$30.00	75%	$5,625	$5,625	
	ESPORTS Leagues	250	$30.00	75%	$5,625	$5,625	
	ESPORTS Clinics	100	$25.00	50%	$1,250	$1,250	
	Boot Camp Classes	2500	$10.00	75%	$18,750	$18,750	
	Dance Classes	1250	$10.00	75%	$9,375	$9,375	
	Yoga	250	$30.00	75%	$5,625	$5,625	
	Aerobics	100	$25.00	50%	$1,250	$1,250	
	Life Skills	250	$10.00	75%	$1,875	$1,875	
	Homeschoolers	100	$10.00	75%	$750	$750	
	Wellness	200	$30.00	75%	$4,500	$4,500	
	Theatre/Acting	100	$25.00	50%	$1,250	$1,250	
Rec Center Rentals		#/Year	Cost	Multiplier		**$154,225**	50.97%
	Rec Center (4 hours)	12	$1,000.00	75%	$9,000	$9,000	
	Rec Center (Non Profit)	0	$0.00	75%	$0	$0	
this would include 1 rentals per month	Indoor Playground (2 hour min) (include 10 participants)	12	$100.00	50%	$600	$600	
this would include 1 rentals per month	Entire Gym (three Courts) (per day)	12	$1,500.00	50%	$9,000	$9,000	
this would include 25 rentals per week	One Court (non profit)	0	$0.00	50%	$0	$0	
this would include 5 rentals per week	Entire Gym (three Courts) (per hour)	250	$200.00	50%	$25,000	$25,000	
this would include only 15 rentals per week	One Court (per hour)	750	$75.00	50%	$28,125	$28,125	
this would include 5 rentals per week	Large Multipurpose room (2 hour rental)	250	$100.00	50%	$12,500	$12,500	
this would include 5 rentals per week	Small Multipurpose room (2 hour rental)	250	$50.00	50%	$6,250	$6,250	
this would include 5 rentals per week	Arts & Crafts room (2 hour rental)	250	$50.00	50%	$6,250	$6,250	
this would include only 2 rental per week	Multigenerational Lounge (2 hour rental)	100	$25.00	50%	$1,250	$1,250	
this would include 5 rentals per week	Esports room (2 hour rental)	250	$50.00	50%	$6,250	$6,250	
this would include 5 rentals per week	Activity Wall (2 hour rental)	250	$50.00	50%	$6,250	$6,250	
this would include 5 rentals per week	Group Exercise Studio (per hour) (non profit) ($XX/hr. x 2 hrs.)	250	$50.00	50%	$6,250	$6,250 $0	
this would include only 15 rentals per week	Group Exercise Studio (per hour)	750	$50.00	1	$37,500	$37,500	
Ice Center Revenue							**$288,301**
Ice Programs			**Fee Collected**	**Direct Program Expenses**	**Multiplier**		
Special Events		#/Year	Price	Hours	Revenue	**$39,200**	13.60%
	After Hours Skate (include 100 participants, $10 each) ($2000/hr. x 2 hrs.)	1	$4,000.00	2	$8,000	$8,000	
	Ice Skating Rink Birthday Parties (include 10 skate rentals) ($300/hr. x 2 hrs.)	52	$300.00	2	$31,200	$31,200	
Tournaments/Competitions (in-house)		#/Year	Price	Multiplier	Revenue	**$9,600**	3.33%
	Hockey Tournaments (32 teams, $100 registration)	2	$3,200.00	50%	$3,200	$3,200	
	Skating Competitions I Tournaments 64 participants, $100 registration)	2	$6,400.00	50%	$6,400	$6,400	
Programs		#/Year	Price	Multiplier	Revenue	**$30,251**	10.49%
	Skating Instruction	500	$30.00	50%	$7,500	$7,500	
	Hockey Leagues	250	$100.00	75%	$18,750	$18,750	
	Hockey Clinics	100	$25.00	50%	$1,250	$1,250	
Drop In Program	Free Style Ice	500	$10.00	50%	$2,500	$2,500	
	Speed Skating	50	$10.00	50%	$250	$250	
	Other	1	$1.00	50%	$1	$1	
	Other	1	$1.00	50%	$1	$1	
Ice Rink Rentals		Hours	Amount	Multiplier		**$209,250**	72.58%
	Rink (assumes 4 hours of rental Monday - Friday, 40 weeks a year)	800	$225.00	50%	$90,000	$90,000	
	Rink (assumes 12 hours of rental Saturday/Sunday, 40 weeks a year)	960	$225.00	50%	$108,000	$108,000	
this would include 5 rentals per week	Small Multipurpose room (2 hour rental)	250	$50.00	50%	$6,250	$6,250	
this would include only 2 rental per week	Media Mezzanine/Multipurpose Lounge (2 hour rental)	100	$100.00	50%	$5,000	$5,000	
Outdoor Rentals (20 weeks a year)							**$49,450**
	Entire Park (full day)	12	$1,000.00	50%	$6,000	$6,000	
this would include 1 rentals per month	Entire Pickleball Facility (ten Courts) (per day)	12	$500.00	50%	$3,000	$3,000	
this would include only 25 rentals per week	One Pickleball Court	500	$5.00	50%	$1,250	$1,250	
this would include 1 rentals per month	Entire Tennis Facility (two Courts for a day)	12	$200.00	50%	$1,200	$1,200	
this would include only 15 rentals per week	One Court (per 1.5 hour)	300	$15.00	50%	$2,250	$2,250	
this would include 1 rentals per month	Entire Field Facility (per day)	12	$500.00	50%	$3,000	$3,000	
this would include only 25 rentals per week	Entire Field Facility (per hour)	500	$75.00	50%	$18,750	$18,750	
this would include 1 rentals per month	Small Field (for a day)	12	$250.00	50%	$1,500	$1,500	
this would include only 25 rentals per week	Small Field (for a hour)	500	$50.00	50%	$12,500	$12,500	
Childcare		# of Student	Amount	Multiplier			**$606,360**
Kids Cave Before & After School Program						**$424,200**	**69.96%**
	Before School Only (42 weeks)	31	$50.00	42	$65,100	$65,100	
	Before School Plus (42 weeks)	28	$65.00	42	$76,440	$76,440	
	After School Only (42 weeks)	26	$80.00	42	$87,360	$87,360	
	After School Plus (42 weeks)	20	$95.00	42	$79,800	$79,800	
	Before and After School Only (42 weeks)	10	$130.00	42	$54,600	$54,600	
	The Whole Enchilada (42 weeks)	10	$145.00	42	$60,900	$60,900	
Summer Camp						**$182,160**	**30.04%**
	Summer Camp (8 weeks)	138	$165.00	8	$182,160	$182,160	
Customer Services		**#**	**Amount**	**Multiplier**	**Revenue**		**$7,860**
	Skate Sharpening/Repair	260	$8.00	100%	$2,080	$2,080	
	Skate Rental	260	$3.00	100%	$780	$780	
	General Admission Skating	1000	$5.00	100%	$5,000	$5,000	
	TOTAL REVENUE						**$1,254,571**
	TOTAL NET						**($1,532,239)**
	COST RECOVERY						**45%**

