

Aquatic Feasibility Study

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Architecture Engineering Planning



Counsillman Hunsaker
AQUATICS FOR LIFE

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Executive Summary

Aquatic facilities contain complex equipment, amenities, and support spaces that require intensive planning and extreme quality control measures. Balancing numbers in aquatic operations entails several different areas, including basic budgeting, an equipment maintenance plan, as well as staying ahead of the curve when it comes to the latest trends in aquatics for a new facility or renovating an existing one. Aquatic operators who spend time analyzing and planning these three areas to manage and achieve daily results will set the tone for their organization's future success and financial sustainability.

In 2016, the Town of Cutler Bay, Florida, retained Wolfberg, Alvarez & Partners along with Counsilman-Hunsaker to develop an Aquatic Feasibility Study for Cutler Bay Parks and Recreation.



Background Information

Public Input, Town Hall Meeting, June 9, 2016

- Concept should have at minimum an 8 lane competition pool
 - Strong support in the room for a 50-meter pool
 - Strong support in the room for swim team training
 - Letters from U of Miami and U of Florida
 - Interest in hosting high level meets
- Support for leisure and family use aspects
- Support for space for aquatic programming
 - Learn to swim, American Red Cross courses, scuba
- Support for deep water for diving/synchronized swimming
- Cutler Ridge Park seemed to have the most support for a site
 - Concerns about impact on the neighborhood (noise, lights, traffic)
 - Concerns about the park being large enough to support a growing population
- Would like to see an increase in operational hours
- Support for community support spaces – multipurpose rooms, classrooms, gym, etc.

Public Input, Town Hall Meeting, July 19, 2016

- Sufficient parking needs to be addressed
- Strong support for a competition based pool
 - Strong support for 50-meter pool
 - Must meet Fina, USA Swimming, MDCPS criteria
 - Should be able to support swimming lessons, water polo, and lifeguard instruction
 - Support for a smaller recreation area with Olympic size pool
- Lack of support for additional amenities like meeting rooms and multipurpose rooms
- Thought should be given to the amount of lifeguards and staff needed for the facility
- Separate diving wells/deep water was preferred

Public Input, Town Hall Meeting, July 19, 2016

- Support for a competition based pool
 - Should be able to support swimming lessons, water polo, and lifeguard instruction
- Support for a smaller recreation area similar to Jacobs Aquatic Center
- Aquatic facility should be large enough to host regulation swim meets for high school and USA Swimming, water polo, and synchronized swimming
- Recreational elements could draw in families with young children and teach them a love of swimming from an early age
- Aquatic facility should have enough capacity and lane space for public lap swimming at the same time as swim team practice
- Community does not want to lose the current pool for 12 months while a new facility is constructed (alternate sites or areas within Cutler Ridge Park must be considered)

Public Input, Town Hall Meeting, October 4, 2016

- Recreational component should have as many components as possible and larger if possible
- Fees should be looked at in detail as currently many patrons visit the pool for much less than proposed
- Suggestions for competition pool:
 - Spectator seating in competition area should be covered
 - Lap lanes should be available for all users
 - Underwater viewing windows in 50-meter pool
 - Electronic scoreboards should be included
- Both heating and cooling systems should be considered
- Concerns with moving soccer fields
 - Are the costs being considered?
 - Concerned with leveling the ridge
- Support was expressed for a multipurpose room at the facility to accommodate classes and parties

Town Staff Input

Develop a community-based aquatic facility that meets the needs of the town of Cutler Bay residents:

- Provide for the competitive and fitness needs of the community
 - High school swim/dive team
 - USA Swimming
 - Masters swimming
 - Water polo
 - Synchronized swimming
- Provide for children's swim lessons
- Provide for water aerobics/fitness classes
- Provide for the recreational needs of the community
- Families with young children

Demographics

U.S. Government Census 2010 projects the Town of Cutler Bay's population base to increase from 43,500 to 47,800 by 2020. The 0-19 age group is 26.6% of the city's population compared to the national average of 26.5%. The median age for the city is slightly above the national average (37.6 compared to 37 respectively). Income analysis for the Town of Cutler Bay is 6%

lower than the national average in regard to per capita income, and 9% higher than the national average for median household income.

Three Options for Consideration

Through the Needs Assessment process, the following three visions were developed for a new community aquatic center for the Town of Cutler Bay to consider.

Option 1: Regional/State/National Competition Facility

- 50-meter x 25-yard pool
- Separate warm-up/warm-down pool
- Platform diving
- Spectator seating



Option 2: Leisure Aquatic Center



Option 3: Competition Facility with Small Leisure Element

- 50-meter X 25-yard Pool
- Small Leisure Pool



Recommended Option

13,200 sq. ft. 50-Meter x 25-Yard Competition Pool

- 17-22, 25-yard lanes
- Eight 50-meter lanes
- Two bulkheads
- 1-meter/3-meter diving boards
- 600 person shaded spectator seating
- Heated/cooled

5,600 sq. ft. Leisure Pool

- Zero-depth entry w/children's play structure
- Three fitness lap lanes
- Waterslide
- Crossing activity
- Shade structures
- Multipurpose room

Cost: \$13.5M



At the final Council presentation, the consultant was asked to explore an option that would be in the range of \$6M for the project budget. A facility in this cost range would include +/- 4,000 sq. ft. of surface area (1,600 sq. ft. smaller than the leisure pool in the recommended concept), support spaces and the cost to relocate the existing soccer fields to the ridge site.

Section 1:

Introduction

Methodology
Project Scope
Future Programming

Section 1: Introduction

Methodology

The Town of Cutler Bay Aquatic Feasibility Study 2016 is based on extensive research through the following processes:

Needs Assessment

- Community Outreach / Common Vocabulary, Vision
- Evaluate Existing Area Providers
- Lifecycle Analysis of Existing Facilities
- Research Area Demographics
- Identify Potential User Groups
- Identify Potential Community Partners
- Site Analysis

Facility Program and Space Requirements

- Develop Schematic Design / Options for Programming
- Develop Project Cost Estimates

Operations and Business Plan

- Financial Performance
- Estimate Revenue Potential
- Estimate Operating Expenses
- Determine Cashflow
- Sources of Funding

Project Scope

The scope of this project is to:

- Recommend future aquatic needs to enhance entertainment value.
- Make projections regarding project costs and pro forma.

Future Programming

Via public input, the following aquatic programs have been selected for the Town of Cutler Bay aquatic center.

- Swim Meets
- Club Team
- HS Team Rental
- Summer League
- Swim Lessons
- Water Fitness
- Lifeguard Certification
- Birthday Parties/Private Rentals

Section 2:

Population

Characteristics

Population
Income
Age Distribution
Weather

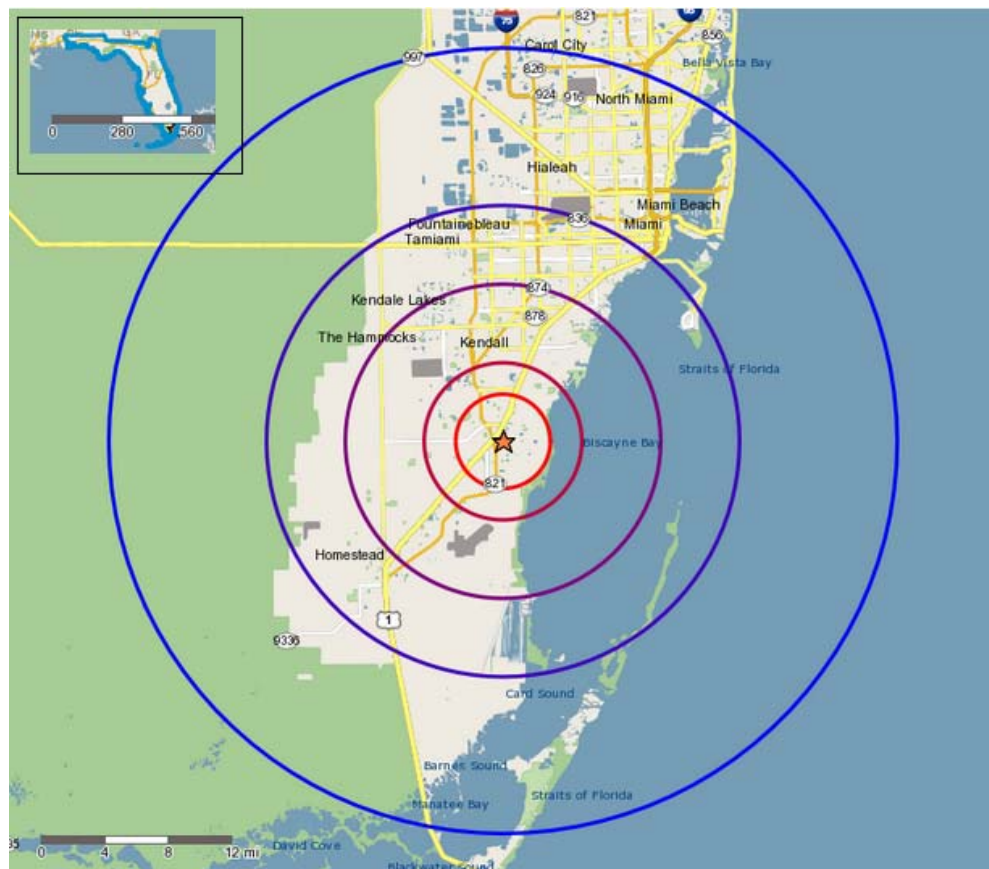
Section 2: Market Area Demographics

Factors that can influence attendance include projections for growth/decline of population, income levels, and age groups. Market studies are used to predict how relevant products, services, and fees are to residents. The primary area is assumed as a 25-mile radius, and the service area is assumed as a 5-mile radius, both originating from 10100 SW 200th Street, Cutler Bay, Florida 33157. The difference between “primary” (25-mile market area) and “service area” (5-mile market area) is that the service area is going to be the bulk of an aquatic center’s users, however with a destination style aquatic center, users may travel longer distances. This is especially true when there are limited recreation options in a primary service area. Thus, a study of demographic patterns in the Cutler Bay area is helpful in projecting usage rates. The resident market area has been divided into the following distance rings:

Distance From Site

- 0 to 3 Miles
- 3 to 5 Miles
- 5 to 10 Miles
- 10 to 15 Miles
- 15 to 25 Miles

Distance Rings Map



Population

The following chart presents a summary of market area population with distance rings surrounding 10100 SW 200th Street, Cutler Bay, Florida. The 2010 U.S. Government Census was used to estimate the population for 2015 and to make projections for 2020. The population base for the town is projected to increase from 43,500 to 47,800 by 2020. Moreover, the entire market area is projected to increase.

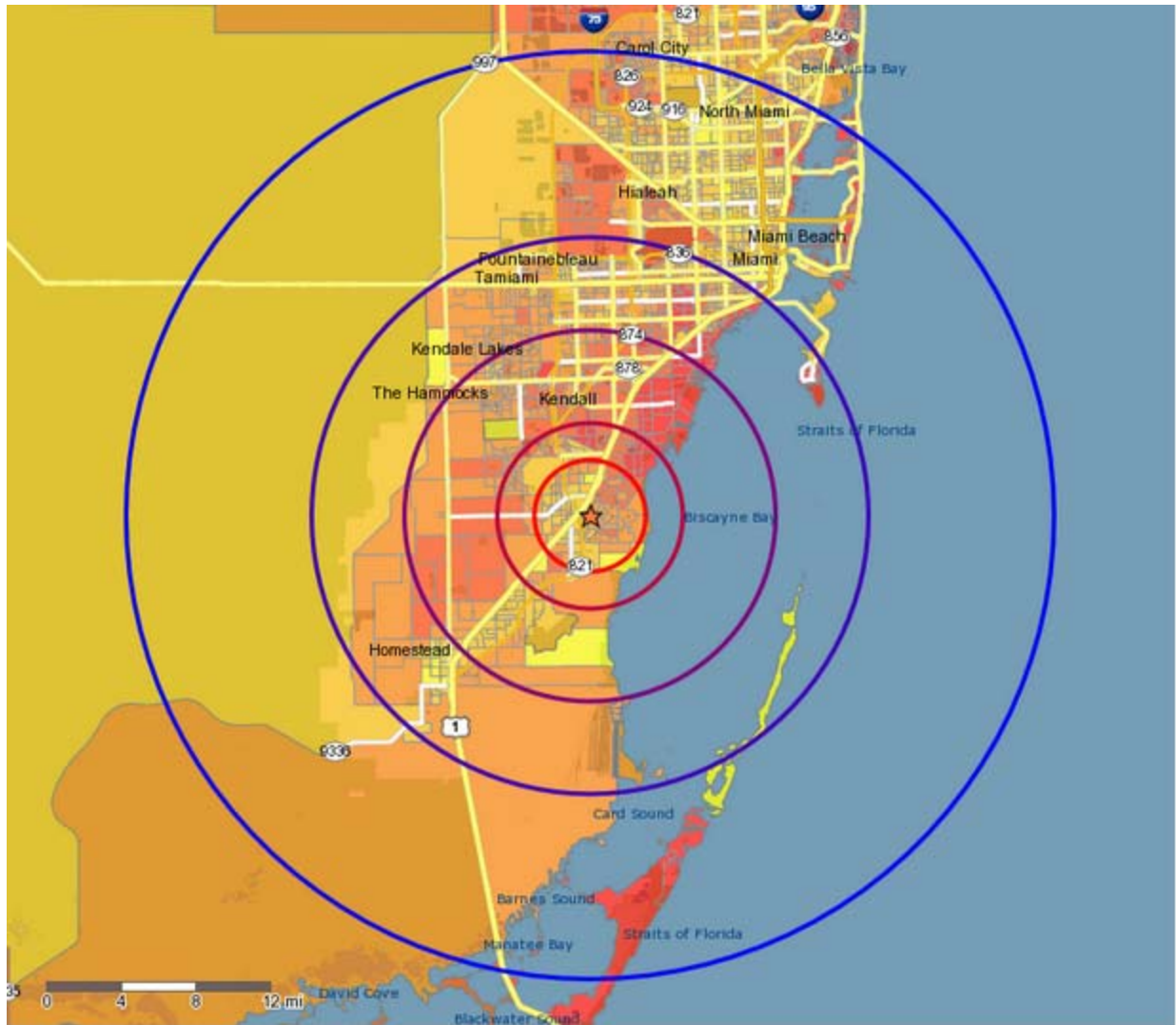
MARKET AREA POPULATION BY DISTANCE										
Radius	Population						Average Annual Change			
	2010		2015		2020		2010-2015		2016-2020	
	Number (000's)	Percent of Total	Number (000's)	Percent of Total	Number (000's)	Percent of Total	Number (000's)	Percent Change	Number (000's)	Percent Change
0 to 3 Miles	126.1	5.6%	135.3	5.8%	148.5	6.0%	2.0	1.6%	2.4	1.7%
3 to 5 Miles	88.1	3.9%	95.0	4.1%	101.2	4.1%	1.4	1.5%	1.3	1.3%
5 to 10 Miles	397.0	17.7%	426.5	18.3%	450.5	18.3%	5.9	1.4%	4.8	1.1%
Subtotal	611.2	27.2%	657.8	28.2%	700.2	28.5%	9.3	1.5%	8.5	1.3%
10 to 15 Miles	575.3	25.6%	614.3	26.3%	647.5	26.4%	7.8	1.3%	6.6	1.1%
15 to 25 Miles	1,061.9	47.2%	1,061.9	45.5%	1,107.5	45.1%	0.0	0.0%	9.1	0.8%
Subtotal	1,637.2	72.8%	1,676.2	71.8%	1,755.0	71.5%	7.8	0.5%	15.8	0.9%
Total (0-25 Miles)	2,248.4	100.0%	2,334.0	100.0%	2,455.2	100.0%	17.1	0.8%	24.2	1.0%
Cutler Bay, FL	40.3		43.5		47.8		0.6	1.5%	0.9	1.9%
Source: Alteryx										

Income

To a certain degree, the likelihood of residents to engage in municipal recreation depends on their ability to pay for admission and program fees. In the following chart, the U.S. national average is set at 1.00. Index refers to the percentage higher or lower than the national average. Income analysis for the Town of Cutler Bay is 6% lower than the national average in regard to per capita income, and 9% higher than the national average for median household income.

