



Date: July 24, 2014
To: Honorable Mayor and Members of the City Council
From: Patrick H. West, City Manager
Subject: Belmont Beach & Aquatics Center Project Update

Background

On June 17, 2014, as part of the presentation on the Belmont Beach and Aquatics Center (BBAC), the Mayor and City Council requested the following information:

1. An analysis of the cost of the proposed BBAC and how it compares to other facilities that have been built across the nation.
2. Cost detail on the various components of the proposed facility.

This memo provides a summary of those two requests, and attached to this memo is a copy of the Cost Comparison Study, the Conceptual Design Statement of Probable Cost, detailed description of comparable facilities, and a list of aquatics facilities the design team has completed.

Cost Comparison Study

The BBAC stands out as a unique facility in terms of its characteristics and aquatic programmatic components. Its indoor and outdoor pools, size resulting from programmatic requirements, requirement for unique architecture and sustainability, extremely difficult site characteristics and seismic requirements, as well as substantial community and entitlement driven project requirements, make the BBAC virtually a one-of-a-kind aquatics project. BBAC's uniqueness make comparisons to other aquatic facilities somewhat challenging.

The City's design team selected eight other pool facilities for comparison purposes. In order to generate comparable numbers that reflect the uniqueness of each of these facilities, yet allow meaningful comparisons, the cost comparison analysis included overall construction costs, as well as separated costs for aquatic construction (indoor or outdoor pools) and site improvements. The analysis also adjusts all compared facility costs by regional factors (labor costs, materials and supplies costs, etc.) as well as by actual and estimated escalation factors addressing inflation. The purpose of the analysis is to convert actual costs of comparable facilities to values that reflect how much these facilities would cost if constructed in the Southern California market, at the project site and at the same time that the Belmont Pool will be constructed.

The summary chart on the next page indicates that, of the nine different projects compared, the BBAC ranks fourth of nine projects in terms of building cost per square foot after adjusting for the regional, time and other factors mentioned

above. It is important to note that the City's design team is very familiar with each of these projects, and a team member on our current design team has worked on all eight of the listed projects, as well as numerous other projects as demonstrated in the attachment.

FACILITY	GROSS SQUARE FOOTAGE	SPECTATOR SEATING CAPACITY	OVERALL CONSTRUCTION COST	BID DATE	ADJUSTED OVERALL CONSTRUCTION COST	ADJUSTED BUILDING ONLY COST/SF	RANK BY SQUARE FOOTAGE
Aquatics Center Ithaca College	130,000	950	\$55,000,000	2011	\$78,732,925	\$572.60	1
Aquatic Center Ensworth HS	50,000	275	\$19,000,000	2012	\$29,310,742	\$512.17	2
Recreation Center University of No. Arizona	120,000	400	\$47,500,000	2015	\$64,189,189	\$496.62	3
Belmont Beach Aquatic Center Long Beach	93,685	2,500	\$70,200,000	2015	\$70,200,000	\$489.30	4
Intl' Swimming Hall of Fame Ft. Lauderdale	55,000	3,000	\$32,000,000	2016	\$44,341,801	\$478.19	5
Aquatics Center Green River	31,300	250	\$12,500,000	2014	\$18,648,276	\$476.63	6
Aquatics Addition Denison University	79,000	726	\$27,130,496	2010	\$40,933,804	\$465.63	7
CrossPlex Birmingham	90,000	1,100	\$28,000,000	2011	\$44,949,015	\$463.76	8
Aquatic Center SE Missouri State	30,068	150	\$8,181,500	2008	\$12,691,172	\$331.80	9

Conceptual Design Statement of Probable Cost

The second item requested was the individual breakdown of costs associated with the current design of the project. The summary below shows the broad categories of cost, and the full cost detail is attached.

Total Estimated Construction (Hard) Cost	\$70,200,000
Construction Contingency (10%)	7,020,000
Design	10,250,000
Construction Management	11,100,000
Environmental / Misc. Fees	430,000
Total Estimated Project Costs	\$99,000,000

July 24, 2014

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For additional information, please contact Tom Modica, Deputy City Manager, at (562) 570-5091.