Preliminary Draft Operational Budget Projections - No guarantee is being implied by BerryDunn that these projections will be obtained

Table 10.6 depicts the delta between existing operations and the projected operations with the new facility.

Table 10.6

FACILITY	EXISTING BANGOR FACILITIES	NEW BANGOR RERCREATION CENTER AND ICE ARENA PROJECTIONS		DELTA (ADDITIONAL BUDGET IMPACT)
Square Footage	51,500	154,005		102,505
EXPENSES		**EXPENSES**		
Personnel	$599,405.00	Personnel	$1,787,724.92	$1,188,319.92
Contractual Services	$52,300.00	Contractual Services	$861,785.08	$809,485.08
Other	$174,144.00	Commodities	$137,300.00	-$36,844.00
TOTAL EXPENSES	**$825,849.00**	**TOTAL EXPENSES**	**$2,786,810.00**	**$1,960,961.00**
REVENUE		**REVENUE**		
Recreation Center Revenue	$9,000.00	Recreation Center Revenue	$302,600	$293,600.00
Sawyer Revenue	$132,000.00	Ice Center Revenue	$288,301	$156,301.00
Kids Cave Revenue	$380,000.00	Outdoor Rentals (20 weeks a y	$49,450	$0.00
Summer Camp	$160,000.00	Childcare	$606,360	$446,360.00
Customer Services	$0.00	Customer Services	$7,860	
Total Revenue	**$681,000.00**	**Total Revenue**	**$1,254,571.00**	**$573,571.00**
TOTAL NET	**$144,849.00**		**$1,532,239.00**	**$1,387,390.00**
COST RECOVERY	**82%**		**45%**	**29%**

Summary

The proforma results in a cost recovery of 45% and a needed supplement of $1,532,239.

This proforma was completed after key staff reviewed multiple drafts. If more detailed information is desired with more emphasis on the different types of memberships, BerryDunn can complete another proforma upon request.

Comparing the current structure of the Parks and Recreation Department with the estimated O&M Proforma, it is estimated a new facility concept would be an approximate 28% or $1.387 million dollar increase to the current Parks and Recreation operation. It is important to note that the new facility is an all in one location recreation facility with a a three court gymnasium with suspended walking trach, new childcare wing, multiple classrooms/multipurpose rooms, and add a second sheet of ice, spectator sheeting, events space and that both sheets of ice will be open year round, plus additional amenities.

11.0 Implementation and Phasing Options

The following recommendations are made based on the entirety of the feasibility study, which included community members and City staff.

1. Secure Funding and Explore Potential Funding Sources
    - Public/Private Model (Recommended)
        - Government and State Public Grant Funding (e.g., Capital Facilities Grants)
    - Private Investment:
        - Percentage to be determined
    - Public Investment:
        - Percentage to be determined
2. Secure the Land
    - Coordinate with City staff and the School Department for use of the land for the project.
3. Take Conceptual Plan to the Next Steps and Determine if Phasing Options Need to Be Considered
    - Administrative Groundwork:
        a) Distribute final report
        b) Await City Council decision on final plan elements
        c) Establish target schedule
        d) Make provision for the design and construction in Capital Improvement Plan
    - Detailed design: Award of design contract
        e) Typical scope includes:
            I. Design Development phase:
                1. Refine the conceptual design in AutoCAD along with engineering input
                2. Update final area master plan, including 3D visualizations and engineering designs
                3. Engage community participation to confirm final plans

4. Set pricing, including detailed specifications
5. Create detailed cost estimate
6. Refine operations cost analysis, including projected revenue
7. Develop construction phasing plan

f. Bidding:

I. Create final construction drawings for bidding process

II. Create final specifications for bidding process

III. Undergo bidding process and select contractor

- Award of construction contract

g. Permitting by the contractor

h. Construction phase services

Review submittals and answering Request for Information (RFI) requests

Site visits and Punch list

Final inspection and closing.