Cutler Bay, FL				
MARKET AREA INCOME				
Radius	Per Capita Incomes		Median Household Incomes	
	Dollars	Index	Dollars	Index
0 to 3 Miles	\$20,399	0.77	\$47,493	0.90
3 to 5 Miles	\$28,541	1.08	\$64,995	1.24
5 to 10 Miles	\$27,815	1.05	\$56,401	1.07
10 to 15 Miles	\$24,938	0.94	\$45,752	0.87
15 to 25 Miles	\$20,718	0.78	\$34,769	0.66
Cutler Bay, FL	\$24,931	0.94	\$57,269	1.09
Total U.S.	\$26,464	1.00	\$52,599	1.00
Source: Alteryx				

Census Tract Map of Median Household Income (2015)



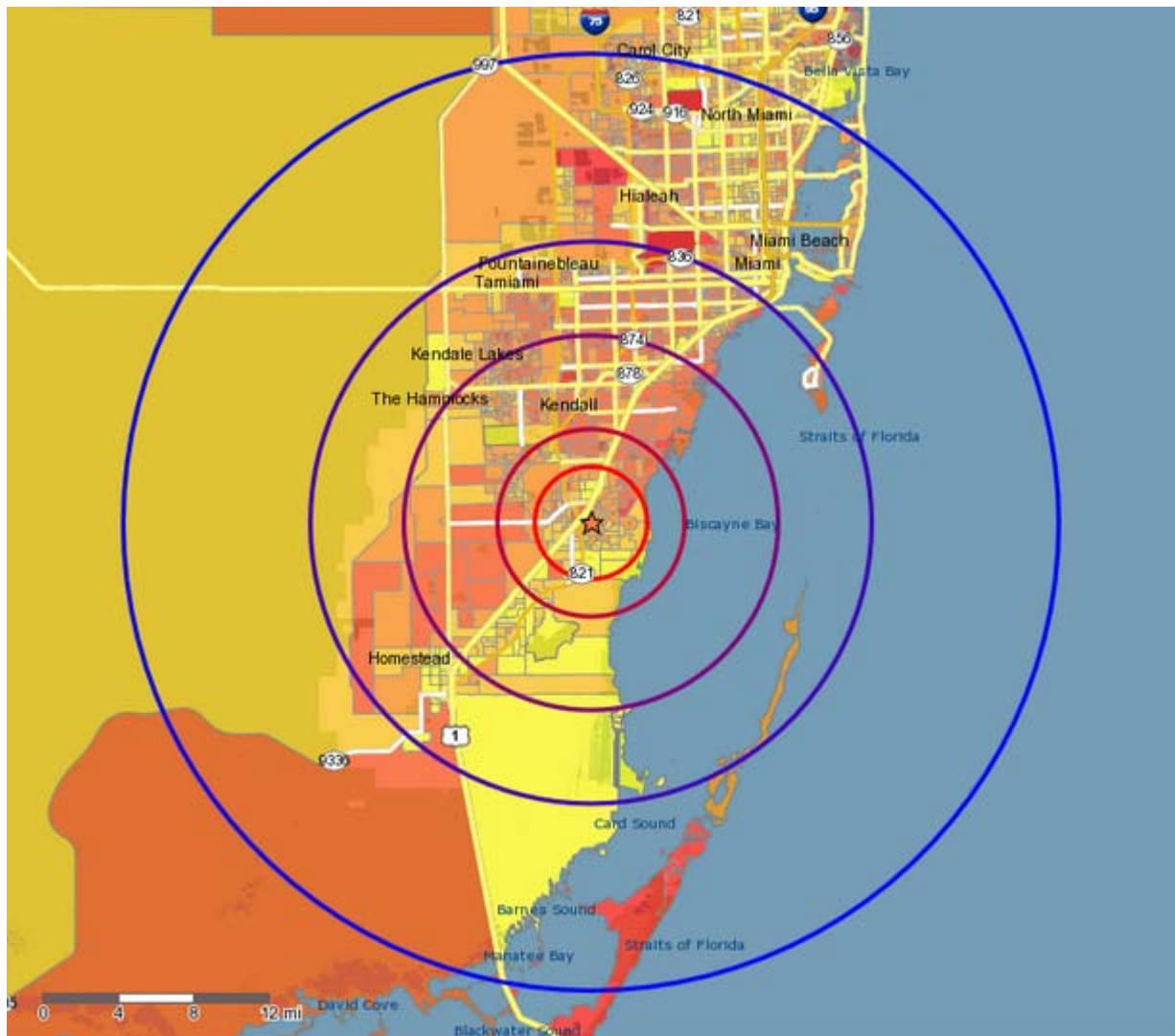
- Block Groups - High (Above 54,000)
- Block Groups - Above Average (29,500 to 54,000)
- Block Groups - Average (16,250 to 29,500)
- Block Groups - Below Average (9,000 to 16,250)
- Block Groups - Low (Below 9,000)

Age Distribution

Age distribution is another population characteristic used to determine the type and level of use of any type of program. The following table provides the number of residents and the percentage of total population for each age group compared to the U.S. column, which identifies the national average. In Cutler Bay, the 0-19 age group is 26.6% of the city's population compared to the national average of 26.5%. The median age for Cutler Bay is slightly above the national average (37.6 compared to 37 respectively).

MARKET AREA AGE DISTRIBUTION													
Age Groups	0 to 3 Miles		3 to 5 Miles		5 to 10 Miles		10 to 15 Miles		15 to 25 Miles		Cutler Bay, FL		U.S. Age
	#	%	#	%	#	%	#	%	#	%	#	%	Population
Age 0-4	9,298	6.8%	5,520	5.8%	24,931	5.8%	33,240	5.4%	63,717	6.0%	2,750	6.3%	6.5%
Age 5-9	9,577	7.0%	6,292	6.6%	26,442	6.2%	32,717	5.3%	57,660	5.4%	2,971	6.8%	6.5%
Age 10-14	9,341	6.9%	6,889	7.3%	27,659	6.5%	32,155	5.2%	55,338	5.2%	2,925	6.7%	6.6%
Age 15-19	9,591	7.0%	7,279	7.7%	28,952	6.8%	35,784	5.8%	57,722	5.4%	2,941	6.8%	6.9%
Subtotal	37,807	27.7%	25,980	27.4%	107,984	25.3%	133,896	21.8%	234,437	22.1%	11,587	26.6%	26.5%
Age 20-24	9,777	7.2%	6,486	6.8%	30,505	7.2%	43,746	7.1%	75,563	7.1%	2,761	6.3%	7.1%
Age 25-29	9,328	6.8%	5,795	6.1%	29,570	6.9%	41,325	6.7%	82,880	7.8%	2,777	6.4%	6.8%
Age 30-34	8,935	6.6%	5,529	5.8%	27,072	6.3%	38,364	6.2%	79,534	7.5%	2,988	6.9%	6.6%
Age 35-39	9,446	6.9%	6,464	6.8%	27,641	6.5%	41,208	6.7%	77,107	7.3%	3,276	7.5%	6.3%
Age 40-44	10,474	7.7%	7,363	7.8%	31,370	7.4%	45,542	7.4%	79,757	7.5%	3,722	8.6%	6.8%
Age 45-49	10,646	7.8%	7,874	8.3%	33,841	7.9%	47,987	7.8%	80,574	7.6%	3,684	8.5%	7.1%
Age 50-54	10,041	7.4%	7,700	8.1%	32,692	7.7%	43,712	7.1%	76,181	7.2%	3,369	7.7%	7.3%
Age 55-59	8,127	6.0%	6,314	6.6%	27,594	6.5%	37,294	6.1%	64,051	6.0%	2,620	6.0%	6.5%
Age 60-64	6,502	4.8%	5,179	5.5%	22,904	5.4%	32,788	5.3%	53,750	5.1%	1,948	4.5%	5.7%
Age 65-69	4,850	3.6%	3,607	3.8%	18,138	4.3%	29,783	4.8%	45,171	4.3%	1,490	3.4%	4.2%
Age 70-74	3,854	2.8%	2,483	2.6%	13,120	3.1%	24,921	4.1%	37,923	3.6%	1,165	2.7%	3.1%
Age 75-79	2,868	2.1%	1,781	1.9%	9,612	2.3%	20,013	3.3%	30,471	2.9%	885	2.0%	2.4%
Age 80-84	1,939	1.4%	1,274	1.3%	7,382	1.7%	16,213	2.6%	22,679	2.1%	639	1.5%	1.9%
Age 85+	1,728	1.3%	1,121	1.2%	7,096	1.7%	17,505	2.8%	21,815	2.1%	575	1.3%	1.9%
TOTAL:	136,322	100.0%	94,950	100.0%	426,521	100.0%	614,297	100.0%	1,061,893	100.0%	43,486	100.0%	100%
Median Age	36.3		37.9		38.3		41.0		38.8		37.6		37.0
Source: Alteryx													

Census Tract Map of Median Age (2015)



Weather

Given the sensitivity of aquatics to weather conditions, it is appropriate to include an assessment of area weather patterns in the market analysis. The factors in the following chart were used to determine user days in the financial models. Highs in the 80s in the summer should enhance participation in outdoor events and activities.

Perrine, FL					
CLIMATOLOGICAL DATA					
	Temperatures			Precipitation	Precipitation
Month	Average	High	Low	Inches	Days
January	65.5	75.8	55.2	2.2	6
February	66.8	77.3	56.4	2.2	5
March	69.7	79.6	59.8	2.4	6
April	72.7	82.6	62.7	3.1	5
May	77.0	86.2	67.9	5.7	9
June	80.2	88.4	72.0	11.1	16
July	81.2	89.7	72.8	6.4	15
August	81.6	90.0	73.3	8.6	16
September	80.7	88.6	72.9	9.7	16
October	77.4	85.7	69.1	7.6	12
November	72.0	80.9	63.0	2.7	7
December	67.3	77.1	57.5	1.6	6
Source: Weatherbase					

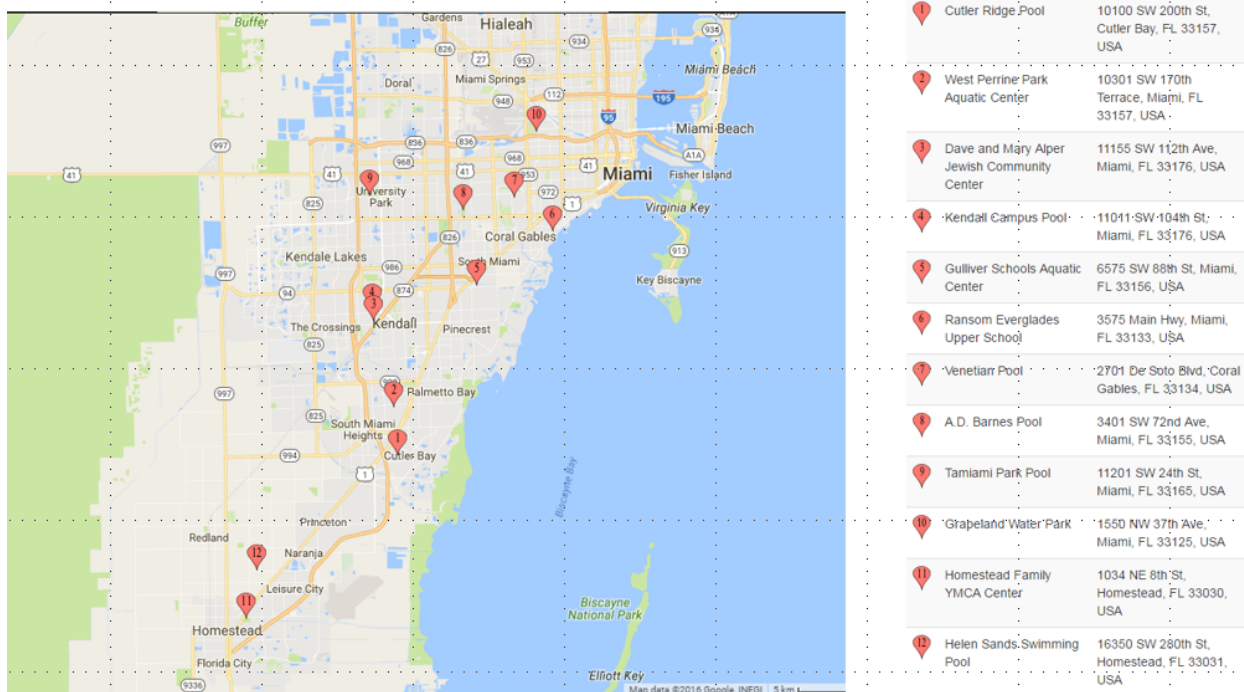
Section 3:

Area Provider Analysis

Cutler Ridge Pool
Jewish Community Center
Kendall Campus Pool
Gulliver Schools Aquatic Center
Ransom Everglades Upper School
Venetian Pool
A.D. Barnes Pool
Tamiami Park Pool
Grapeland Water Park
YMCAs

Section 3: Area Provider Analysis

The recreation industry is a competitive market vying for disposable income driven by population trends, income levels, demographic profiles, and favorable locations. Large aquatic centers and destination facilities offer a grand scale of cutting-edge amenities, deliver a unique customer experience, and draw from a large radius. Small to medium aquatic centers compete by offering family amenities in a cozy atmosphere, thus delivering a friendly customer experience to the local market. The Town of Cutler Bay's goal is not to compete for services, but to deliver high quality programs at a reasonable cost.



Cutler Ridge Pool

10100 SW 200 Street
Cutler Bay, FL 33157
305-238-5344

Features

25-Meter Outdoor Pool w/7 Lanes
1-Meter Springboard

Programs

Swim Lessons
Riptides Swim Team
Riptides Water Polo Team
Big Gator Swim Club
Senior Aerobics

Admission

Adult: \$2
Child: \$1.50
Senior: \$1.25



Dave and Mary Alper Jewish Community Center

11155 S.W. 112th Avenue
Miami, FL 33176
305-271-9000

Features

25-Yard Outdoor Pool w/6 Lanes

Admission

JCC affiliates only.
Single-swim admission not available to the general public.



Kendall Campus Pool

Miami Dade College

11011 SW 104th St.

Miami, FL 33176

305-237-2000

Features

50-Meter x 25-Yard Outdoor Pool w/8 Lanes

Shallow water instruction area

Programs

Community Swim Lessons

Red Cross Swimming Class

Lifeguard Certification

Water Aerobics

Synchronized Swimming

Scuba Diving Certification

Baby and Me

Fees

Fees vary per class.



Gulliver Schools Aquatic Center

6575 Southwest 88th Street

South Miami, FL 33156

305-666-6333

Features

50-Meter x 25-Yard Outdoor Pool w/20 Lanes

300 Spectator Seats

Programs

Swim Lessons

Gulliver Swim Club

Gulliver Masters Swim Club



Admission

Single-swim admission not available to the general public.

Visiting USMS registered swimmers (with card): \$10

Ransom Everglades Upper School

3575 Main Highway
Coconut Grove, FL 33133
305-460-8800

Features

50-Meter Outdoor Pool w/19 Lanes
25-Yard Outdoor Pool w/8 Lanes
25-Yard Outdoor Pool w/5 Lanes
1-Meter Springboard
3-Meter Springboard

Programs

Boys and Girls Swimming
Miami Swimming
Miami Masters Swimming

Admission

Single-swim admission not available to the general public.