Attachments

cc: Charles Parkin, City Attorney
Suzanne Frick, Assistant City Manager
Reginald Harrison, Deputy City Manager
Tom Modica, Deputy City Manager
George Chapjian, Director of Parks, Recreation and Marine
Amy Bodek, Director of Development Services
Jyl Marden, Assistant to the City Manager

BELMONT BEACH AND AQUATIC CENTER

City of Long Beach, California

Aquatic Facility Cost Comparison

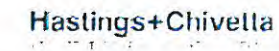
CURRENT DATE: July 18, 2014

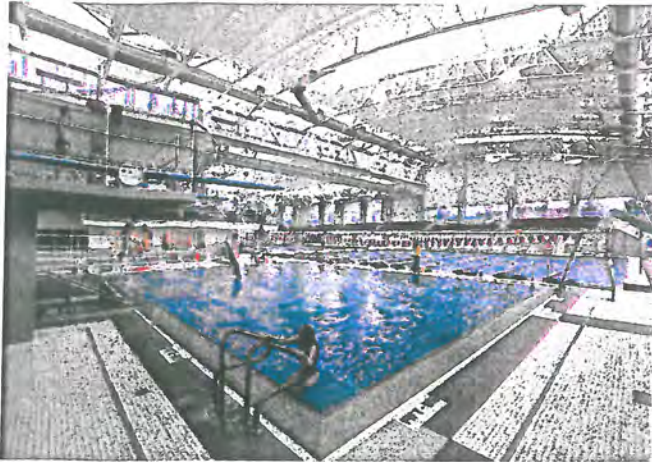
Method for deriving index: Long Beach, CA = 1.2

Bid Region Index

1.2

	A	B	C	D	E	F	G	H	I			L	M	N	O	P	Q	R	
	GSF	SPECTATOR SEATING CAPACITY	OVERALL CONSTRUCTION COST	INDOOR POOL CONSTRUCTION COST	OUTDOOR POOL CONSTRUCTION COST	SITE IMPROVEMENTS, SPECIAL EARTHWORK and SPECIAL FOUND.	BUILDING ONLY CONSTRUCTION COST	BUILDING ONLY COST/SF	NATIONAL AVERAGE ADJUSTMENTS			OVERALL CONSTRUCTION COST	INDOOR POOL CONSTRUCTION COST	OUTDOOR POOL CONSTRUCTION COST	SITE IMPROVEMENTS, SPECIAL EARTHWORK and SPECIAL FOUND.	BUILDING ONLY CONSTRUCTION TOTAL	BUILDING ONLY COST/SF		NOTES
RAW CONSTRUCTION COSTS									ADJUSTED CONSTRUCTION COSTS										
Recreation Projects with Natatoriums	Total Area								Location Factors from RS Means	Bid Date	Nat'l Avg Adjusted to Dec 2015					Nat'l Avg Adjusted to Bid Region	Nat'l Avg Adjusted to Bid Region		
Belmont Beach And Aquatic Center Long Beach	93,685	2,500	\$70,200,000	\$4,626,000	\$4,734,000	\$15,000,000	\$45,840,000	\$489.30	NA	2015	NA	\$70,200,000	\$4,626,000	\$4,734,000	\$15,000,000	\$45,840,000.00	\$489.30		
Aquatics Addition Denison University	79,000	726	\$27,130,496	\$2,750,000	\$0	\$0	\$24,380,496	\$308.61	Granville 0.94	2010	1.182	\$40,933,804	\$4,149,130	\$0	\$0	\$36,784,674	\$465.63		
Aquatics Center Green River	31,300	250	\$12,500,000	\$2,500,000	\$0	\$0	\$10,000,000	\$319.49	Salt Lake City 0.87	2014	1.082	\$18,648,276	\$3,729,655	\$0	\$0	\$14,918,621	\$476.63		
Aquatic Center Ithaca College	130,000	950	\$55,000,000	\$3,000,000	\$0	\$0	\$52,000,000	\$400.00	Syracuse 0.98	2011	1.168	\$78,732,925	\$4,294,523	\$0	\$0	\$74,438,402	\$572.60		
CrossPlex Birmingham	90,000	1,100	\$28,000,000	\$2,000,000	\$0	\$0	\$26,000,000	\$288.89	Birmingham 0.87	2011	1.168	\$44,949,015	\$3,210,644	\$0	\$0	\$41,738,371	\$463.76		
Aquatic Center Ensworth HS	50,000	275	\$19,000,000	\$2,400,000	\$0	\$0	\$16,600,000	\$332.00	Nashville 0.88	2012	1.125	\$29,310,742	\$3,702,410	\$0	\$0	\$25,608,332	\$512.17		
Aquatic Center SE Missouri State	30,068	150	\$8,181,500	\$1,750,000	\$0	\$0	\$6,431,500	\$213.90	Cape Girardeau 0.93	2008	1.202	\$12,691,172	\$2,714,606	\$0	\$0	\$9,976,566	\$331.80		
Intl' Swimming Hall of Fame Ft. Lauderdale	55,000	3,000	\$32,000,000	\$0	\$6,020,000	\$7,000,000	\$18,980,000	\$345.09	Ft. Lauderdale 0.87	2016	1.000	\$44,341,801	\$0	\$8,341,801	\$9,699,769	\$26,300,231	\$478.19		
Recreation Center University of No. Arizona	120,000	400	\$47,500,000	\$3,400,000	\$0	\$0	\$44,100,000	\$367.50	Flagstaff 0.89	2015	1.000	\$64,189,189	\$4,594,595	\$0	\$0	\$59,594,595	\$496.62		