- Construction
- Grand opening of the community center

Potential phasing

If phasing options need to be considered, the City could embark on a phasing plan for the project. In the first phase, the site could be cleared and regraded to create a construction pad for the proposed improvements and then construct the following:

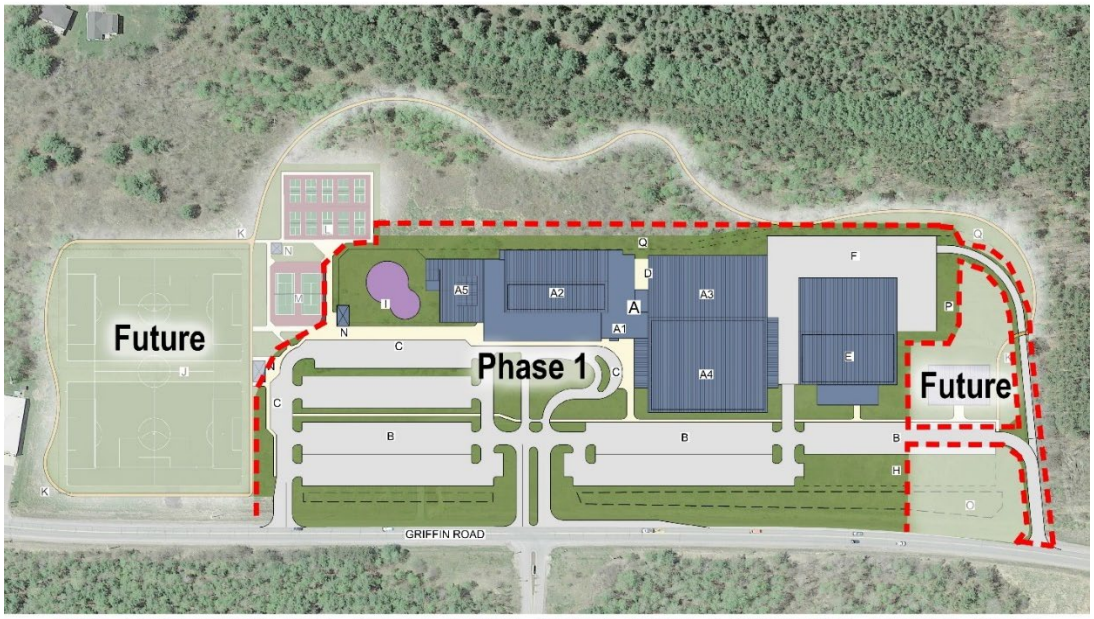
- Community center and ice arena facility
- Parks and schools maintenance facility
- Childcare playground
- Associated pedestrian walkways for the above
- All parking and vehicular circulation

Future phases

- Health and Human Services Building*
- Tennis courts

- Pickleball courts
- Multiuse athletic field
- Associated pathways, shade shelters, and amenities

*The Health and Community Services building could be constructed during Phase 1 or at any time funding is secured.

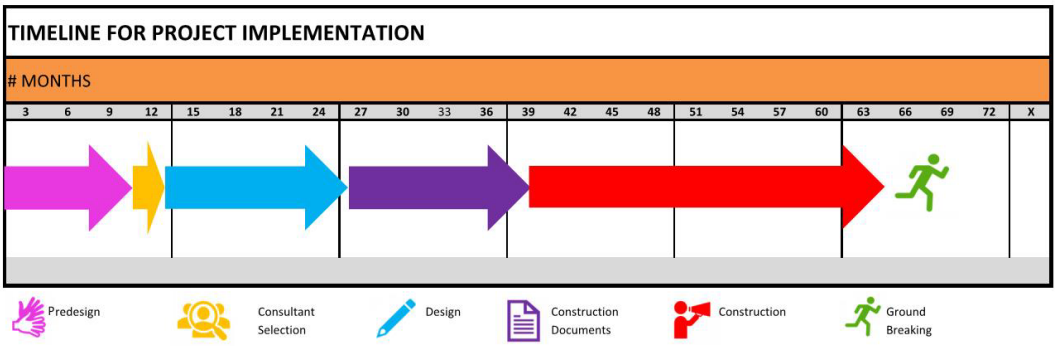


Potential Phasing Plan

Timeline for Implementation

The graphic below shows the potential timeline for implementation of the recommendations for either phasing or full build-out. This timeline begins at the conclusion of the Public Information/Briefing and the Fundraising/Site Decision phases.

Figure 11.1: Timeline for Project Implementation



12.0 Appendices

12.1 – Social Pinpoint Questions

Ice Arena Survey Questions

1. What are the most important ice arena components for you and your family? Please select up to five options.
    - Concessions/food service full sheet of ice –12 months
    - Full sheet of ice – 7 months/seasonal turf; 5 months multipurpose space
    - Referee room registration area/lobby retail
    - Skate rental/skate sharpening
    - Spectator seating
    - Team/locker rooms training/first aid room
    - Other (please describe)
2. What are the most important ice-related programs for you and your family? Please select up to five options.
    - Birthday party service
    - Camps
    - Curling
    - Dry floor: inline skating/events
    - Figure skating competitions
    - Figure skating instruction
    - Hockey instruction
    - Hockey leagues
    - Hockey tournaments
    - Ice dancing
    - Learn to Skate program
    - Open skate
    - Rink rentals
    - Stick and puck drop-in hockey

- Turf: soccer/lacrosse/field hockey/flag football
- Other (please describe)

3. Which facility is the most important to you and your family?
   - Ice Arena
   - Recreation Center
   - Equal importance
4. Do you think the facilities should be combined on one site or separate?
   - Combined
   - Separate
   - No preference

Recreation Center Survey Questions

1. What are the most important recreation center components for you and your family? Please select up to five options.

   Note: The proposed recreation facility will include the Park maintenance division, Parks and Recreation administrative staff, and support spaces (offices, storage).