Venetian Pool

2701 De Soto Blvd.
Coral Gables, FL 33134
305-460-5306

Features

25-Yard Irregular-shaped Outdoor Pool (spring-fed)
Waterfalls and Grotto

Programs

Swim Lessons
Water Safety Aide Course
Lifeguard Certification
Half Day Camp

Admission

Resident: \$5.25
Nonresident: \$7.70



A.D. Barnes Pool

3401 Southwest 72nd Avenue
Miami, FL 33155
305-665-1626

Features

25-Yard Outdoor Pool w/6 Lanes

Programs

Swim Lessons
Birthday Parties

Admission

Individual: \$2.50
Senior: \$1.25



Tamiami Park Pool

11201 S.W. 24th Street
Miami, FL 33165
305-223-7077

Features

50-Meter Outdoor Pool w/20 Lanes

Programs

Metro Aquatic Club of Miami

Admission

Individual: \$2.50



Grapeland Water Park

1550 NW 37th Avenue
Miami, FL 33126
305-960-2951

Features

Shallow Water Play Area
Waterslides
Leisure Pool
Lazy River
Concessions

Programs

Swim Lessons
Party Rentals
Special Events

Admission

Age 2-13: \$7
Age 14+: \$12
Nonresident: \$15



YMCA Area Locations

Homestead Family YMCA Center

1034 Northeast 8 Street
Homestead, FL 33030
305-248-5189

Features

25-Yard Outdoor Pool w/8 Lanes

Programs

Swim Lessons

Membership

Family Joining Fee: \$80
Family Monthly Fee: \$67



Hollywood YMCA Family Center

3161 Taft Street
Hollywood, FL 33021
954-989-9622

Features

25-Yard Outdoor Lap Pool w/6 Lanes
Zero- Depth Entry

Programs

Swim Lessons

Membership

Family Joining Fee: \$99
Family Monthly Fee: \$76



North Pointe YMCA Family Center

7351 NW 186 St.
Hialeah, FL 33015
786-433-9622

Features

Outdoor Leisure Pool w/Zero-Depth Entry
Tot Pool w/Play Feature

Programs

Swim Lessons

Membership

Family Joining Fee: \$80
Family Monthly Fee: \$66



Pembroke Pines YMCA

1361 NW 129th Ave.
Pembroke Pines, FL 33028
954-727-9622

Features

Outdoor Leisure Pool w/Zero-Depth Entry
25-Yard Outdoor Pool
Diving Well
Waterslides w/Catch Pool
Tot Pool w/Play Feature

Programs

Swim Lessons
Aquatic Group Exercise
Lap Swimming

Membership

Family Joining Fee: \$99
Family Monthly Fee: \$76



Weston YMCA Family Center

20201 Saddle Club Rd.
Weston, FL 33327
954-424-9622

Features

50-Meter Outdoor Pool
Outdoor Leisure Pool w/Zero-Depth Entry
Tot Pool w/Play Feature

Programs

Swim Lessons
Water Aerobics
Water Polo
Aquatic Group Exercise

Membership

Family Joining Fee: \$99
Family Monthly Fee: \$87



SECTION 4: Aquatic Center Trends

Recreational Swimmers
Competitive Users
Instructional Enthusiasts
Wellness / Therapy Seekers
Green Technology
Economic Growth

Section 4: Aquatic Center Trends

Within the last decade, demand for higher quality and a unique pool experience has risen among four types of aquatic facility user groups that include:

- *Recreational Swimmers*
- *Competitive Users*
- *Instructional Enthusiasts*
- *Wellness / Therapy Seekers*

Each of these groups requires specific areas, features, and services to fulfill their needs and desires. The following descriptions make evident the very different requirements for each of these aquatic user groups when planning and designing an aquatic facility.

Recreational Swimmers

Successful aquatic centers merge the best features of a community pool and the commercial water park by segregating creative water play areas for various age groups in a safe, friendly atmosphere. While aquatic recreation has become much more age-defined, attractions have age limitations and appropriateness due to elements of thrill and capabilities. Tots enjoy shallow pools with gentle water features and play areas tucked securely out of the way of the more active areas. Once children grow out of the tot stage they can romp in zero-depth leisure pools and make their adventurous way across water walks and participatory play features with “just-their-size” waterslides. Older children speed down flume and drop slides and enjoy larger water play structures. Teens enjoy gathering spots like action islands with access to deep water pools and extreme features. Lazy rivers and current channels cater to a large demographic while spas and lap lanes are geared toward adults.

Age Group	Recreational Age-Group National Trends
Age 0-3	Tot Pool, Tot Slides, Gentle Spray Features
Age 4-7	Water Sprayground, Zero-Depth Pool, Participatory Play Features, Sand Play
Age 8-11	Water Walks, Large Play Structures, Full-Size Waterslides, Open Water
Age 12-16	Water Walks, Large Waterslides, Open Water, Diving, Lazy River, Gathering Places, Sand Volleyball, Mat Racer
Age 17-22	Action Island, Bowl Slide, Flow Rider, Mat Racer, Climbing Wall, Open Water, Sand Volleyball
Age 23-45	Zero-Depth Pool (to be w/children), Open Water, Spa, Sun Deck, Lap Lanes, Lazy River, Waterslides
Age 45+	Spa, Sun Deck, Lap Lanes, Lazy River
	Source: Counsilman-Hunsaker



Leisure Pool

The free-form leisure pool provides an inviting atmosphere with plenty of shallow water from zero-depth to four feet, allowing adults and children to interact for hours of splash and play entertainment. With opportunity for many different sizes and designs, the leisure pool is a desirable amenity for all age and skill levels where various attractions may be incorporated to increase the experience factor, which increases attendance, the amount of time spent at the facility, and return visits.



Zero-Depth Entry / Spray Features

Swimmers enjoy easy access into leisure pools that simulate an ocean beach, where the pool bottom slopes gradually toward the deeper water. Instead of jumping or climbing into the pool, patrons simply walk in. Lounging in the zero-depth is a pleasant way to enjoy the water and sun while watching children at play with spray features.



Participatory Play Feature

Located within the leisure pool, play features are multi-level interactive structures where children can scamper through spraying water, climb across bridges, scurry over and under tunnels, and slide down just-their-size waterslides. As children manipulate valves and chains, they control where and when the water sprays will occur—all within sight of parents and lifeguards.



Current Channel / Lazy River

A current channel is part of the leisure pool, usually 6-8 feet wide, with water traveling at approximately two and a half miles per hour. The channel is popular as a water walking setting for fitness classes or adults seeking non-programmed exercise, walking with or against the current.



Waterslides

The thrill of mounting the stairs to the exhilaration of sliding down into the water makes waterslides a desired attraction. While some slides are straight with a steep or gentle gradient, others wind down with sharp enclosed curves or high walls on the outside of the curves. Slides can be a long tube or alternate between an open chute and closed tube. Experiences can range from family-friendly to surprisingly intense.

Lap Lanes

Fitness lap swimming and water walking are important to many adults and seniors. Opportunities for limited practice and training exist in a two, three or four lane 25-yard lap pool adjacent to the leisure pool. Additionally, programming can be incorporated for lessons and activities.



Climbing Wall

A climbing wall offers the experience, physical activity, and challenge of climbing with the water underneath to cushion the fall.

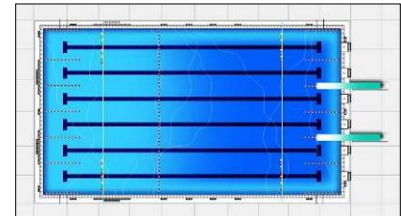


Competitive Users

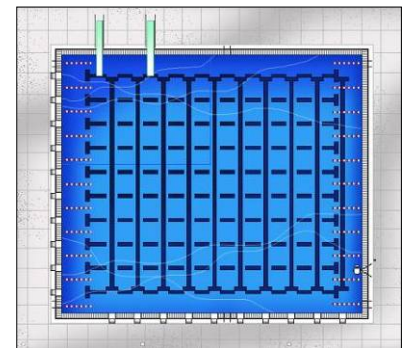
- Simplest pool to define
 - 25 Yards
 - 25 Meters
 - 50 Meters
- Aquatic Governing Organizations with rules and regulations that preside over various aquatics:
 - NFSHS
 - NCAA
 - USA Swimming
 - FINA
- Cooler water temperature



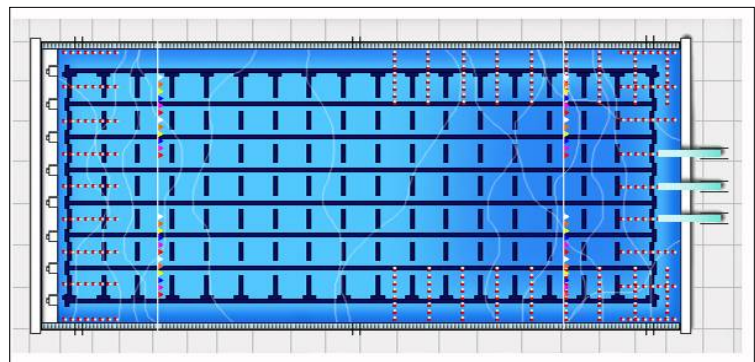
A competition pool must be 25 yards or 25 meters for short-course events and 50 meters for long-course events. USA Swimming and FINA sanction short-course 25-meter as well as long-course 50-meter competitions. Depending on the level of competition, a minimum of six lanes is required, but eight lanes are expected to better allow for larger heats. While almost all 50-meter pools have ten lanes, 1 and 10 serve as buffer lanes. National caliber water polo matches take place in 30-meter fields of play minimum with at least a 2-meter zone behind each goal line.



High schools, USA Swimming, the YMCA, and NCAA conduct short-course 25-yard competitions. For high school and NCAA events, a pool must have a minimum of six lanes, each at least seven feet wide. Several current standards require six feet or more of water beneath starting blocks. While some shallow water is acceptable, water depths of two meters or more “is required” as per applicable rules.



High school and college water polo often use 25-yard and 25-meter pools, but all high-level meets for USA Water Polo and international events are held in 50-meter pools. Water depth of two meters or more “is required” as per applicable rules.



Synchronized swimming requires a deep 12-by-25-meter pool area. A minimum water depth of 2.5 meters “is required” as per applicable rules. National and international events are generally conducted in 50-meter pools.

Diving



Now more than ever, world-class diving venues are being constructed across the United States and abroad. There are two kinds of diving competitions: springboard and platform. Springboard competitions take place at 1-meter and 3-meter heights. At elite venues, a minimum of two 1-meter and two 3-meter springboards are provided. These competition springboards are typically placed on the same side of the pool as the platforms. Often, additional springboards are placed around the dive pool for practice and summer camps.

While not a requirement, a separate dive pool is desired for elite dive competition and training.

Springboards

- 1 Meter
 - High School, Recreation Value
 - Water Depth 12' 6"
 - Ceiling Height 20' minimum bottom of beam
- 3 Meter
 - US Diving, Club
 - Water Depth 13' 6"
 - Ceiling Height 27' minimum bottom of beam

Platform

Platform Diving competition takes place at 10 meters; however, 1, 3, 5, and 7.5 heights are also typically provided for training and warm up. Occasionally, a ½-meter platform is constructed for divers to practice take offs. A facility without a 10-meter tower but only a 5-meter tower can host a platform diving event if both teams agree on this height.



Dry-land Training Room

For high level diving training, a separate room should be equipped with dry-land springboards, trampoline, pits, and video recording. The use of video recording is popular with competitive diving. Tivo can be used to video tape and coach divers. Video recording should be available in the dry-land training area as well as on deck near the springboards and platforms. Often, dry-land training rooms are smaller, and sometimes portions of this equipment is located on the pool deck next to the dive tower.

Spectator Seating

Spectator seating from the side and elevated in a mezzanine is desired. Specifications are limited to recommendations simply because some areas hold meets that utilize temporary seating. Large world-class diving events have recently been staged with temporary pools with seating for 10,000 or more. Due to the spectator and deck seating requirements for a championship facility, the square footage of such a facility (and therefore cost) is greatly increased.

Ample deck space on the sides and end of the dive pool is also needed for viewing the dives by judges. Three, five, seven or nine judges may be positioned on the side or end of the pool depending on the level of competition.

- Program Requirements
 - Local Meets (100-150)
 - High School
 - Dual Meets
 - Regional Meets (500-750)
 - State Championships
 - Zones
 - National Venue (1,000-1,500)
 - USA Regionals



High School Users

High school varsity swimming is typically well supported in most communities across the U.S.; however, many schools lack the ideal facility for training and competition. Because quality pool time is usually scarce in most areas, renting pool time from other area facilities can be daunting due to various needs and agendas, thus pool availability can diminish as facilities experience capacity.

High school competitive swimming requirements include:

- Course length of 25 yards with a minimum width of 45 feet for six 7-foot-wide lanes or 60 feet for eight 7-foot-wide lanes.
- 125 spectator seats.
- Pace clocks, stretch cords, mats (for sit-ups, etc.), free weights, medicine balls, weight training equipment, kickboards, fins, paddles, pull buoys, course caps, and goggles.

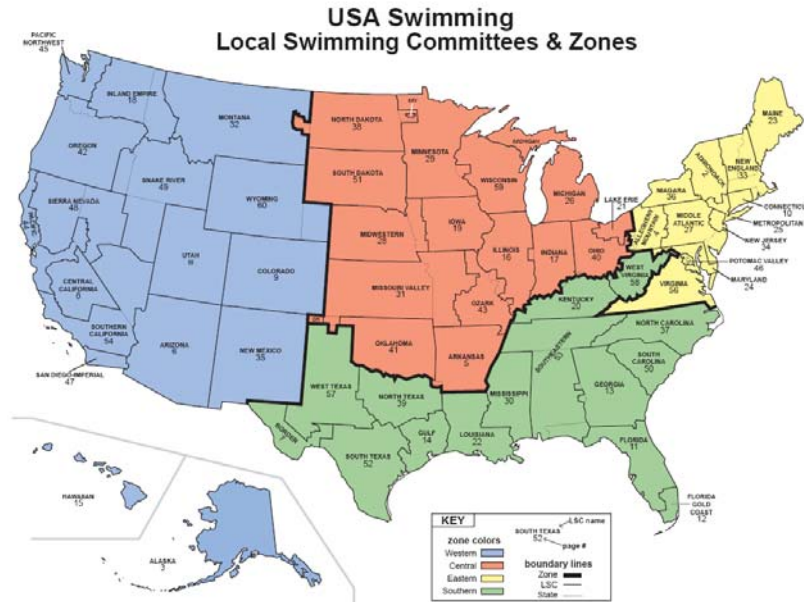
USA Swimming

USA Swimming has organized regional and national competitions for age group competitive swimming in the United States. USA Swimming formulates rules, implements policies and procedures, sanctions national championships, disseminates safety and sports medicine information, and selects athletes to represent the United States in international competitions. USA Swimming has 337,084 year-round members nationwide and sanctions more than 7,000 events each year. The base for popularity is primarily a young age group that begins around age eight and peaks at age 12 as shown in the adjacent chart.

Average Age of Membership 2015	
8 and under	30,754
9	27,335
10	34,816
11	40,161
12	40,863
13	37,279
14	33,572
15	27,496
16	21,741
17	17,890
18	13,263
19 and over	11,914
Total	337,084
Source: USA Swimming	

Southern Zone

USA Swimming has four zones subdivided into fourteen regions. The four zones are Eastern, Southern, Central, and Western. The City of Wilmington is located in the Southern Zone.



Local Swimming Committees

The four zones are subdivided into 59 Local Swimming Committees (LSCs) that have geographic borders (some matching state borders). The system is analogous to the individual states within the Union. The adjacent table lists fifteen LSCs in the Southern Zone, with the number of aquatic clubs per LSC, and their number of swimmers as of 2015.