PROJECT DESCRIPTION

YEAR BUILT:

2012

TOTAL CONSTRUCTION COST:

\$27.1M

TYPE OF FACILITY:

This project involved a renovation of physical education, training, athletics recreation and locker room facilities in four interconnected buildings as well as an addition housing a new 50 meter pool and dive tank. The new addition also included athletic locker rooms, spectator seating on a mezzanine level and a multi-purpose meeting space. The facility will be used by the university for athletic and recreation use as well as by the community.

POOLS:

12,600 sq. ft. Competition / Recreation Pool

- 9 lane, 50 meter x 25 yard indoor pool
- One fiberglass moveable bulkhead to accommodate multiple racing configurations
- The 50 meter pool contains a moveable floor

2,080 sq. ft. Dive Tank

- (2) one meter dive boards and (2) three meter dive boards
- 5 lap lanes striped for ancillary use

182 sq. ft. Spa

- Spa provided for diver warm up

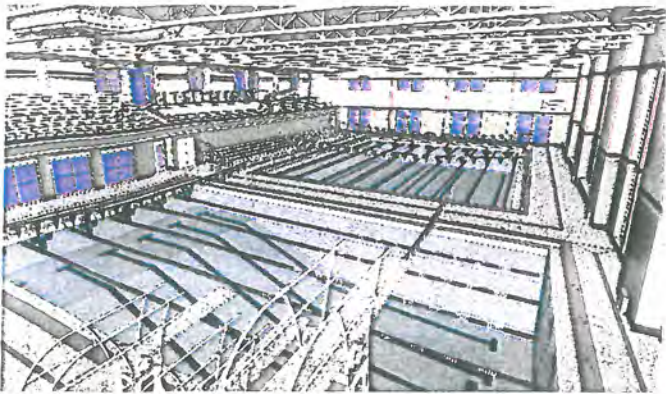
SPECTATOR SEATING:

726 seats- maximum standing room only capacity of 1,000 spectators



COMPARABLE FACILITY

Green River Aquatics Center, GREEN RIVER, WYOMING



PROJECT DESCRIPTION

YEAR BUILT:

2014

TOTAL CONSTRUCTION COST:

\$12.5 M

TYPE OF FACILITY:

This project was mainly a new addition housing the pools with limited renovation of existing spaces. The school district funded the project primarily for scholastic use but the new facility will have limited community use programmed as well.

POOLS:

5,240 sq. ft. Lap Pool

- 8 lane 25 yard recreation and competition pool

3,470 sq. ft. Dive Tank / Lap Pool

- 6 lane 25 yard pool that serves as a separate dive tank
- (2) one meter boards and (1) three meter board are provided