   - Art room
   - Banquet space
   - Catering kitchen
   - Childcare spaces
   - Climbing wall
   - Dance room
   - Gyms (basketball, volleyball, pickleball courts)
   - Indoor playground
   - Indoor walking/jogging track
   - Multipurpose spaces
   - Registration area/lobby
   - Senior center
   - Stage

- Teaching kitchen
- Teen center
- Other (please describe)

2. What are the most important programs for you and your family? Please select up to five options.
   - Active adult/senior programming
   - Before- and after-school care
   - Birthday party service
   - Camps/sports camps
   - Dance/music/performing arts
   - Facility rentals
   - Indoor climbing
   - Martial arts
   - Pickleball
   - Sports instruction: basketball, pickleball, volleyball (youth and adult)
   - Visual arts
   - Walking/jogging/running
   - Wrestling
   - Youth and adult general interest classes
   - Other (please describe)
3. Which facility is the most important to you and your family?
   - Ice Arena
   - Recreation Center
   - Equal importance
4. Do you think the facilities should be combined on one site or separate?
   - Combined
   - Separate
   - No preference

12.2 Focus Group Questions

1. How long have you been a resident of Bangor?
    - _____<5 years
    - _____ 5 – 9 years
    - _____ 10 – 19 years
    - _____ 20+ years
    - _____ Not a resident program/facility user
2. What Parks and Recreation Department programs do you and your family currently participate in?
3. What are the programming strengths of the Bangor Parks and Recreation Center?
4. What are the programming strengths at the Sawyer Ice Arena?
5. What are the major opportunities that could be addressed with a new recreation center?
6. What are the opportunities that could be addressed with a new or renovated ice center?
7. What additional activities do you feel should be offered at a new recreation center that are currently not available in Bangor?
8. What additional ice activities do you feel could be offered at a new or improved ice arena?
9. What new amenities would you like to see provided at a new recreation center?
10. What new amenities would you like to see at a new or renovated ice arena?
11. How should new recreation facilities be financially supported?
12. How should a new or renovated ice arena be financially supported?
13. Who are the key partners and stakeholders who might assist with new recreation facilities in Bangor?
14. What are the key issues and values that the City needs to take into consideration when planning for new recreation facilities in Bangor?
15. Which facility is more important to you and your family?
    a. Recreation Center
    b. Ice Arena
    c. No opinion

16. If the City were to build both facilities, should they be combined on one site or separated on different sites?

    d. Combined

    e. Separate

    f. No opinion

12.3 Focus Group Attendees

Parks and Recreation Staff

- Tracy Willette, Debbie Gendreau, Zach Napsey, Trish Cummings, Jenny Coon, Joe Nelson, Nick Fiore, Troy Unterreiner, Randy Dodge, Dennis Crane, Ed Moores, Robert Hanscom, Michael Dupray, Annabelle Muscatell, and Nick Williams

City Staff

- Anne Krieg, Debbie Laurie, Courtney O'Donnell, Tom Higgins, and John Theriault

Parks, Recreation & Harbor Advisory Committee

- Ryan Robbins, Leah McBreairty, Andrea Oldenburg, John Parcak, Matt Grant, and Rich Trott

City Council Members

- Clare Davitt, Rick Fournier, Sue Hawes, Joe Leonard, Cara Pelletier, Gretchen Schaefer, Jon Sprague, Dan Tremble, and Dina Yacoubagha

Outside Organization Users

- Lennie Dorian

School Focus Group

- Jim Tager, Paul Butler, Steve Vanidestine, Jerry Hayman, Alan Mosca, Jay Kimble, and Chris Whitney

Recreation Focus Group

- Keith Simpson, Monique Gagnon, Sue Griffin, Matt Donahue, Trish Cummings, and Kelsey Cota

Sawyer Ice Arena Focus Group

- Elizabeth Houghton, Quin Paradis, Zach Wilson, Jamie Schureman, Fred Lower, Bridget Woodward, Lee Miller, Eric MacDonald, Omekia Legassie, and Dan O'Connell

12.4 Public Open House Attendees

Tuesday, May 9

- Bruce O'Handley
- Ryan Robbin
- Leah McBreairty
- Ryan Welch
- Alan and Teresa Bartlett
- Jimi Caron
- Jill Tucker
- Shea Carson
- Martha Gray
- Doris Dall
- Keith Good