SOUTHERN ZONE 2015		
LSC	Clubs	Swimmers
Florida	89	10,971
Florida Gold Coast	56	5,338
Georgia	56	7,747
South Carolina	30	2,981
North Carolina	80	10,054
W. Virginia	10	590
Kentucky	35	2,927
Southeastern	81	7,926
Mississippi	13	1,494
Louisiana	25	3,193
Gulf	56	8,287
N. Texas	28	6,368
S. Texas	40	8,035
W. Texas	10	960
Border	8	781
Total	617	77,652
Source: USA Swimming		

United States Masters Swimming

United States Masters Swimming (USMS) programs are open to all adult swimmers (fitness, triathlete, competitive, non-competitive) dedicated to improving their fitness through swimming. Founded in 1970, the non-profit corporation is organized with 450 clubs throughout the United States. Membership consists of more than 50,000 swimmers ranging in age from 18 to over 100.

Within the clubs, structured workouts offer training assistance for specific goals for a healthy lifestyle through camaraderie. Pool and open water races provide opportunities to compete and measure individual progress at the local, state, national, and international levels. USMS programs also offer stroke and technique clinics, workshops, instruction, and social functions. Competitions are organized by age groups of five-year increments (18-24, 25-29, 30-34, 35-39, etc. to 95 and over). Events include 50, 100, 200, 500, 1000 and 1650 freestyle (400, 800 and 1500 in meters); 50, 100 and 200 backstroke, breaststroke and butterfly; and 100, 200, and 400 individual medleys. There are also freestyle and medley relays for men, women, and/or mixed teams. Open water swims are held in most locales during the summer and can range in distance from one to ten miles.

USMS hosts two national championship meets per year. A short course (25-yard pool) championship is held in May and a long course (50-meter pool) championship is held in August. These four-day events rotate to different locations around the country. International championships are conducted periodically by Masters Swim organizations in countries throughout the world.

Community Swim and Dive Teams

Numerous communities sponsor competitive swimming and diving teams for children and teens. The purpose is to offer opportunity to enjoy the healthy fun of swimming; to support individual achievement of personal bests; and to promote goal setting, life skills, and sportsmanship. Teams typically adhere to recognized swimming rules and swim the standard strokes of swim meets but in shorter lengths. Swimmers with limited or no competitive experience are provided stroke conditioning clinics as a recommended alternative. Teams are usually more active in the warmer months, and not directly associated with a national swim organization. Many swimmers who begin their competitive swimming experience on a local swim team proceed to join nationally governed teams.

Pool Rental

Competitive swimmers, particularly members of independent swimming associations, are accustomed to renting lane space for training as well as leasing entire facilities, either for long-term use or on a one- to three-day basis for special events and competitions. Although there is more than one accepted way to receive fees from swim teams, pool lane rental is usually based on cost per lane/per hour. Entire facilities leased on a per-day basis generally have a fixed schedule of costs for such use. Long-term facility leases are generally the product of negotiation and, accordingly, are too varied and specialized for consideration in the context of this study.

Instructional Enthusiasts

The following describes national trends for lessons and fitness users that includes learn to swim, water safety instruction, lifeguard instruction, life safety skills, survival swimming, scuba, and other aquatic skills.

Swim Lessons

According to the Centers for Disease Control, more than one in five people who die from drowning are children age 14 and younger. For every child who dies from drowning, another four receive emergency department care for nonfatal submersion injuries, which can cause brain damage that may result in long-term disabilities, including memory problems, learning disabilities, and permanent loss of basic functioning.



Knowing how to avoid drowning is essential for children and adults, whether living in areas with natural bodies of water or simply being invited to pool parties. With more than one available pool in an aquatic center, lessons can be maximized so that a large number of residents can be taught to swim. Ideally, water depth for instruction should accommodate young participants to stand comfortably in the water. Recreation pools easily provide this preference. Deeper competition pools offer moveable floors or other means of altering water depth for instructional purposes.

A well-run water lesson program is essential in introducing young swimmers to safe aquatic skills that can be used throughout their lives. By offering the community a comfortable, controlled aquatic environment, swimming and diving lessons can become an enjoyable learning experience. There are many different types of water safety lessons that can teach children not only how to swim and dive but also how to survive in adverse water conditions. From small water craft instruction to drown-proofing, water safety is an integral part of any community. Many will go on to formal competitive aquatic programs in school or age-group swimming programs. Some will excel to become state champions. Benefits such as scholarship offers may occur when a swimmer or diver selects a college, which could lead to national level competition.



Lifeguarding and CPR

Water rescue skills and CPR are typically taught to all lifeguards. However, teaching water rescue and CPR skills are integral to the community since families are the true lifeguards of one another whether at the beach or a backyard pool. Often, such courses are sponsored by the Red Cross, Ellis and Associates, and other providers of safety training.



School District Lesson Users

School districts are often valuable contributors to help efficiently program aquatic facilities. Potential programming might embrace swim lessons for elementary students, lifeguarding

classes, physical education classes, therapy for high school athletes, and other joint partnership agreements to aid in directing area children to learn to swim. Aquatic sports (diving, water polo, synchronized swimming, underwater hockey, etc.) can contribute to the overall use of the facility as well as fitness use by faculty, special education therapy, and recreation. In addition, an aquatic facility may provide aquatic opportunities to pre-school children cared for by private daycare providers.

Aquatic Fitness

The more often the pool can be utilized for group activities for participants and spectators, the more likely the aquatic facility will be “alive” day in and day out. The types of activities that tend to draw a crowd are participatory, measurable, exciting, and often challenging—but not always so challenging that only elite swimmers can participate. Activities can be tailored to different ages, sizes, and/or skill levels.



The industry has responded to the continued popularity of aquatic fitness by creating a wide range of activities with related devices and equipment for a greater diversity of water-based aqua exercise options. Aerobic dancing, walking, and running in shallow and deep-water environments, including current channels for walking against the current, are just a few of the choices available to people wishing to add less stressful elements of a cross-training regimen or even to use aqua aerobics for their entire fitness program. Additionally, businesses might sponsor or subsidize aquatic fitness as part of their employee wellness training discipline.

- Water-based exercise is the *fastest* growing fitness choice in the U.S.
- In 1983 there were nearly 200,000 participants.
- 1988 – 2.2 million
- 2004 – 5.8 million
- 2007 – 7.2 million

Aquatic fitness also remains one of the most popular forms of exercise among senior adults. Gray power can be a large, affluent market willing to participate in water fitness, wellness programming, and other recreation opportunities. This diverse age group from 55 to 90+ includes sub-groups of which some are still working; some have children in college; and some are focusing on retirement, grandkids, and wellness. Consequently, seniors can be willing, enthusiastic participants if certain requirements are met. They typically feel uncomfortable in an environment with teens and generally respond better to strictly defined programming of well-structured activities such as water aerobics, arthritis water exercise, water walking, physical therapy, adult swim lessons, ‘Save a Life’ workshops, lap swimming, and Masters swimming.

LIFETIME EXPECTANCY	
Year	Both Sexes
1900	47.3
1950	68.2
2000	77.0
Source: National Ctr. For Health Statistics	

Water Fitness Trends

Aquatic programming accommodates beginner lessons that graduate to higher levels of intensity and skill. The following provides a snapshot of popular aquatic fitness programs.

Walking and Jogging in Shallow and Deep Water: The current channel, attached to a leisure pool, provides water traveling at approximately three miles per hour, thus creating an opportunity for walking against the current as a non-programmed or programmed fitness

activity. According to waterart.org, “30 minutes of walking and jogging in shallow and deep water is equal to 80 minutes of jogging on land.”

Water Aerobics: Remaining one of the fastest growing segments of the adult fitness industry, water aerobic workouts usually combine a variety of land aerobic techniques, including walking or running backwards and forwards, jumping jacks, mimicking cross-country skiing, and various arm movements. The workout may also incorporate equipment such as flotation devices and foam water weights.

Deep Water Aerobics: This type of water aerobics offers a muscular endurance workout in deep water that consists of simulated running in the deep end of the pool aided by a flotation device (vest or belt) where the participant is held in one location by a tether cord, essentially running in place.

Finning: This active swimming program requires training fins or flippers and utilizes fitness lap lanes of a pool. The kicking and pulling enhances conditioning and toning.

Liquid Gym: This aqua training workout can be as intense as desired with a personal trainer for the purpose of improved athletic performance.

Navy Seals: This aquatic class consists of Finning, water jogging, deep water aerobics, and scuba instruction.

Water Yoga: Warm water, as in a therapy pool, enhances asanas (stretching poses) to relax muscles and increase range of motion and balance. Pan flute music and dim lights deepen the experience. (yogaafloat.com)

Boot Camp: This amphibious program incorporates land and water fitness in a fast paced military-style interval training course with running in the pool, calisthenics, jumping jacks, pushups, and football-style drills.

Scuba and Snorkeling: These lessons are growing in popularity (possibly due to the increase of environmental professions) and typically start in swimming pools.

Scuba Rangers: Scuba and snorkeling skills are taught to kids 8 to 12 while using underwater flashlights, navigation compasses, and underwater photography.

Underwater Hockey: According to USOA Underwater Hockey, “The pool should be 25-meters by 15-meters and two-meters deep all the way across, but anything will do, even slopes (just change ends at half-time). Lead weights and three meters of rope can be used as goals, though the sound of the puck thunking into the back of a metal goal is very satisfying and should be experienced.”

Water Polo: Dimensions of a water polo pool are not fixed and can vary between 20 by 10 and 30 by 20 meters. Minimum water depth must be at least six feet. The goals are 3-meters wide and 90-centimeters high.

Kayak Polo: This sport involves water polo being played from kayaks. According to Carolina Kayak Polo, “It is difficult to describe the passion and excitement that is created when a kayak water polo game is in progress. The participants—speeding the length of the pool weaving through the opponent’s lines of defense and spinning in their kayaks to receive a pass—create a fast and thrilling event.”

Water Basketball: Ideated in 1986 by Italian teacher, Francesco Rizzuto, this sport is a mixture of basketball and water polo. When designing a pool, full court water basketball is more challenging when tile lines are encrypted into the floor of the pool.

Water Volleyball: Portable and floatable aqua water volleyball sets come complete with two net positions, two anchor bags, and a staked floating perimeter boundary.

Triathlons: These athletic competitions, which the contestants compete in three different events to find the best all-around athlete, typically consist of swimming, cycling, and running.

Kayak and Canoe Clubs: Due to the popularity of Extreme Sports, kayak and canoe clubs are growing in popularity and use large pools for training.

Swim lessons, lap swimming, water jogging, deep-water aerobics, life saving instruction, diving lessons, survival swimming, synchronized swimming, water polo, underwater hockey, and scuba instruction can take place in a competitive/lesson/training pool, which frees up the recreation pool for swimmers who want to use the play features. Fitness classes are usually offered in the morning, at lunchtime, and in the early evening. Instructor information and/or training can be acquired through organizations such as the Arthritis Foundation; Red Cross; Aquatic Exercise Association; American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD); and United States Water Fitness.

Wellness / Therapy Seekers

The following describes national trends for water wellness seekers, the fastest growing aquatic user group that includes therapy programs, water exercise classes, water aerobics classes, and fitness classes. Aquatic therapy is rehabilitation performed in warm water and involves physical activity of exercise and motion in the presence of an aquatic therapist, also called an aquatic therapy provider. Warm water may increase the dynamics of blood pressure and blood and lymph circulation, as well as decreasing swelling in skin and other tissues. Participation in an aquatic therapy program offers improvement in:



- Overall health and fitness
- Stretching capacity
- Range of motion
- Movement capabilities
- Coordination
- Physical stamina and endurance
- Swimming skills, safety, and abilities

Though many people who use aquatic therapy are enthusiasts of meditation or massage, some are looking for rehabilitating or improving a certain level of health. The Arthritis Foundation certifies instructors to teach arthritis aquatics. Many participants in these programs report reduced arthritis symptoms, including increased mobility and decreased pain and stiffness. New studies by the Aquatic Exercise Association suggest that the management of bone density can be facilitated by water exercise. When moderate exercise is recommended for obese patients, the low-gravity qualities of aquatic therapy can be very appealing to this user group. Over the past several years, water exercise programs have multiplied in health clubs, pain clinics, and hospitals. Users include:

Injured Athletes: Athletic trainers and sports medicine physicians are prescribing aquatic therapy as a rehabilitative/preventive fitness program.

Post-Operative Patients and the Disabled: Includes patients with physical ramifications such as spinal dysfunctions, post-operative muscle toning, injuries, and arthritis.

Arthritis Sufferers: The Arthritis Foundation certifies instructors to teach arthritis exercises such as Rusty Hinges and Joint Effort.

Aging Baby Boomers: Some 70 million strong, “boomers” invented the fitness movement and show no sign of abandoning it as they age, especially in warm water pools.

Obese Patients: More doctors are prescribing water wellness for overweight issues.

Pregnant Women: Effects of the low resistance of water exercise is soothing to this user group.

Meditation Enthusiasts: Fans of mind and body movements enjoy immersing in warm water pools to complete the tranquil state of meditation.

Key Components of Aquatic Therapy Centers

Aquatic therapy centers are growing in necessity for rejuvenation and social wellness for rehabilitation needs and developmental disorders. Colorful environments and interactive water is a stimulating, effective, and cathartic treatment, while specific design elements are ultimately inspired by the rehabilitative needs of patients. Key components include:

- Warm pool water capability with fast pool turnovers.
- High-quality water chemical treatment systems, including dual sanitization methods and an appropriately designed HVAC/DH system.
- Easy access from the parking lot to the locker rooms, pool deck, and into the pool.
- Ample space in locker rooms and wider pool deck for wheelchairs, walkers, dry and wet equipment, and dry-side therapy.
- In-water amenities such as perimeter railings, aerobic steppers, treadmills, underwater benches, and ramps.
- Flexible pool depths for multiple programmatic needs.
- Aesthetically pleasing and light-filled private spaces.

Economic Growth

Encouraging residents to use public recreation facilities requires helpfulness of the promotional materials, perceived value against other providers, and public awareness that the facility addresses the prevailing needs and concerns of the community. The aquatic center must be seen as integral to economic development through:

- Real estate values and property tax
- Business attraction and retention
- Stimulating the creative economy
- Promoting tourism

According to the *Importance of Quality of Life in the Location Decisions of New Economy Firms*, “modern businesses typically choose communities with cultural and recreational amenities that will attract and retain a well-educated workforce.” This enlarges the tax base and stimulates the economy, which then provides more tax revenue that parks and recreation agencies can use to enhance or expand infrastructure, facilities, and programs. Park and recreation amenities stimulate happier and healthier families, positive business growth and economic development opportunities, contributing to quality of life. Creative, active people choose to live in communities with high quality amenities and experiences. Furthermore, championship venues bring tourism revenue to local hotels, restaurants, and retail businesses.

Bundling Amenities

Locating aquatic centers adjacent to parks, schools, businesses and transportation hubs promotes accessibility. Bundling civic destination points can encourage customers to extend the duration of their visit, nurture community identity, and increase operational efficiency for those agencies responsible for park maintenance and facility security by minimizing demand on parking lots, access roads, and traffic signals.

If the site has an existing recreation facility, utilities more than likely are already in place. Electricity, natural gas, water and sewer services can be very expensive to introduce to a site from main trunk lines, especially if those lines are several miles away. Because bringing utilities to the project site has no programmatic or recreation value, the adjacency and availability of existing utilities can dramatically and positively impact site development costs with little or no negative impact to the end user. This allows the bulk of construction monies to be allocated for recreational improvements.

Many communities choose to co-locate outdoor and indoor facilities to share spaces without either facility interrupting the operations of the other. For example, a separate outdoor entrance to an aquatic center can accommodate patrons to that facility, minimizing congestion in the main building. Plans can be made for locker rooms to support both outdoor and indoor spaces, eliminating redundancy. Physically connecting the indoor aquatic spaces with those that are outside makes for the easy transition of patrons from outdoor to indoor swimming—particularly crucial in cases of inclement weather. This also helps keep facility guests on site, thus maximizing opportunities for revenue generation.

Useful promotional tools include partnerships with local business centers, which can generate valuable word-of-mouth appeal for the facility. As noted, an aquatic center's economic well-being often depends on its proximity to well-traveled roads, highways and transportation hubs. Sites located in valleys or on hillsides adjacent to major highways can be developed into exciting destination points. A site in a valley near a main transportation artery can be oriented so that guests enter the recreation facility and instantly gain an overview of the park. This allows guests to immediately spot their favorite destinations and level of anticipation, yet because of enhanced transparency also provides for the safety and comfort of different age groups.

Marketing

Many marketing efforts will focus on the sales budget, developing an easy and concise means of explaining activities and fees to users, and creating a simple protocol for scheduling rentals and other events. Branding refers to the summation of all the amenities—state-of-the-art facilities, attractions, and programming—in an eye-appealing package with a competitive advantage. Strong aesthetic visuals include a cohesive logo, website, brochures, video spots, and staff uniforms. Competitive advantages may include cross-generational multiplicity, daily admission fees versus membership fees, cultural diversity, or perhaps the facility is the only championship venue in the region. For a loyal customer base, a great deal of marketing effort will be focused on customer outreach.

Customer Outreach

Marketers understand their target market—a vital investment to success—by identifying potential user groups while developing a clear message that explains how the aquatic center can fulfill their needs. Marketers define the identity and mission (sell the experience) by branding around the core competencies of the facility. They continue to benchmark successful recreation providers who are meeting the needs of a market segment and generating demand, while finding what makes it work and determining what would make it better. Their single most important ingredient is customer relationships (getting them and gaining their loyalty). Valuing customers and their opinions gives users a sense of ownership and pride in the facility, a perfect combination for continued word-of-mouth promotion. Customers are a source of innovative ideas, thus marketers must:

- Identify user groups and verify that the message of each marketing campaign is being successfully communicated.
- Ask for feedback through focus groups and surveys of programs while being open to customers' observations and suggestions to help build a network within the community.
- Evaluate customer feedback to measure how users and nonusers view the image of the facility. Use the information to determine current levels of satisfaction, program fulfillment, and future needs.
- Make quantitative and qualitative improvements based on data (from what makes programs and services successful) so that services are consistently high quality to increase revenue.
- Set objectives for improvement to increase market share.
- Identify resources and means of implementation by listing key action plans and cycle times.
- Brand services with consistency; position each service to fit the market segment and promote the benefit of the experience; people buy benefits.

Marketing Development Plan

Take time to address market conditions and challenges; define steps to solve the challenges and improve all aspects of the event or program by using a marketing development plan. When developing a special event or program, answer the following questions.

1. What is the current situation you are addressing?
2. What are the market conditions?
3. What are the objectives of this marketing plan?
4. What are the key elements you wish to implement?
5. What are the timelines for each element?
6. What resources will be used for this implementation?
(funds, staff, external support)
7. How will you measure the success of the plan?

Media and Community Relations

Traditional advertising such as program brochures, school flyers, visual displays, newspaper, radio, and television can target specific campaigns. As a not-for-profit entity, various local media outlets represent a valuable opportunity for free or low-cost publicity. Develop public relation contacts with local broadcast and print media by submitting articles or suggesting topics on the

aquatic center's activities and services, including issues involving education and accident prevention. The use of local celebrities, such as sports and radio personalities, can also help promote events or sponsor organizations and outreach programs to local groups, including girl/boy scouts, hospitals, retirement communities, and corporations. Such programs can be tailored to the needs and interests of individual groups by focusing on wellness, safety, training, competition, or recreation. Utilize small segmented promotions to create an individualized plan for items of user interest, special events, and fun activities.

Corporate Sponsorship and Venue Signage

Shrinking funds and tightening budgets result in seeking opportunities to subsidize expenses of construction and operation. Marketing opportunities look to local, regional, and even national businesses for sponsorship and advertising signage. These opportunities can range from naming the entire facility for an individual or commercial benefactor, to naming individual rooms, benches, tiles, and so forth. Opportunities for revenue include selling permanent and temporary venue signage.

Digital Marketing

Marketers widen the scope of multimedia plans through the increased use of on-demand media such as online broadcasting and video spots, and utilizing email marketing. Marketing must thrive in an exciting digital culture in order to grab and retain potential customers to positively affect revenue, influence attendance, and promote sponsorships.

Embracing information sharing can prove to be a benefit to your business practices. These inexpensive information sharing platforms are becoming more and more effective in direct connection and building community. For example, You-Tube can be used as a free web host of professional video tours of the facility as well as on-going training videos for staff. A Facebook business page can be a free web host of amenities, hours of operation, and employee and program scheduling with email access to "fans" regarding specials, coupons, and special events. Twitter can quickly tweet cancelations or reminders for lessons, classes or programs to followers.

Customer email addresses may be submitted when registering for memberships, classes, and special events. With customer permission, marketers may use these email addresses for email marketing campaigns of monthly newsletters and promotional messages regarding upcoming events and classes.

Websurfers looking for exciting visual examples of recreation opportunities will stop and shop cutting-edge websites that showcase the recreation portfolio in an outstanding way. Online photo galleries and streaming video can demonstrate exciting swim meets, families playing in shallow water, teens sliding down waterslides, and seniors swimming laps, thus allowing potential customers to browse the facility without having to be on site. An immediate price quote offers a means to sell rental opportunities for birthday parties, reunions, and corporate picnics. Voice-overs can communicate classes, programs, drop-in activities, meets, and special events.

The face of fundraising is also enhanced by interactive media. When sent a video spot, potential sponsors can witness a cohesive branding package accompanied by exciting video of an event, showing crowds of people in attendance, and other sponsors' booths.

A study conducted by Media Life Research reveals that 63% of moviegoers are not opposed to onscreen commercials; 79% of U.S. theaters offer commercial spots before a movie. Onscreen ads can promote local recreation attractions to a receptive young demographic. Video spots of a thrilling aquatic center on a hot summer day can potentially reach thousands of people in one month.

Other ways of utilizing video spots to help launch the new facility campaign include looping video spot DVDs on in-house TVs at the park and recreation headquarters, the county welcome center, the visitors' bureau, and realtor offices to communicate to the community, visitors, and potential residents the creative recreation amenities that the community has to offer.

Green Technology and Sustainable Construction

There are numerous opportunities to incorporate energy conservation, LEED design criteria and sustainable design approaches in aquatic related facilities. These opportunities range from selection of sustainable sites, water and energy conservation, material and resource selection, environmental quality, as well as innovative design. Counsilman-Hunsaker is consistently looking for these opportunities, and has become well educated on implementation of such strategies. Our staff includes LEED accredited individuals who have led the aquatic design efforts resulting in LEED certified and sustainable facilities.

Sustainable Sites

- *Site Selection.* Design pool(s) with minimal footprint.
- *Reduced Site Disturbance.* Design pool(s) with minimal footprint.
- *Stormwater Management Rate and Quantity.* Reuse storm water volumes, pool backwash and drain water reused for non-potable means, such as landscape irrigation, toilet/urinal flushing, and custodial uses.
- *Stormwater Management Treatment.* Add in design for pool waste water treatment system.

Water Efficiency

- *Innovative Wastewater Technology.* Specify high efficiency fixtures to reduce wastewater volumes – water level control devices, avoid dilution (sending chemical control water sample to waste). Consider reusing pool wastewater from backwashing and deck drains for toilets.
- *Water Use Reduction 20% and 30%.* Use high efficiency fixtures and sensors to reduce potable water demand. Minimize pool water evaporation by controlling natatorium environment.

Energy and Atmosphere

- *Minimum Energy Performance.* Provide spreadsheet(s) documenting pump efficiencies, motor efficiencies, and solar heating energy models. Pool HVAC/DH system must comply with ASHRAE/IESNA or local codes. Provide analysis of energy savings utilizing pool covers. Specify maximum efficient pool heaters.
- *CFC Reduction in HVAC&R Equipment.* HVAC/DH system cannot use CFC refrigerants.
- *Optimize Energy Performance.* Provide spreadsheet(s) documenting pump / motor efficiencies and solar heating energy models. Specify variable frequency drive motors.

Pool HVAC/DH system must comply with ASHRAE/IESNA or local codes. Provide analysis of energy savings utilizing pool covers. Specify maximum efficient pool heaters.

- *Renewable Energy (5% of Total Energy Use).* Use of solar heating system to heat pool. Use of pool cover to conserve energy consumption.
- *Renewable Energy (10% of Total Energy Use).* Use of solar heating system to heat pool. Use of pool cover to conserve energy consumption.
- *Renewable Energy (20% of Total Energy Use).* Use of solar heating system to heat pool. Use of pool cover to conserve energy consumption.
- *Ozone Protection.* Specify HVAC/DH system that does not use HCFC's or Halons.
- *Measurement & Verification.* Specify metering equipment for pool fill lines, waste lines, pump motors, pool heaters, pool chemistry controllers, etc. Maximize Pump & Motor efficiencies. Can VFD's be used?

Materials and Resources

- *Construction Waste Management.* Divert 50% from Landfill - Specify Swimming Pool Contractors recycle and/or salvage 50% of construction, demolition, and land-clearing waste. Salvage may include donations to Habitat for Humanity or other charitable organizations.
- *Construction Waste Management.* Divert 75% from Landfill - Specify Swimming Pool Contractors recycle and/or salvage 75% of construction, demolition, and land-clearing waste. Salvage may include donations to Habitat for Humanity or other charitable organizations.
- *Resource Reuse 5%.* Specify plastics that have percentage of regrind in lieu of all virgin material, but still meet design specifications / requirements. Specify recycled metals that meet design specifications / requirements.
- *Resource Reuse 10%.* Specify plastics that have percentage of regrind in lieu of all virgin material, but still meet design specifications / requirements. Specify recycled metals that meet design specifications / requirements.
- *Recycled Content 5% (Post-Consumer + 1/2 Post-Industrial).* Specify building products / materials with recycled content.
- *Recycled Content 10% (Post-Consumer + 1/2 Post-Industrial).* Specify building products / materials with recycled content.
- *Regional Materials 20%.* Specify products / materials manufactured regionally.
- *Regional Materials 50%.* Specify products / materials manufactured regionally.

Indoor Environmental Quality

- *Minimum Indoor Air Quality (IAQ) Performance.* Mechanical Engineer to design indoor pool environment to meet (at minimum) ASHRAE 62-1999, Ventilation for acceptable indoor air quality.
- *Carbon Dioxide Monitoring.* Install permanent CO2 monitoring system in pool spaces in accordance with ASHRAE 62-2001.
- *Ventilation Effectiveness.* Mechanically ventilated spaces in pool areas that result in air change effectiveness greater than or equal to 0.9.
- *Construction IAQ Plan During Construction.* Develop and implement IAQ management plan for construction and preoccupancy phase to meet or exceed SMACNA, MERV of 8 as determined by ASHRAE 52.2-1999, and replace all filtration media prior to occupancy with MERV of 13.

- *Construction IAQ Plan Before Occupancy.* Conduct a minimum two week building flush out with new MERV 13 filtration media at 100% outside air or conduct a baseline IAQ testing procedure consistent with the US EPA's current protocol for Environmental Requirements, Baseline IAQ and Materials for the Research Triangle Park Campus, Section 01445.
- *Low Emitting Materials. Adhesives and Sealants.* Specify adhesives that meet or exceed the VOC limits of South Coast Air Quality Management District Rule #1168 by, AND all sealants used as a filler must meet or exceed Bay Area Air Quality management District Reg. 8, Rule 51.
- *Low Emitting Materials.* Paints and coatings must meet or exceed the VOC and chemical component limits of Green Seal Requirements.
- *Indoor Chemical & Pollutant Source Control.* Design separate exhaust and plumbing systems for rooms with contaminants (pool chemical rooms).
- *Controllability of Systems Perimeter Spaces.* Provide at least an average of one operable window and one lighting control per 200 sq. ft.
- *Controllability of Systems Non-Perimeter Spaces.* Provide controls for each individual airflow, temperature, and lighting for at least 50% of the occupants in non-perimeter, regularly occupied spaces.
- *Thermal Comfort Compliance with ASHRAE 55-1992.* Comply with ASHRAE 55-1992 for thermal comfort standards including humidity control within established ranges per climate zone (pool building and pool mechanical and chemical spaces).
- *Thermal Comfort Permanent Monitoring Systems.* Install permanent temperature and humidity monitoring system in pool building.
- *Daylight and Views 75% / 90% of Spaces.* Achieve a minimum Daylight Factor of 2% in 75% / 90% of all occupied space (pool building only). Caution regarding glaring of pool due to natural light brought in on side walls.

Innovation in Design

- *On-Site Chlorine Generation System.* Specify Chlorine Generation (Salt Water) Systems, which produce required pool sanitizing agent on-site to minimize necessity for deliveries and handling of chemical.

Section 5: Recommended Concept

Aquatic Elements
Phasing



CUTLER BAY AQUATIC CENTER

CUTLER BAY, FLORIDA

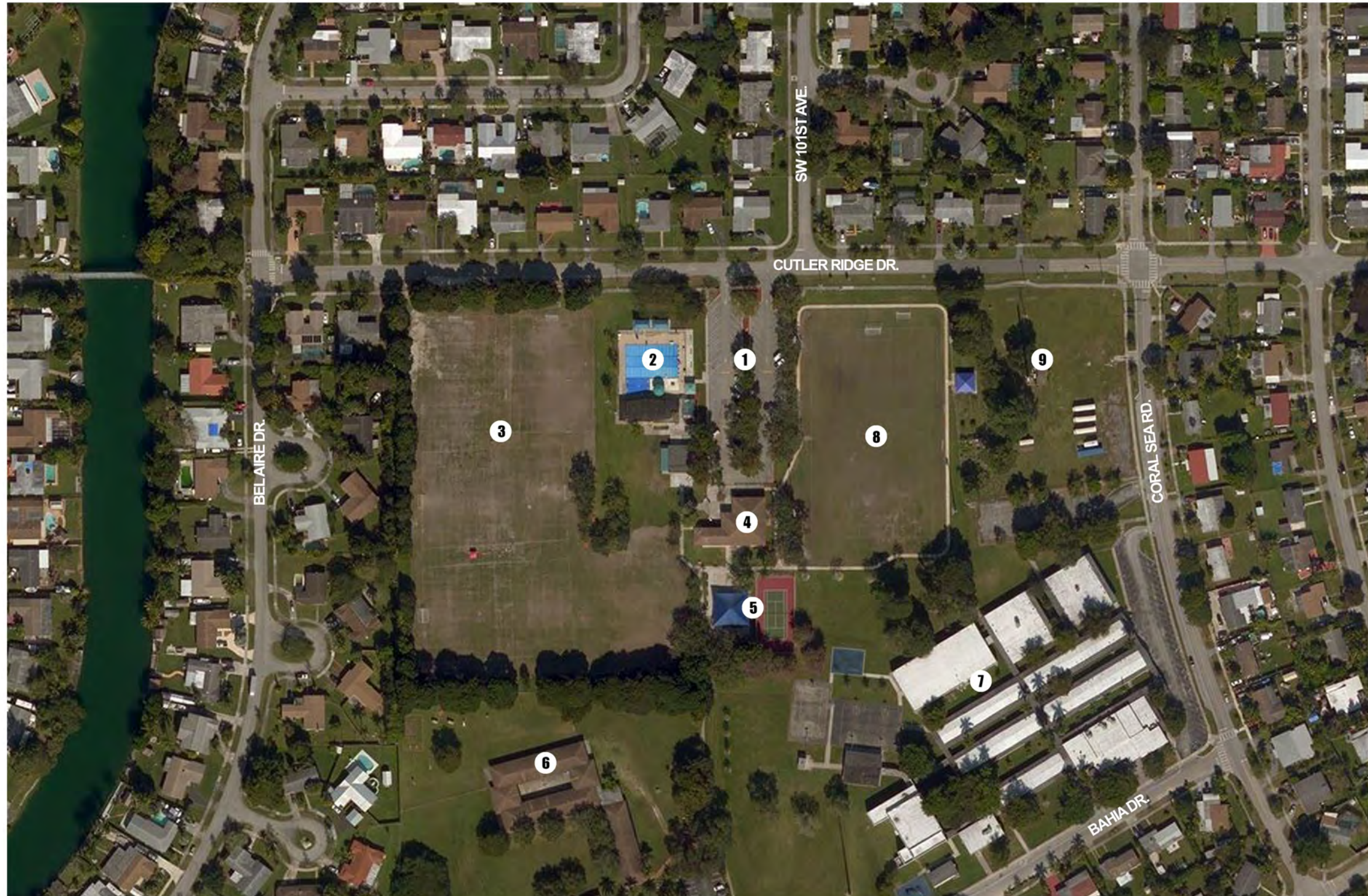
FINAL CONCEPT



WOLFBERG ALVAREZ & PARTNERS
3225 Aviation Ave., Suite 400 Miami FL 33133



Counsilman · Hunsaker
AQUATICS FOR LIFE



AERIAL IMAGE

AERIAL IMAGE

EXISTING CONDITIONS

1. PARKING
2. AQUATIC CENTER
3. SOCCER FIELDS
4. MULTIPURPOSE BUILDING
5. COVERED PLAYGROUND
6. PINELANDS
PRESBYTERIAN CHURCH
7. PINELANDS ELEMENTARY
SCHOOL
8. SOCCER FIELD
9. ANTENNA / FLAG POLE