Wednesday, May 10

- Rich Trott
- Lesley Anderson
- Jessica Floyd
- Chad Morik

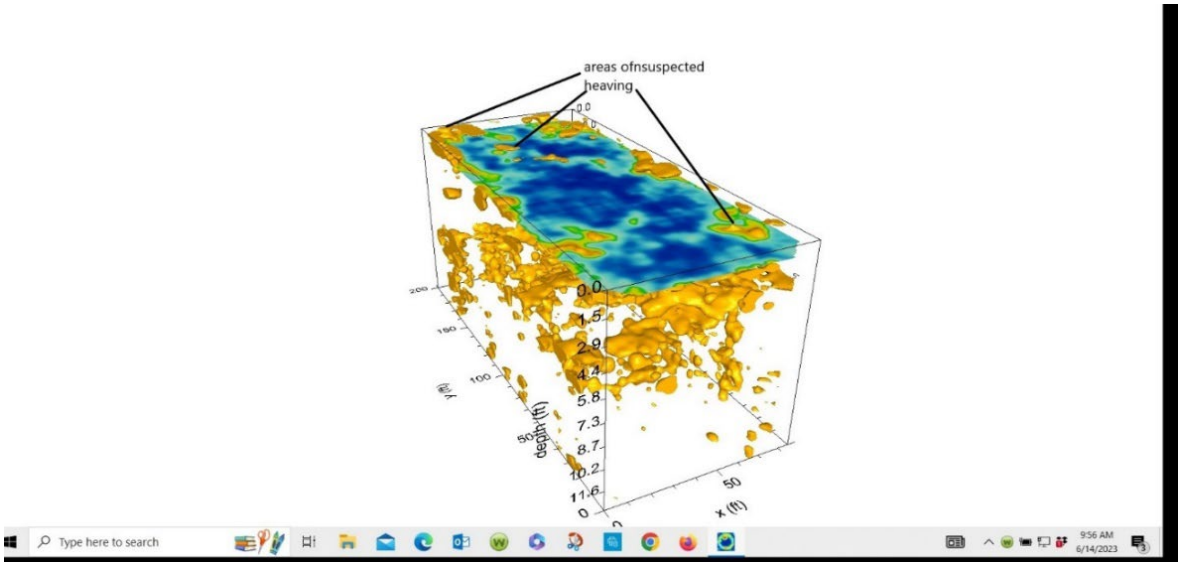
12.5 Ground-Penetrating Survey

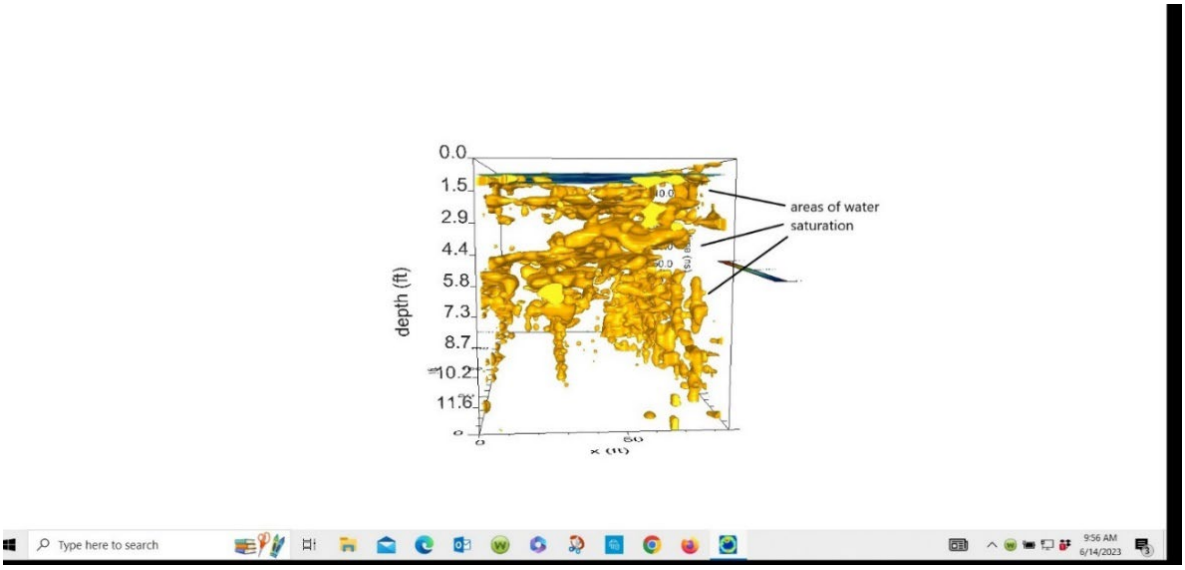
On June 6, 2023, Pegasus Environmental performed multiple ground-penetrating radar (GPR) surveys of the Sawyer Ice Arena in Bangor, Maine.

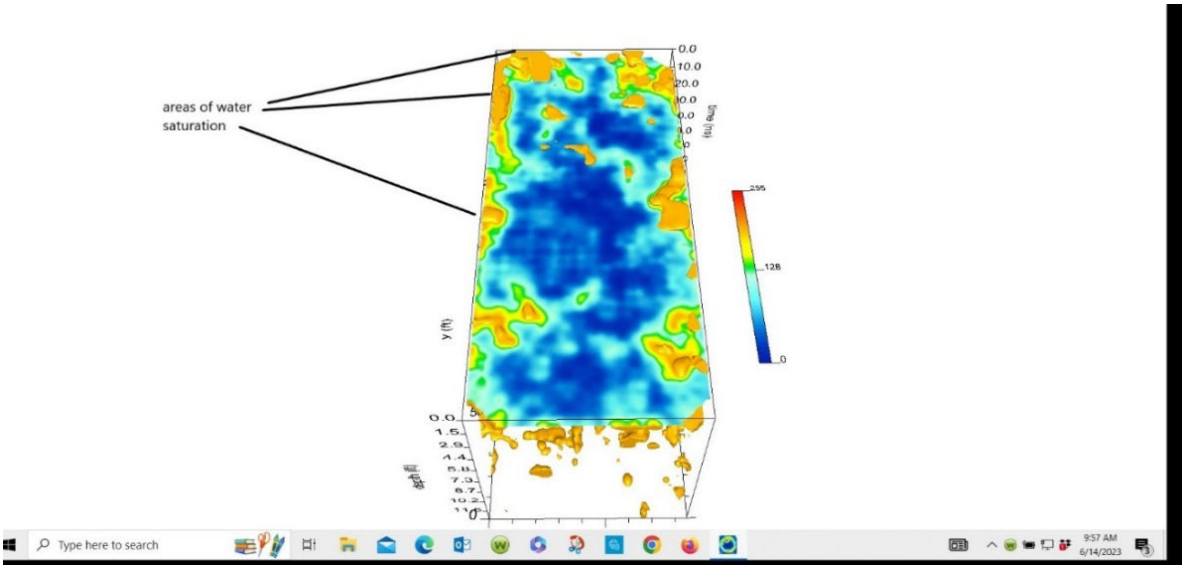
The purpose of the surveys was to produce a complete 3D Subsurface Evaluation of the entire rink. Heaving has occurred along the near wall as well as at other locations within the rink itself.

This rink is very unusual. The ice sheet was built with very little subsurface preparation. Additionally, the chilling is not with the usual coil tubing; instead, there are small tube mats that run directly across the rink. There is also no real effective heating layer.

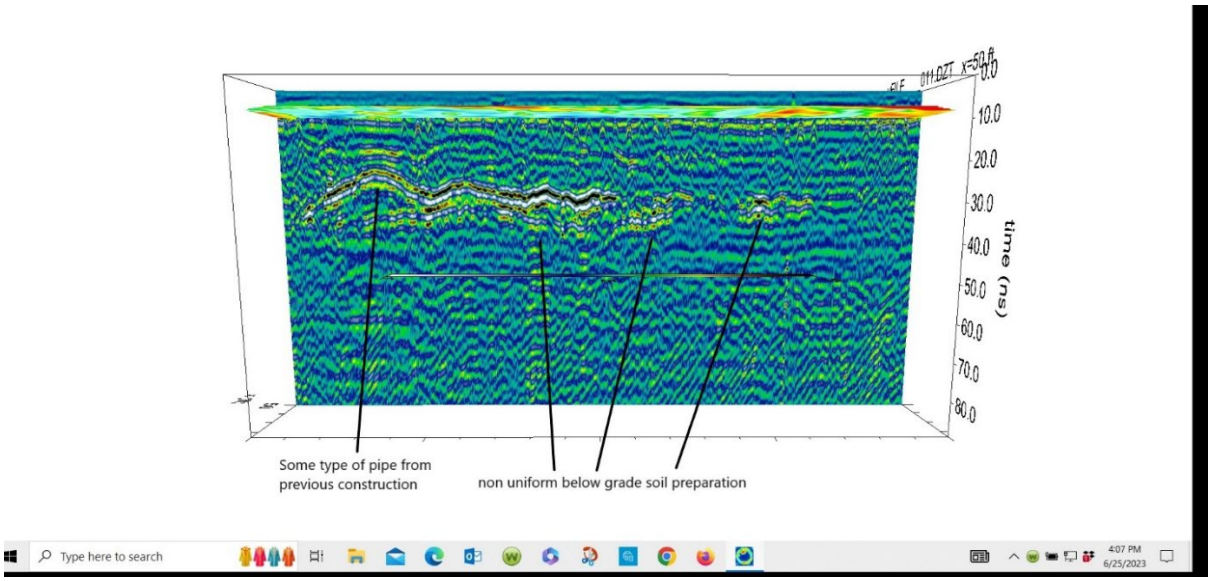
The foundation of the rink is very ununiform and has no apparent drainage system employed.