MASTER PLAN

MASTER PLAN

1. NEW AQUATIC CENTER
2. BATH BUILDING (9,325 SF)
3. NEW PARKING LOT
(140 PARKING SPACES)
4. PUMP BUILDING (3,300 SF)
5. RELOCATED U12 SOCCER
FIELD
6. DEVELOPMENTAL FIELDS
7. EXISTING MULTIPURPOSE
BUILDING
8. COVERED PLAYGROUND
9. TENNIS COURT
10. EXISTING REGULATIONS
SOCCER FIELD
11. RELOCATED U10 SOCCER
FIELDS
12. BUS DROP-OFF





SITE PLAN

SITE PLAN

1. **COMPETITION POOL**
 - 13,200 SQ/FT 50M X 25 Y COMPETITION POOL (17-22, 25 YDS LANES; 8, 50M LANES)
 - NCAA, NFHS, USA SWIMMING - 25Y AND 50M COURSES
 - SYNCHRONIZED SWIMMING - 12M X 12M X 3M
 - NFHS, USA DIVING 1M/3M SPRINGBOARD
 - HEATED/COOLED WATER TEMPERATURES
 - 2 BULKHEADS
2. **SHADED SPECTATOR SEATING, 600 PERSON**
3. **POOL PUMP BUILDING**
4. **MP LEISURE POOL**
 - 5,000 SQ/FT MULTIPURPOSE LEISURE POOL
 - FITNESS LAP LANES (3) FOR INSTRUCTIONAL, FITNESS, WELLNESS AND SWIM MEET USE (WARM-UP / WARM DOWN)
 - ZERO BEACH ENTRY WITH CHILDREN'S PLAY STRUCTURE
 - CROSSING ACTIVITY
 - SHADE STRUCTURES
5. **FAMILY WATERSLIDES**
6. **BATH BUILDING**





AQUATIC AMENITIES

SAMPLE PHOTOS

- 1 COMPETITION POOL
- 2 FAMILY WATERSLIDES
- 3 CHILDREN'S PLAY STRUCTURE



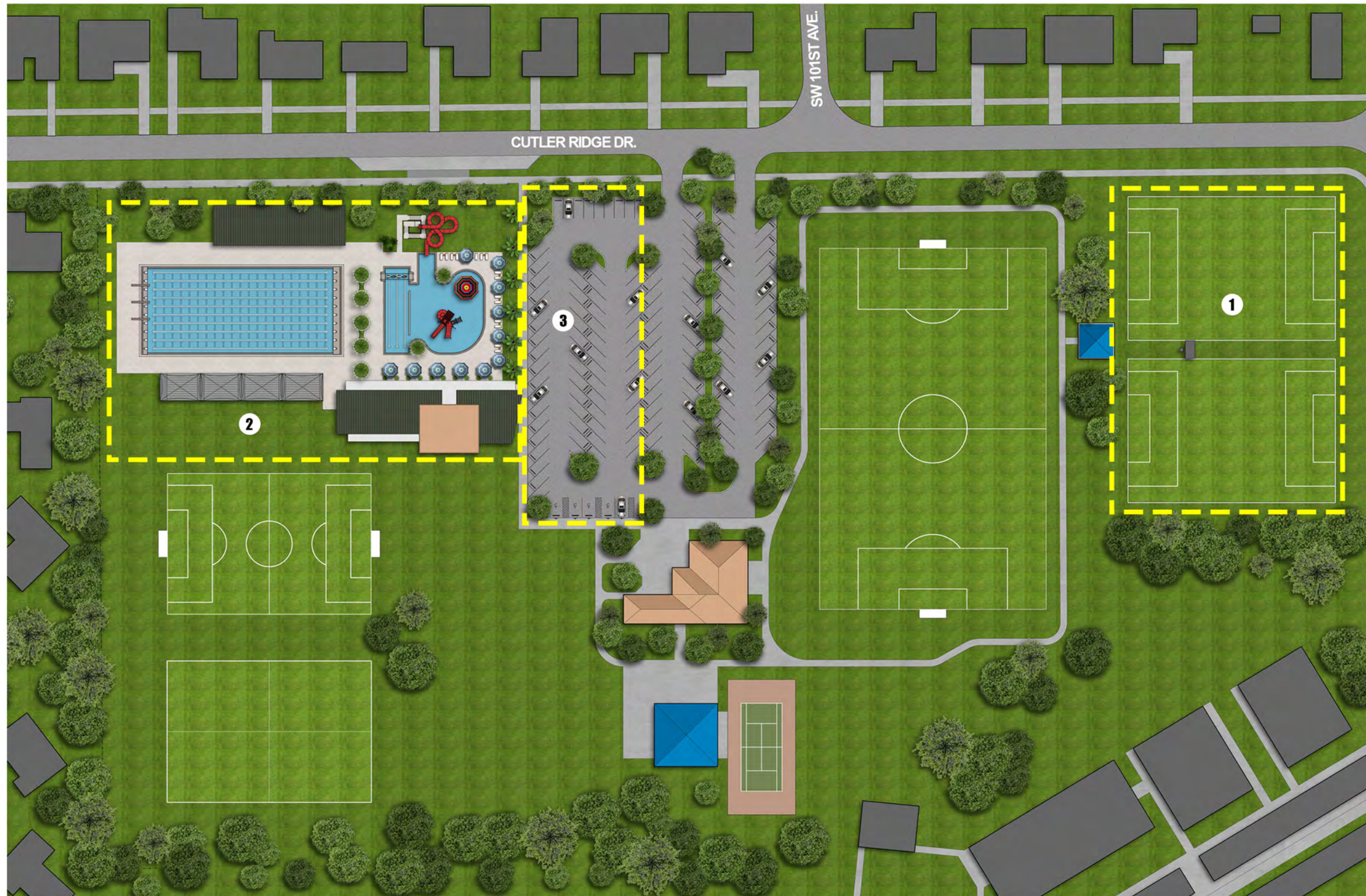


BATH BUILDING

BATH BUILDING

1. MAIN ENTRY
2. OFFICES
 - LIFEGUARD OFFICE
 - BREAKROOM
 - MANAGER'S OFFICE
3. RESTROOMS
4. LOCKER ROOMS
5. 2 FAMILY CHANGING ROOMS
6. MULTIPURPOSE AQUATIC & SOCCER ROOM
7. COVERED DINING
8. CONCESSIONS / CAFE
 - KITCHEN
 - STORAGE
9. LOGGIA
10. ELECTRICAL ROOM
11. SOCCER STORAGE
12. MECHANICAL ROOM





PHASING PLAN

PHASED CONSTRUCTION

- 1 PHASE 1
 - RELOCATE EXISTING V10 SOCCER FIELDS TO "RIDGE SITE".
- 2 PHASE 2
 - CONSTRUCTION OF NEW AQUATIC CENTER.
 - EXISTING POOL BUILDINGS REMAINS OPERATIONAL DURING CONSTRUCTION.
- 3 PHASE 3
 - NEW FACILITY OPENS TO PUBLIC.
 - EXISTING POOL BUILDING IS DEMOLISHED.
 - NEW PARKING LOT EXPANSION IS COMPLETED.





CUTLER BAY **AQUATIC CENTER**

- AERIAL VIEW





CUTLER BAY **AQUATIC CENTER**

- ENTRANCE VIEW





CUTLER BAY **AQUATIC CENTER**

- LEISURE POOL AREA





CUTLER BAY **AQUATIC CENTER**

- COMPETITION POOL AREA





CUTLER BAY **AQUATIC CENTER**

- LEISURE POOL AREA

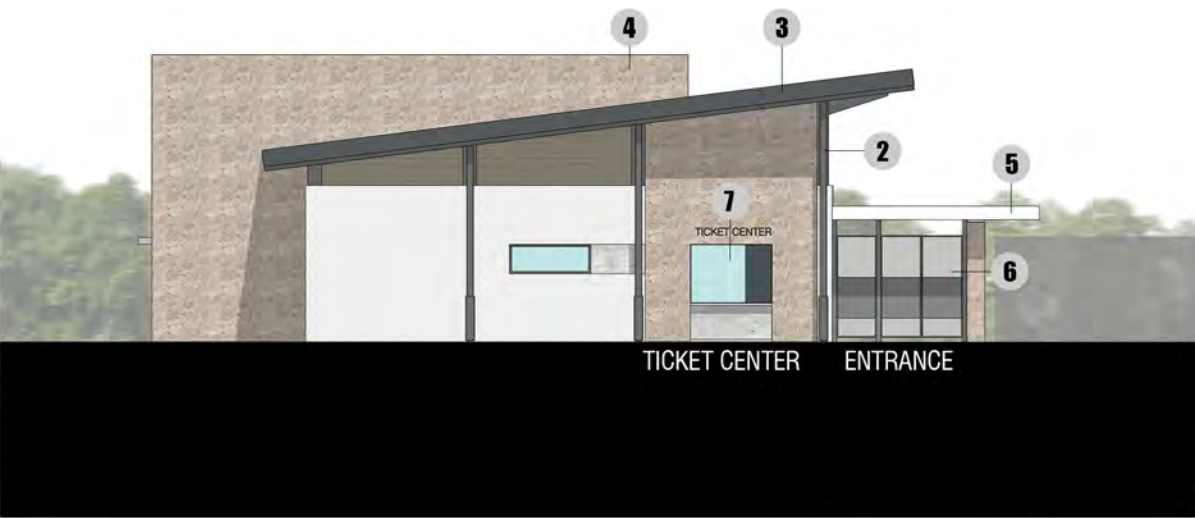




NORTH ELEVATION

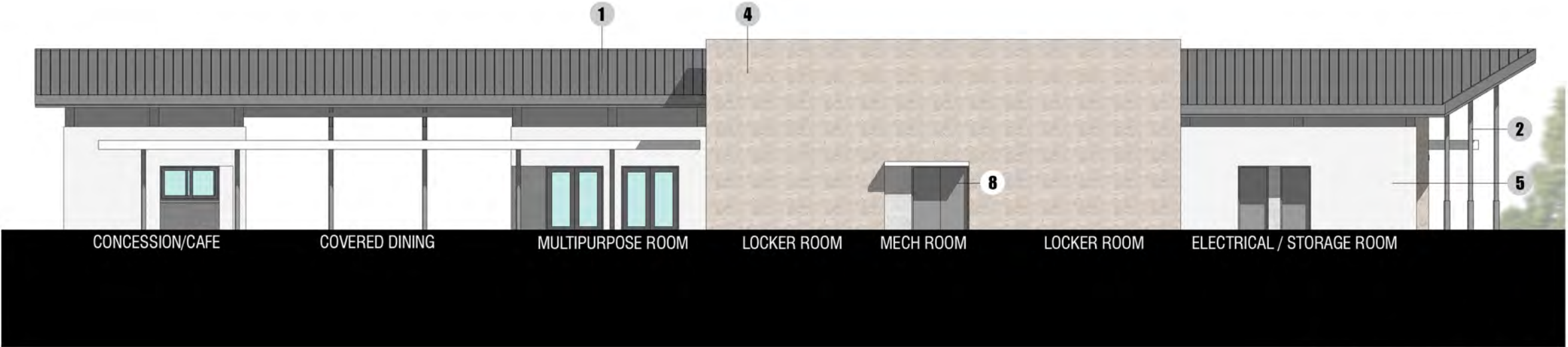
**BATH BUILDING
ELEVATIONS**

- 1. STANDING SEAM METAL ROOF
- 2. STEEL COLUMNS
- 3. WOOD SOFFIT
- 4. CORAL STONE
- 5. EXTERIOR STUCCO FINISH PAINTED
- 6. ALUMINUM GATE
- 7. IMPACT RESISTANT GLASS



EAST ELEVATION





SOUTH ELEVATION

BATH BUILDING
ELEVATIONS

- 1. STANDING SEAM METAL ROOF
- 2. STEEL COLUMNS
- 3. WOOD SOFFIT
- 4. CORAL STONE
- 5. EXTERIOR STUCCO FINISH PAINTED
- 6. ALUMINUM GATE
- 7. IMPACT RESISTANT GLASS
- 8. HOLLOW METAL DOOR AND FRAME PAINTED



WEST ELEVATION





OPINION OF PROJECT COST				
Description	Unit	Amount	Cost per Unit	Opinion of Cost
Demolition/Site Prep		1	\$ 100,000	\$ 100,000
(2) Artificial Turf U10 Soccer Fields		1	\$ 1,270,000 (1)	\$ 1,270,000
Bathhouse		11,825	\$ 224	\$ 2,650,250
Restroom / Multipurpose / Office	Sq. Ft.	4,280	\$ 325	\$ 1,391,000
Concessions	Sq. Ft.	380	\$ 225	\$ 85,500
Loggia / Outdoor Seating	Sq. Ft.	3,865	\$ 150	\$ 579,750
Pool Equipment / Storage Bldg	Sq. Ft.	3,300	\$ 180	\$ 594,000
Aquatic Center		18,818	\$ 285	\$ 5,358,240
50M x 25Y Competition Pool	Sq. Ft.	13,200	\$ 200	\$ 2,640,000
Bulkhead	Qty	2	\$ 175,000	\$ 350,000
Diving Board	Allowance	1	\$ 100,000	\$ 100,000
Spectator Seating	Sq. Ft.	4,200	\$ 65	\$ 273,000
Deep Foundations	Allowance	1	\$ 200,000	\$ 200,000
Heaters	Allowance	1	\$ 60,000	\$ 60,000
Leisure Pool	Sq. Ft.	5,618	\$ 180	\$ 1,011,240
Deep Foundations	Allowance	1	\$ 100,000	\$ 100,000
Play Structure	Allowance	1	\$ 250,000	\$ 250,000
Waterslide w/tower	Allowance	1	\$ 300,000	\$ 300,000
Tot Slide	Allowance	1	\$ 20,000	\$ 20,000
Crossing Activity	Allowance	1	\$ 54,000	\$ 54,000
Support		56,454	\$ 13	\$ 753,652
Outdoor Deck		22,000	\$ 11	\$ 237,600
Fence		950	\$ 96	\$ 91,200
Overhead Lighting		56,454	\$ 5	\$ 304,852
Spectator Seating Shade Structure		1	\$ 80,000	\$ 80,000
Shade Structures		4	\$ 10,000	\$ 40,000
Site Construction Costs (landscaping, utilities, walks)				\$ 645,000
Parking Addition	Sq. Ft.	34,000	\$ 10	\$ 340,000
Off-Site Improvements	Allowance	1	\$ 75,000	\$ 75,000
Landscape / Irrigation	Allowance	1	\$ 100,000	\$ 100,000
Misc. Site	Allowance	1	\$ 130,000	\$ 130,000
Unit	Sq. Ft.		Cost	Opinion of Cost
Total Building Construction Costs	Sq. Ft.	87,097	\$ 124	\$ 10,777,142
Inflation (1 year)	5.0%			\$ 538,857
Contingency	10.0%			\$ 1,077,714
Indirect and soft cost	10.0%			\$ 1,077,714
Total Estimated Project Costs:				\$ 13,471,427
Say				\$ 13,500,000
Source: Counsilman-Hunsaker				
(1) Cost information provided by the Town of Cutler Bay - Parks Department				

OPINION OF
PROJECT COST



Previously Studied Options

A number of aquatic facility options were developed throughout the feasibility study. The following are conceptual designs of the various facilities studied and presented to the Cutler Bay community.