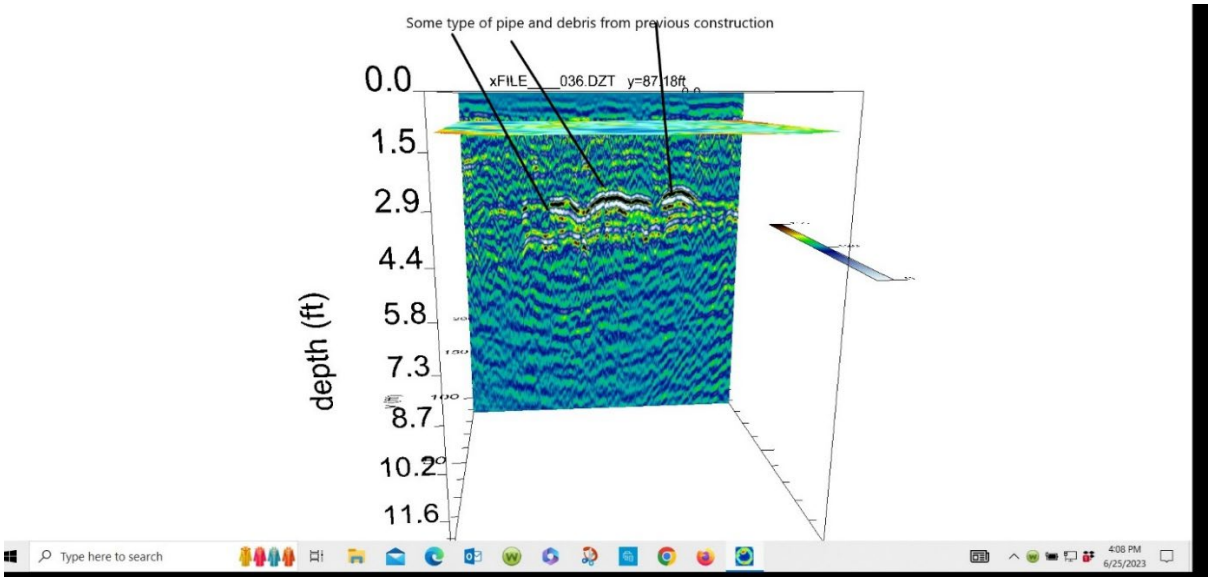




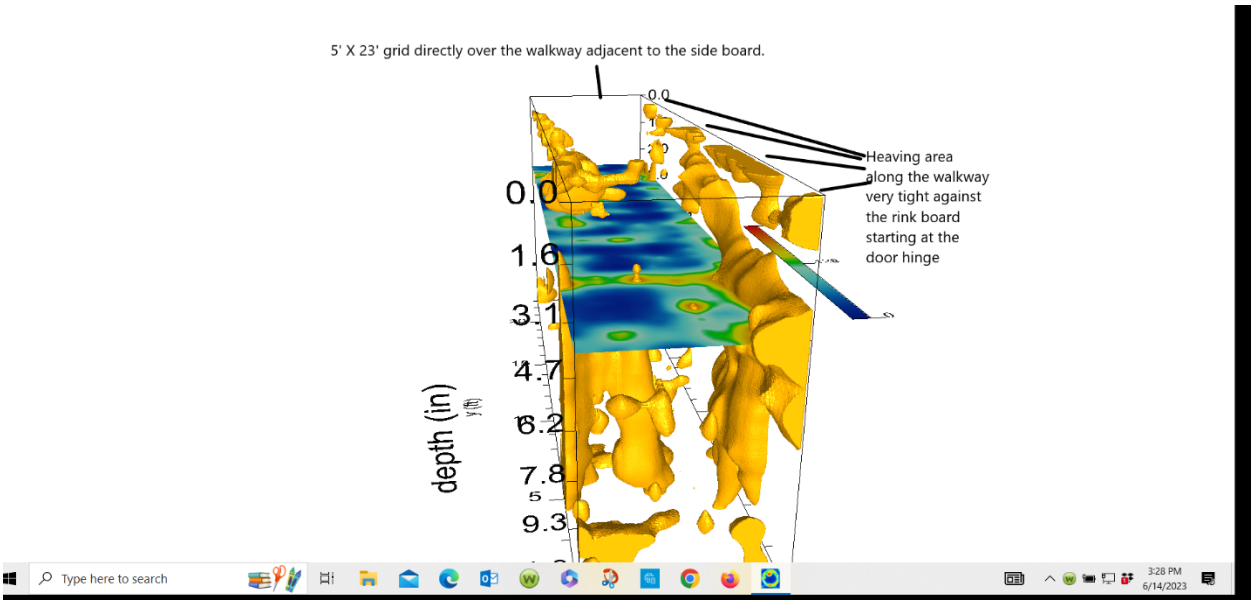


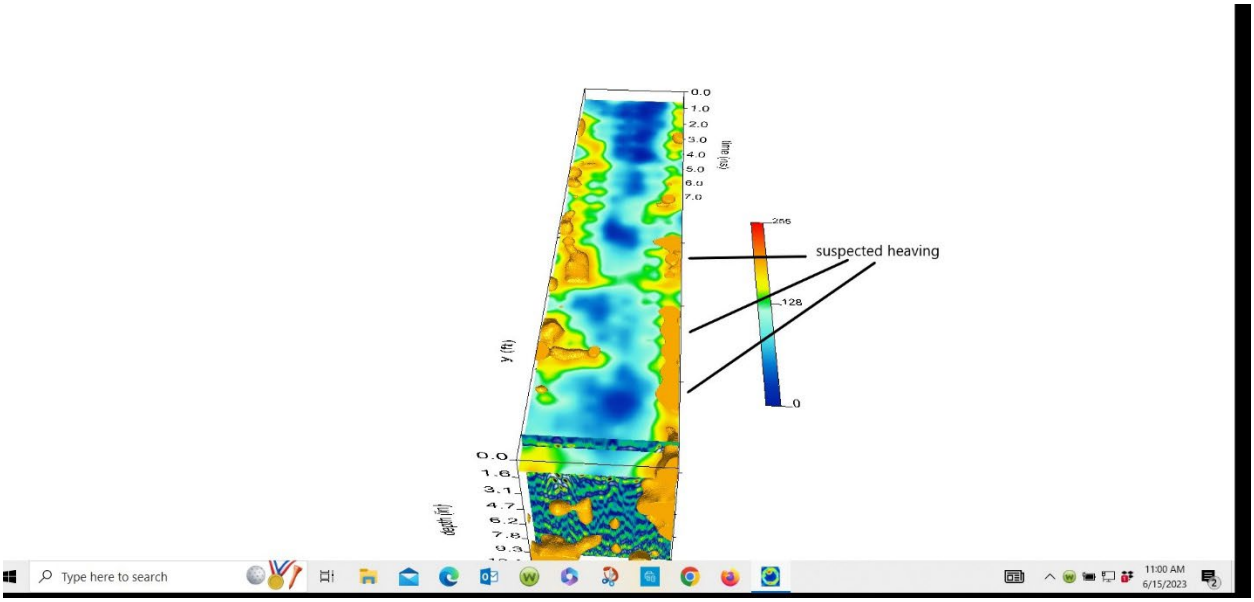
The rink was originally built on a former residential area without proper excavation to remove various associated utilities and geological anomalies. Therefore, there are several remnants remaining. This uneven base is compounded by a lack of apparent drainage, making several water saturation congestion areas and a very uneven subslab on which to construct the arena.





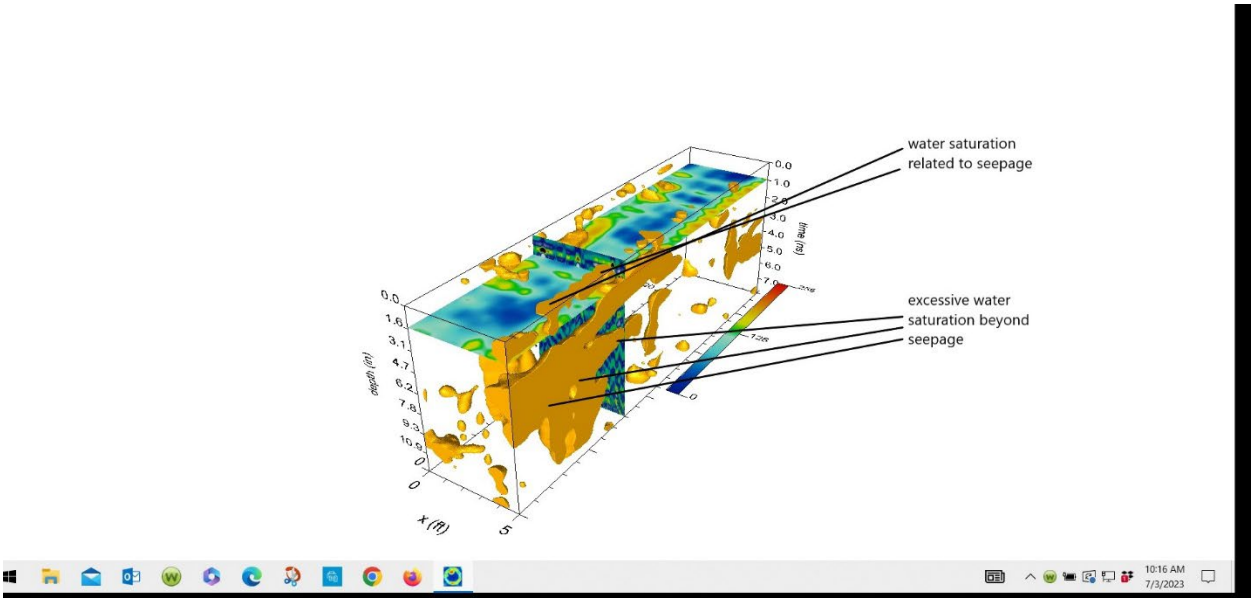
After completing the 3D Subsurface Profile of the rink itself, Pegasus Environmental performed a similar grid survey directly over the walkway adjacent to the rink's side board (an area measuring 5-by-23 feet) starting at the door hinge. This is where the suspected main heaving is occurring and causing side board leaning.