8-Lane, 25 Yard Competition Pool

Leisure Pool with a zero-beach entry, lazy river, waterslides
Multi-purpose center



50m x 25Y Competition Pool

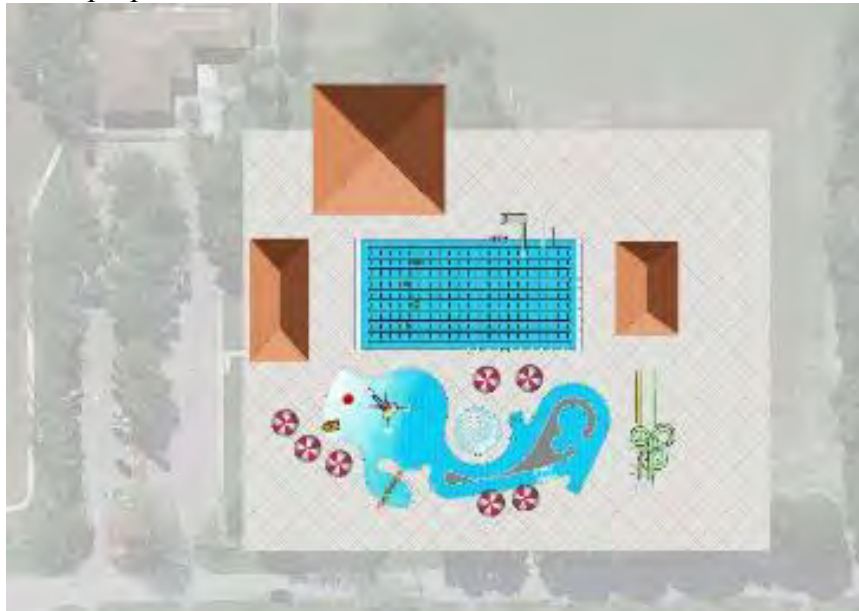
Leisure Pool with zero-beach entry, waterslides
Multi-purpose center



50M x 25Y Competition Pool

Leisure Pool with Leisure Pool with a zero-beach entry, lazy river, waterslides

Multi-purpose center



8-Lane, 25Y Competition Pool

Leisure Pool with Leisure Pool with a zero-beach entry, lazy river, waterslides



50M x 25Y Competition Pool
6-Lane, 25Y Teaching Pool



50M x 25Y Competition Pool
6-Lane, 25Y Teaching Pool
Diving well with 1M/3M boards and 5M, 7.5M and 10M Platforms



SECTION 6: Operations

Opinion of Revenue
Opinion of Expenses
Cash Flow
Conclusion
Funding

Section 6: Operations

Revenue analysis reviews facility capacity analysis, per capita spending trends, and special user group usage. Developing an opinion of financial impact is an important component in evaluating facility opportunities. Projected attendance is based on population trends. Fee structure is based on fees from season pass holders and other users to project per capita income. Revenue is estimated, taking recommended fee schedules into account. All revenue assumptions reflect multiplying attendance by per capita.

An analysis of operating expenses includes a detailed budget model for estimating probable expenses for major areas of labor, contractual services, commodities, and utilities. User projections are made based on programming. Expenses are estimated taking into account hours of operation, attendance projections, local weather patterns, local utility rates, and other key items. Operating data from other facilities in the area were reviewed and taken into account to form projections.

Opinion of Revenue

Facility Capacity

Types of spaces and associated capacity determine the degree each facility will be used.

- Generally, recreation swimmers prefer shallow water of four feet or less, allowing participation in a variety of water-related activities while still touching the pool bottom. In estimating capacity for recreational use, a maximum density of 25 sq. ft. per person is assumed. Based on a length of stay of two to three hours, turnover in-house attendance is two and a half times per day for the recreation swimmer.
- For deep water, the maximum density is assumed to be 100 sq. ft. per person. Based on a length of stay of two to three hours, turnover in-house attendance is three times per day for the competitive swimmer.
- Group programming areas, which may include food service, are based on seating capacity.

Additional spaces not listed such as office space and locker rooms have no impact on programming; therefore, market penetration has not been included in this analysis. Capacity of spaces is evaluated when projecting attendance.

The following table predicts additional capacity based on program areas. It is necessary to use the descriptive above to project how many people can be accommodated in any given space using the per square foot guideline. The following table estimates what the additional capacity would be with the different expansion phases.

CAPACITY ANALYSIS

Cutler Bay Aquatic Center

WET-SIDE CAPACITY**Training (Available 25-Yard Lanes)**

Outdoor Lap	25
Total	25

Estimated Training Holding Capacity	125
Daily Training Capacity	375

Recreation (Surface Area Sq. Ft.)

Outdoor Lap	13,200
Outdoor Leisure	5,618
Total	18,818

Estimated Recreation Holding Capacity	358
Daily Recreation Holding Capacity	894

Total Holding Capacity	483
Total Daily Facility Capacity	1,269

PARKING

Cutler Bay Aquatic Center

Parking	193
Parking Sq. Ft.	63,000
Impervious Structure	63,779
Total Program Sq. Ft.	126,779
Total Sq. Ft. with Efficiency	253,558
Preferred Site Size Requirements (acres)	5.82
Recommended Site Size (acres)	8.73

Fee Structure

In order to project revenue, fee schedules are established. Three general approaches to evaluating the fee structure of an aquatic center include the following:

1. Maximize revenue by charging what the market will support. Programs and facilities operate with positive cash flow. If excess funds are available at season's end, they can be used to support under-funded programs.
2. Break-even in the operation of the facility. This approach is increasing in popularity as funding is becoming limited to organizations that use the facility. Capital funds are used to create the facility; operational funds are generated from the user on a break-even basis.
3. Subsidy pricing historically has been the policy of many community facilities.

It is recommended to continue to increase fees based on local inflation and cost of living.

Outdoor			
Category	Rate	Percent of Visits	Per Visit Unit
Daily Admission			
Adult (Age 18-59)	4.00	25%	1.00
Child (Age 2-17)	3.00	20%	0.60
Seniors (60+)	3.00	4%	0.12
Free	0	1%	-
Annual Pass			
Adult (Age 18-59)	300.00	23%	0.99
Child (Age 2-17) - Seasonal	50.00	20%	0.14
Seniors (60+)	150.00	7%	0.12
Subtotal / Average		100%	2.97
Food / Merchandise			
			\$ 0.05
Total			\$3.02

The following table takes into consideration the revenue streams from increased capacity and fees. The Opinion of Revenue is the analysis of attendance, per capita spending, admission, concessions, and program revenue.

OPINION OF REVENUE

Aquatics Programs Revenue & Expenses

		Price Per Session (8)	Total Per Session	No. Sellable					
Revenue	Mgmt. Assump.	Year 1	Year 1	Sessions	Year 1	Year 2	Year 3	Year 4	Year 5
Swim Team Revenue									
Meet Rental	\$ /Day	\$ 1,000	6	1	\$ 6,000	\$ 6,600	\$ 7,623	\$ 8,004	\$ 8,825
Club Team	\$ /Lane Hour	\$ 5	432	12	\$ 25,920	\$ 25,920	\$ 28,512	\$ 28,512	\$ 29,938
HS Team Rental	\$ /Lane Hour	\$ 5	240	18	\$ 21,600	\$ 21,600	\$ 23,760	\$ 23,760	\$ 24,948
Master's Swimming	\$ /Swimmer (Average)	\$ 35	25	12	\$ 10,500	\$ 16,800	\$ 19,404	\$ 20,374	\$ 22,463
Summer League	\$ /Swimmer (Average)	\$ 130	45	1	\$ 5,850	\$ 6,435	\$ 7,432	\$ 7,804	\$ 8,604
Aquatics Instruction Revenue									
Swim Lessons	8 classes/session	\$ 55	2250	1	\$ 123,750	\$ 126,225	\$ 141,624	\$ 144,457	\$ 154,713
Water Fitness	\$ /Session	\$ 5	50	12	\$ 3,000	\$ 3,300	\$ 3,812	\$ 4,002	\$ 4,412
Lifeguard Certification	\$ /Session	\$ 225	15	6	\$ 20,250	\$ 16,200	\$ 17,820	\$ 17,820	\$ 18,711
Rentals									
Birthday Party	\$ / 2 HRS of Party Cabana	\$ 50	200	1	\$ 10,000	\$ 11,000	\$ 12,705	\$ 13,340	\$ 14,708
Private (Full Pool)	\$ /HR	\$ 175	20	2	\$ 7,000	\$ 7,700	\$ 8,894	\$ 9,338	\$ 10,295
Non-capacity growth rate									
Capacity growth rate									
Area Revenue					\$233,870	\$241,780	\$271,586	\$277,412	\$297,616
Expense	Mgmt Assump.				Year 1	Year 2	Year 3	Year 4	Year 5
Program Supplies	4% of year 1 gross revenue; 3% annual increase				\$ 9,355	\$ 9,671	\$ 10,863	\$ 11,096	\$ 11,905
LG Class Materials	\$ 60 per participant for course record fee and manuals				\$ 5,400	\$ 5,562	\$ 5,729	\$ 5,901	\$ 6,078
ARC LTS Facility Fee	1500 cards; ; 3% annual increase				\$ 975	\$ 1,004	\$ 1,034	\$ 1,065	\$ 1,097
Marketing	5% of year 1 gross revenue				\$ 11,694	\$ 12,089	\$ 13,579	\$ 13,871	\$ 14,881
Part-Time Program Staff	50% of gross				\$ 81,675	\$ 84,480	\$ 95,046	\$ 97,229	\$ 104,452
Area Expense					\$109,098	\$112,806	\$126,252	\$129,162	\$138,412
Net Revenue					\$124,772	\$128,974	\$145,334	\$148,250	\$159,204

REVENUE SUMMARY

	2017	2018	2019	2020	2021
Attendance					
Cutler Bay Aquatic Center	69,467	70,539	71,384	72,456	73,528
Per Capita Spending (3% Annual Increase)					
Cutler Bay Aquatic Center	\$2.52	\$2.60	\$2.67	\$2.75	\$2.84
Aquatic Programming Revenue					
Cutler Bay Aquatic Center	\$233,870	\$241,780	\$271,586	\$277,412	\$297,616
Total Revenue (Gross)					
Cutler Bay Aquatic Center	\$408,928	\$424,871	\$462,429	\$476,932	\$506,161

Opinion of Expenses

Commodities

Commodities are day-to-day products used to operate aquatic centers. Office supplies, program supplies, custodial supplies, repair supplies and chemicals are included. In determining annual chemical expense, chemical treatment assumes the use of liquid chlorine and muriatic acid (pH buffer). Chemical use can depend upon bather load and chemical balance of the water. In estimating annual costs, medium bather load figures are assumed.

Heating/Cooling

In determining utility costs, current energy costs at other facilities in the area were reviewed. Total costs include energy, energy demand and delivery charges. Caution must be used when comparing this cost with operating expenses of other facilities across the country.

Electricity

The calculations are based on 2016 utility rate information. The table conveys the estimated electricity costs for all options.

Water and Sewer

Water and sewer services will be needed for domestic use and compensation for evaporation and backwashing purposes. Backwash water and domestic water will be released to the sanitary system. This does not include landscape irrigation.

Insurance

Insurance denotes liability for more people and more structure based on visits and labor.

Expenses

The following table reflects a summary of all operating expenses, assumptions, and estimates detailed by the expense category.

OPINION OF OPERATING EXPENSE

Direct Facility Expense Budget	
Cutler Bay Aquatic Center	
Facility Staff	
Full Time Employment	Not Included
Facility Supervisor	\$48,000
Aquatic Coordinator	\$42,000
Full Time Benefits	\$36,000
Summer Employment	\$206,080
Winter Employment	\$230,934
Training	\$17,000
Total Labor	\$580,014
Contractual Services	
Insurance	\$81,821
Repair and Maintenance	\$33,700
Total Contractual Services	\$115,521
Commodities	
Operating Supplies	\$20,220
Chemicals	\$71,794
Advertising	\$34,500
Total Commodities	\$126,514
Utilities	
HVAC	\$26,372
Electricity	\$105,942
Pool Heating	\$40,000
Data/Communications	\$2,065
Trash Service	\$2,010
Water & Sewer	\$22,136
Total Utilities	\$198,525
Total Operating Expenses	\$1,020,575
Capital Replacement Fund	\$67,400
Total Expense	\$1,087,975

EXPENSE SUMMARY

The following table reflects a summary of operating and programming expenses.

	2017	2018	2019	2020	2021
Direct Facility Expenses					
Cutler Bay Aquatic Center	1,020,575	1,046,089	1,072,241	1,099,047	1,126,523
Aquatic Programming Expenses					
Cutler Bay Aquatic Center	\$109,098	\$112,806	\$126,252	\$129,162	\$138,412
Total Operating Expenses					
Cutler Bay Aquatic Center	\$1,129,673	\$1,158,895	\$1,198,493	\$1,228,209	\$1,264,936

Cash Flow

The following table presents projections of gross operating performance for all options based on revenue projections and expense estimates.

- Project cost: total cost of project
- Attendance: number of annual users
- Revenue: includes program revenue
- Expense: includes facility expense and program expense
- Operating cashflow: annual profit/loss
- Recapture rate: percent of expense vs revenue
- Capital replacement fund: .5% of project cost
- Debt service: estimated at 5% over 20 years
- Cashflow: total annual expenses vs revenue

	2017	2018	2019	2020	2021
Cutler Bay Aquatic Center					
Project Cost	\$13,480,000				
Attendance	69,467				
Revenue	\$408,928	\$424,871	\$462,429	\$476,932	\$506,161
Expense	\$1,129,673	\$1,158,895	\$1,198,493	\$1,228,209	\$1,264,936
Operating Cashflow	(\$720,745)	(\$734,024)	(\$736,064)	(\$751,277)	(\$758,774)
Recapture Rate	36%	37%	39%	39%	40%
Capital Replacement Fund	\$67,400	\$67,400	\$67,400	\$67,400	\$67,400
Debt Service	(\$1,036,290)	(\$1,036,290)	(\$1,036,290)	(\$1,036,290)	(\$1,036,290)
Cash Flow	(\$1,824,435)	(\$1,837,714)	(\$1,839,754)	(\$1,854,968)	(\$1,862,465)

Capital Replacement Fund

The manufacturers of some types of mechanical equipment recommend annual maintenance programs to ensure proper performance of their equipment. Much of this work will be performed by outside contractors. In addition, for daily operation of the facilities, miscellaneous items will need to be repaired by outside firms. The capital replacement fund sets money aside for repairs/replacement.

Conclusion

Basic Budgeting

While catering to the needs of the demographics of the community to help make the facility a success from day one, a budget plan will help to ensure that the provided amenities will allow for a financially sustainable operation. Paying careful attention to the financial details of the facility will help plan for budgets and run a more efficient and sustainable operation.

After analyzing basic budgets across the country, aquatic operations typically include five primary areas of expenses:

- Personnel/labor
- Chemicals
- Utilities
- Maintenance
- Operational supplies

On average, aquatic personnel costs will make up at least 50% of the operational budget, and sometimes can get close to 75-80% depending on the size of the facility, number of operating hours, and staffing levels required in maintaining a safe environment. Managing labor strategically and effectively will be the primary factor in turning around and lowering the financial expense numbers of the aquatic operation. Evaluating staffing levels and exploring areas for decreasing staff hours will bring the biggest savings. Try to develop more efficient ways to complete opening and closing tasks each day with less staff on duty, or have fewer lifeguards on break, which can easily save upwards of 5% off the seasonal budget.

After labor costs, chemicals, utilities, and maintenance all typically fall into the 8-12% range, while operational supplies will make up the other 3-5%. These numbers may vary from year-to-year depending on the scope of maintenance projects, as well as any emergency repairs that need to be made. For example, an outdoor wave pool that has a \$9,000 air compressor malfunction, or an indoor pool that needs major plaster repairs will obviously have a huge jump in maintenance expenses compared to a year when all the equipment functions properly.

Facility Maintenance Planning

Aquatic facility maintenance always proves to be one of the top challenges faced by aquatic facility operators. When designing a new aquatic facility or adding amenities, the aquatic designer will explain the benefits and weaknesses of new products, as well as complying with codes and regulations in the industry. But because of the sheer number of sophisticated moving parts associated with keeping a facility running, (especially with all the new technologies that have been introduced over the past several years), operators should develop an ongoing facility maintenance and replacement plan.

The pool operations team includes the overall maintenance of the pool system and features for risk reduction to the users, employees, and facility. Pump room technicians include a unique skill set, including Certified Pool Operator (CPO) or Aquatic Facility Operator (AFO) for day-to-day chemical knowledge in order to operate the facility in compliance with the local health department requirements. Operations include industry knowledge for inspection to identify and fix necessary parts and repairs.

The maintenance plan should take into account the lifespans for the various pieces of equipment to help counteract the signs of aging at the facility. While the pool structure may stay in place for over 50 years, the mechanical systems finishes have a much shorter lifespan. By developing a list of every piece of onsite equipment, notating the installation date, the expected lifespan, and the repair/replacement cost, this plan can help determine the yearly budget. As a general rule of thumb, a facility should save 0.5% of the construction cost each year for future repairs/replacements. Planning ahead, preventative maintenance, and constant communication with the organization's financial director will significantly benefit operations in the long run.

Life Expectancy	
Item	Years
Pool Structure	30 to 50
Filters	15 to 20
Pumps	20 to 25
Finish - Tile / Grout	50+ / 5 to 10
Finish - Plaster	10+
Finish - Paint	1 to 3
Electrical Interior Switchgear and Panels	30
Electrical Exterior Switchgear and Panels	15 to 20
Transformers	20
Light Fixtures	20 to 30
Dehumidification units	15 to 20
Ductwork	30+
Piping	30+
Boilers	20 to 25
Heat Exchangers	20 to 30

Note: Life is reduced by exposure to moisture & corrosive elements

Life is reduced by unbalanced pool water (aggressive or scale forming)

Industry Trends

With the evolution of the family aquatic center throughout the municipal parks and recreation world, it's much more prevalent to find "waterpark-type attractions" (wave pools, lazy rivers, waterslides, etc.) closer to home than it was 20 years ago. This trend in the municipal environment toward thrill rides allows for more financially sustainable opportunities, but also provides more competition in the marketplace for those critical "make or break" 100 days from Memorial Day to Labor Day each year.

Since today's aquatic centers incorporate recreation swimming and wellness pools to augment revenue of competitive swimming, thereby creating multigenerational facilities through shared expenses, trends continue to point to adventurous attractions. But don't forget to incorporate passive play spaces for those who want a calmer, relaxing environment, such as current channels, children's areas, and whirlpool spas. By providing multigenerational spaces so that families can experience the park together, the aquatic center will capture a greater audience with "something for everyone" which will increase attendance and revenue, the two primary drivers of a sustainable operation.

Funding

There are many different funding methods for the project. In addition to capital market financing (i.e., the sale of bonds or issuance of contracts to private entities such as banks or lending institutions), there are other forms of funding that have been used in other projects. Financing, in most cases, requires the sale of bonds. For any bond to be sold, an independent bond rating institution must evaluate the entity to be represented by the bond. This rating will determine the bond price and interest rate, and as a result, the overall worth of the bond. The following are four bonding institutions in the United States:

Examples of Bond Rating Institutions

- Moody's Investor Service
- Standard & Poor's Corporation
- Fitch Investors Service, L.P.
- Duff & Phelps Credit Rating Co.

Financing generally occurs in one of the forms or methods as outlined below.

Direct Funding

1. Direct Appropriation
2. Private Contributions
3. Joint Ventures

Capital Markets Financing

4. Local Discretionary Sales Surtax
5. The sale of General Obligation Bonds
6. The sale of Certificates of Obligation
7. The sale of Revenue Bonds
8. The sale of Certificates of Participation
9. The sale of Lease Revenue Bonds

These options are not mutually exclusive in every case. In fact, the final financing for the new facility is likely to be a package of various financing sources that collectively reach the needed total.

Direct Appropriations

The city is permitted by law to directly appropriate money to the development, construction and operation of an aquatic center. This would include money either spent directly on the project or contributed to another entity established for this purpose.

As a practical matter, the likelihood of getting a new aquatic center off the ground without extensive and direct financial support is fairly remote. The other sources of funding cannot be expected to enthusiastically embrace the aquatic center unless the city is already financially committed to the project.

Private Contributions

For different reasons, various private individuals and corporations may have an interest in supporting an aquatic project. The center could be positioned as a major factor in building civic pride, promoting economic development, enhancing community facilities and other positive attributes. Properly structured, any of the financing and ownership options selected will permit tax-deductible giving from most private contributors. Historically, contributions from outside sources have not exceeded matching funds.

Some sample commemorative gift opportunities that have been suggested by other facilities include:

• Pool Structure	\$1,000,000
• Entrance/Offices	\$ 500,000
• Balcony	\$ 500,000
• Campaign Name Itself	\$ 250,000
• Locker Rooms	\$ 250,000
• Large Brick & 1yr. Memb.	\$ 10,000
• Bricks/Tiles (contributors)	\$ 500

Joint Use and Joint Partnership Agreements

Joint Use Agreements and other collaborations with area municipalities, educational institutions, businesses, health care providers, and other organizations and institutions can be significant sources of revenue and programming opportunities. A Joint Use Agreement has the potential of increasing programming opportunity and financial support. While this process is difficult to manage in terms of organizing the different priorities and agendas of the different organizations, it has proven worthwhile in other communities.

The establishment of a partnership can be a positive experience for the desired aquatic facility. Recent years have provided many examples of existing partnership relationships to establish major facilities. Partnerships have allowed organizations to create useful recreational facilities that otherwise would not have been possible. The following are some reasons an organization may wish to engage into a partnership relationship:

- Cost to provide government service is high
- Creates budget and creative programming opportunities
- Spreads the risk among the partners
- Merging resources creates a higher level of service delivery
- Offers entrepreneurial opportunities not always affordable to public agencies
- Planning changes the mindset of the players and forces them to think creatively
- Encourages a market driven approach rather than a product driven approach

The desire to partner with others is popular when there is mutual interest in building a major capital asset. What potentially exists in partnership relationships frequently occurs between one or more sectors such as two or more public sector organizations, and the public sector and the not-for-profit organizations, and the private sector and the public sector.

Partnership relationships usually exist in one of two forms as outlined in the following examples:

- Investment Partnerships: public sector organizations such as schools or park organizations, and/or the private sector, and/or the not-for-profit engage in equity construction of a capital asset. In recent years these facilities have included gymnasiums and fitness facilities.
- Program Partnerships: public sector organizations such as schools or park organizations, and/or the private sector, and/or the not-for-profit engage in the provision of programs to benefit the community or facility. These programs are typically outsourced by the public or not-for-profit sector organization to the private sector. In these instances, it is determined that the public sector is better off managing the activity rather than producing it. In recent years these programs have included facility management, specialized training programs, and specific skill activities.

Establishing an Investment Partnership relationship can be tricky, especially when considering a partnership involving several entities. The structure of such a relationship must allow for consistent operations, policy making, and operational management of the facility after it is open. There is a potential for the relationship to be very complex and challenging given the financial structure, the differences in the makeup of the policy making boards, and the administrative structures of each entity.

Program Partnerships would come after the Investment Partnership relationship is created and executed. Program Partnerships could be as complex as determining financial access to the facility to use and the allocation of time or identifying how the facility will incorporate programs. Each of these issues will need to be discussed so a clear idea of financial and operational issues are understood and agreed upon among the partners before the facility is ready to open.

Typically, before any successful partnership is undertaken, these three critical considerations must be addressed.

1. There is a Common Vision: a compelling picture of the possibilities must be shared by all. This does not mean that everyone necessarily needs to have the same goals, but all partners must be able to achieve their goals within the “big picture” of the project.
2. Impact of the New Relationship: adding real value to the agencies involved. If the involved agencies see the partnership creating the ability to improve productivity, efficiency, and profitability while achieving the desired goals, then the desired impact is mutual and the partnership is one step closer to achieving the desired goals.
3. Knowing through Intimacy: Intimacy (closeness, sharing, and trust) is never achieved easily or quickly. To achieve intimacy, there must be no hidden agendas; the ideas of all potential partners regarding the goals of the project must be out in the open. There must be similar interest but separate expertise regarding the project, which is to say that each partner should “bring something to the table.”

Capital Markets Financing

The final five methods of financing all involve the capital markets. General Obligation Bonds and Revenue Bonds are issued directly by the city. A third-party owner, set up expressly for this

purpose, and using the tax-exempt issuing authority of the city, issues Certificates of Participation and Lease Revenue Bonds. The city would simply be leasing the aquatic center from this entity.

The suitability, structure, requirements, costs, advantages, and disadvantages of each are quite different. The remainder of this section summarizes some of these features.

Local Discretionary Sales Surtax

Issuance Requirements

If General Obligation Bonds become a part of the financing package, the issuer must accomplish all of the following:

1. Internal approvals: The city has an internal approval process before implementing the discretionary sales tax. The proposed sales tax must be endorsed by the city council.

General Obligation Bonds

In selling General Obligation Bonds (also known as Council Manic Bonds), a municipality obligates itself to levy and collect sufficient property taxes without limit as to the rate or the amount in order to pay principal and interest as it comes due. Using General Obligation Bonds (GOBs) is a way to finance capital improvement projects (such as parks, facilities and streetscapes) by taking out bonds with very low interest rates.

Tax Status to Investors

Income from General Obligation Bonds generally is exempt (to the investor) from federal income taxes.

Issuance Requirements

Should General Obligation Bonds become a part of the financing package, the issuer must accomplish all of the following:

1. Internal approvals: The city has an internal approval process before any bond issue can proceed. The proposed bond must be endorsed by the council. General Obligation Bonds could be used if approved by the voters.
2. Voter approval: A General Obligation issue must go before the voters, and must secure the approval of a majority of the voters.
3. Compliance with indebtedness limits: The city faces indebtedness limits based on the aggregate property value in the tax bases.

Certificate of Obligation

In selling Certificate of Obligation Bonds, the debt instrument is secured by the revenue from the proposed facilities, and the municipality obligates itself to levy and collect sufficient property taxes, without limit as to the rate or the amount, to pay principal and interest as it comes due.

Tax Status to Investors

Income from Certificate of Obligation Bonds is generally exempt (to the investor) from federal income taxes.

Issuance Requirements

Should Certificate of Obligation Bonds become a part of the financing package, the issuer must accomplish all of the following:

1. Internal approvals: The city has an internal approval process before any bond issue can proceed. The proposed bond must be endorsed by the city council.
2. Compliance with indebtedness limits: The city faces indebtedness limits based on the aggregate property value in the tax bases.

Revenue Bonds

Revenue Bonds are to be repaid out of the revenues generated by the operation of the aquatic center. The risk that the center's revenues will prove insufficient to cover interest and principal payments on the bonds is borne by the investor. The facility's revenue (in excess of debt service requirements) is retained by the city. It is possible that the facility will not generate sufficient revenue to cover all of its debt service obligations. A revenue bond may be appropriate for use if an entity were to underwrite the operating cost of operating the community aquatic center and thereby release the revenue stream to secure revenue bonds.

Tax Status to Investors

Like General Obligation Bond interest, income from Revenue Bonds generally is exempt (to the investor) from federal income taxes.

Issuance Requirements

The requirements to issue Revenue Bonds are slightly less restrictive than General Obligations. In this case, the city must accomplish all of the following:

1. Internal approvals: The city has an internal approval process before a bond issue can proceed. The proposed bond must be endorsed by the city council.
2. Compliance with indebtedness limits: The city faces indebtedness limits based upon the aggregate property value in their tax bases.

Certificates of Participation (Municipal Lease)

A Certificate of Participation (COP) is not a debt issue per se. Instead, the investor purchases a proportional share of lease income that the issuer expects to receive over the life of the COP. It also differs from the bond financing options previously discussed in that the issuer is not the city, but rather an independent entity created specifically for this purpose. This entity sells the COPs, uses the proceeds to develop the community aquatic center and then leases the completed center to the city. It secures the means to pay the COP's holders from the rental income it receives from the city.

In general, a COP must have sufficient revenue generated by the facility to pay for debt service. It is unlikely that the aquatic recommendations developed will generate enough positive cash flow after operations to meet this requirement. By pledging gross revenues to support the COP, this structure may be worth considering. Under this scenario, operating expenses would be paid by another source, possibly a corporate sponsor.

Third-Party Lessor

The aquatic center would be constructed and owned (initially, at least) by a third-party entity, who would function as the lessor in this deal. In general, there are three possible kinds of entities for this purpose:

- Private sector entity; for example, a leasing company or a private investment group;
- Constituted authority; for example, a Joint Powers Authority established by the city for this purpose; or,
- A not-for-profit corporation.

City as Lessee

The city would be the lessee of the aquatic center, making periodic lease payments to the owner of the facilities. The respective share of the lease payments to be made by each would be a negotiated amount, based on upcoming contributions, ongoing usage, and other factors.

Kinds of Municipal Leases

There are two kinds of leases that may be structured:

- 1) Operating Lease: The payments from the city are made for just the use of the center.
- 2) Financing Lease: The payments made by the city provide for both the use of the center and an accruing ownership in the facilities. Thus, a financing lease functions as a purchase-over-time arrangement for the city.

Impact on Indebtedness

Ordinarily, the lease obligations incurred by the municipality are not treated as debt. Consequently, entering into a municipal lease ordinarily is not subject to voter approval or debt limitation provisions.

Financing Cost

Ordinarily, the cost of municipal lease financing may range from twenty to fifty basis points above comparable financing through General Obligation Bonds. The reason for the higher rate is that the lessor is at risk throughout the life of the lease that the city will decline, for any reason, to appropriate the funds to make their periodic lease payments. There is no comparable risk in a General Obligation Bond.

Lease Revenue Bonds (Municipal Lease)

In most respects, Lease Revenue Bonds function like Certificates of Participation (the option previously discussed). The essential difference between these two is the legal nature of the financing instruments being sold by the independent entity (the lessor). A Lease Revenue Bond is an obligation of the issuing authority, whereas the Certificate of Participation provides merely for the flow-through of that authority's rental income from the city to the COP's holders.

Impact on Indebtedness

Ordinarily, the lease obligations incurred by the municipality are not treated as debt. Consequently, entering into a municipal lease ordinarily is not subject to voter approval or debt limitation provisions.

Financing Cost

The cost of Lease Revenue Bonds may be slightly less than the cost of Certificates of Participation, because the only security behind the Certificates of Participation is the pass-through of the rental income from the city.

Appendix A: General Limiting Conditions

This study is based on information that was current as of 2016. Every reasonable effort has been made in order that the data reflects the most timely and current information possible and is believed to be reliable. This study is based on estimates, assumptions, and other information developed by the consultant from independent research.

No warranty or representation is made by the consultant that any of the projected values or results contained in this study will actually be achieved. No responsibility is assumed for inaccuracies in reporting by the client, its agents, and representatives or any other data source used in preparing or presenting this study.

This entire report is qualified and should be considered in light of the above conditions and limitations.