It is the consultant's understanding that there is substantial seepage involved along the near side of the rink surface at both ends. This, coupled with a total lack of proper drainage, explains the heaving under the side board.

With this in mind, understand that there are very substantial areas of saturation, which do not appear to be related to seepage.



The anomalies here, in conjunction with similar ones beneath the rink itself, reinforce the total lack of adequate drainage scenario.

12.6 Sawyer Arena Refrigeration and Floor Survey

Inspection and Findings

MacLaughlin Management & Design's ice making division conducted an inspection of the Sawyer Arena refrigeration equipment and the ice floor in early December, 2023. The purpose of the inspection was to provide the City of Bangor Recreation Department with recommendations to upgrade the existing skating conditions in this off season in order to try to avoid a major skating system failure in the future.

It is important to note that the management of the ice rink has made ever effort to keep the rink operational despite the fact that the refrigeration equipment and the ice mat floor are original installations and beyond their expected life cycle. The fact that the refrigeration equipment is air cooled and installed outside behind the building and that the floor has a mat system indicates that the rink was built on a tight budget.

Upon inspection of the Arena in December, we found ice was installed and systems were fully operational. Sawyer is a seasonal rink with a 200' long by 85' wide ice sheet installed on a sand floor with a Calmac mat system through which glycol refrigerant flows to make the ice skating surface. The headers, which distributes the refrigerant to the mat, are external to the boards on the long backside with what appears to be a 4" PVC schedule 80 piping system and copper sub headers. The header insulation is askew in many places due to being outside the dashers and exposing the headers. In some locations the return copper headers possessed clear ice as opposed to the supply headers which are consistently frosted. This condition indicates a fluctuation of glycol flow which leads to uneven ice freezing. Several of the exposed floor tubing also display this type of fluctuation. The ice making tubing which appears to be 3/8 " ID passes under the dasher boards and lay on the rink floor. We were told by the operator that the U bends for the ice making tubing are short and do not have the dasher boards extended over them which leads to a soft ice edge. It was also reported that the vertical insulation at the warming room end of the has been forced upwards in the past and removed. It is most probable that the original floor installation did not include a polyethylene layer which would help prevent water from seeping down into the sand floor, freezing and creating a heave. Overall, based upon our visual inspection the ice mat, insulation, and header are in poor condition and repair to the floor system should be undertaken in the next off season.

The ice making equipment is a Trane RTA 110 air cooled chiller utilizing R22 as the primary refrigerant and ethylene glycol at an estimated 40% mixture as secondary refrigerant. The Trane unit is located outside, in the back of the building, with the pump and expansion tank installed in the rear shed room. There is a 4" insulated piping system with steel transmission piping to and from cold floor headers which connect to the Trane chiller outside the rink. The Trane air cooled chiller has fan guards removed atop the chiller. The expansion tank is reflecting a ¼ full of glycol and it was reported to us that seasonally there is a loss of between 25 and 30 gallons of glycol on a total charge of between 1,500 and 2,000 gallons. Overall, the ice making mechanical system is in poor condition. Short of replacing the complete ice making equipment, ongoing maintenance service will be required to keep the chiller system working effectively.

Conclusions and Recommendations

The ice mat, mechanical ice making equipment, and floor installation date back to 1994. The ice mat and the ice making equipment are significantly beyond their effective life expectancy. The

Calmac mat system and the Trane chiller are both manufactured with a 20 year life cycle. The lack of effective vertical insulation on the warming room end of the rink and the stand side of the rink where the supports have been installed is causing the soft ice conditions and allowing water to seep into the underfloor. This is undermining the concrete berm on which the dasher boards are anchored and causing the berm to roll when the water freezes below. In lieu of complete replacement of the chiller and the ice mat, it is our recommendation in the next off season to pressurize the mat from 75 psi to 100 psi and look for leaks and loose connections to repair. This would then allow operating the Mat at 90 psi in season and getting glycol flow to the warming room end of the rink. Secondly, we would hand excavate along the warming room wall and stand side and install ½" vertical insulation. Both of these actions would improve the hardness of the ice at the edges, help to prevent water from draining down, freezing and then undermining the concrete berm and causing it to roll. The estimated budget would be $60,000-$65,000. It is important to note that until a full inspection is made of the Mat in the off season, other issues may exist.

Eventually, the Mat and floor will need to be replaced at an estimated cost of $350,000-$375,000. We also suspect that the original dasher board berm may be compromised and may come apart once work on the floor is undertaken. If the berm does need to be replaced this would be at a cost of $150,000- $200,000.

Since the Trane chiller is also original it will need replacement in the near future, but could last 3-5 years with ongoing maintenance. The cost to replace the chiller, new pump piping and expansion tank the budget cost is $350,000- $375,000. We would recommend that if repairs to the refrigeration system exceed $15,000, the City would be better served to rent a replacement chiller from November – March at an estimated cost of $50,000.

Summary of Estimated Cost

Summer 2024

- Repair ice mat install vertical insulation: $60,000-$65,000

Future

- Ice mat and floor replacement: $350,000-$375,000
- Dasher board berm replacement: $150,000- $200,000
- Replacement of air cooled chiller: $350,000- $375,000 (This chiller could be moved to a new rink but would only accommodate a single sheet facility.)
- Chiller Rental if needed: $50,000 a season