865 sq. ft. Therapy Pool

- Separate therapy pool closed off in its own room for multifunction use

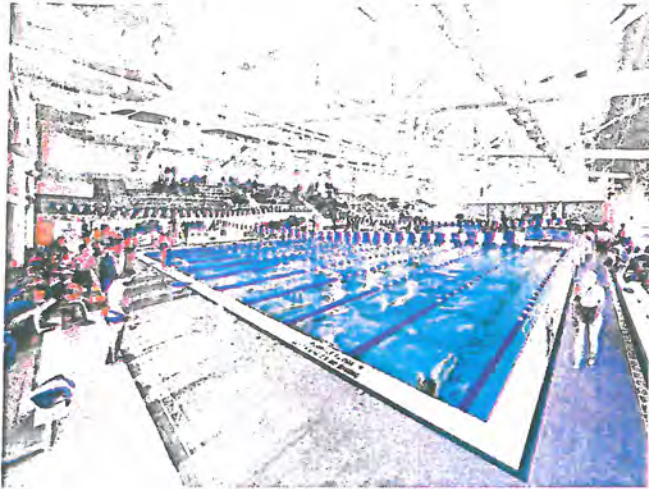
SPECTATOR SEATING:

250



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PROJECT DESCRIPTION

YEAR BUILT:
2011

TOTAL CONSTRUCTION COST:
\$55M

TYPE OF FACILITY:

The Athletics and Events complex on the campus of Ithaca College directly benefits the student body athletics and intramural sports programs. At the heart of the Athletic and Event complex is a 130,000 sq. ft. field house that includes an arena, and a track-and-field center that will double as a practice facility for numerous sports. The field house also offers training areas, an outdoor plaza, a press box, a VIP room, athletic department offices and locker rooms. The complex also includes a six-court outdoor tennis facility and a 47,000 sq. ft. aquatics pavilion

POOLS:

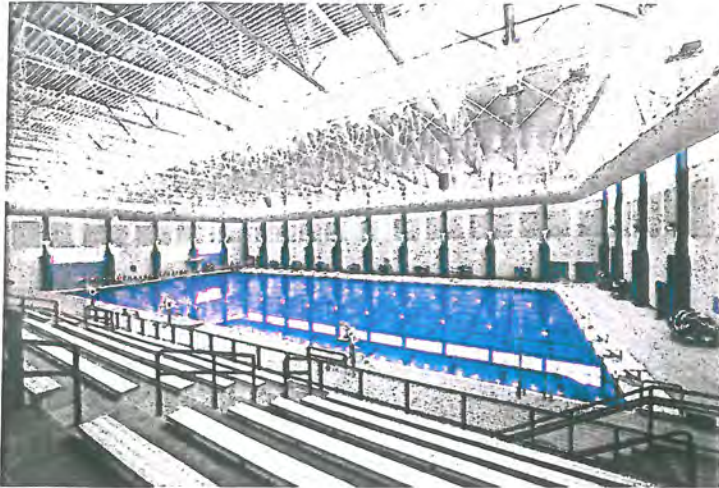
- 13,000 sq. ft. nine lane 50-meter pool and twenty-one 25-yard cross course lanes separated by two moveable bulkheads
- Two 1-meter and two 3-meter springboard diving boards which includes a Sparger air bubbling system for diving training
- A 30 ft. by 75 ft. moveable floor system to enable shallow water swimming and deep water competitive swimming and water polo
- Rowing stations down the length of pool
- 200 sq. ft. whirlpool spa

SPECTATOR SEATING:
950



COMPARABLE FACILITY

Birmingham CrossPlex, Birmingham, Alabama



PROJECT DESCRIPTION

YEAR BUILT:

2011

TOTAL CONSTRUCTION COST:

\$46M

TYPE OF FACILITY:

Birmingham CrossPlex is a world-class facility designed for three primary sports: indoor track and field, volleyball, and competitive swimming and diving. Located just two miles from the Birmingham-Southern College campus, the Birmingham CrossPlex is proud to begin hosting events that will attract athletes, coaches, and spectators from all over the world.

The state-of-the-art natatorium provides the ability to hold 1100 spectators in the stands and 500 athletes/coaches on the deck. The facility features a 50-meter competition pool with bulkhead, which not only accommodates multiple racing and training configurations, but also features a flow-through design which minimizes waves rebounding on turns.

POOLS:

12,600 sq. ft. Competition Pool

- Ten 50-meter lanes
- Twenty 25-yard lanes
- Fiberglass moveable bulkhead to accommodate multiple racing and training configurations
- Two 1-meter and two 3-meter springboards
- Generous decks all around the pool
- Regenerative media water filtration
- Ultraviolet water treatment system
- Extra-deep concrete/tile gutter system
- Water polo

SPECTATOR SEATING:

1100

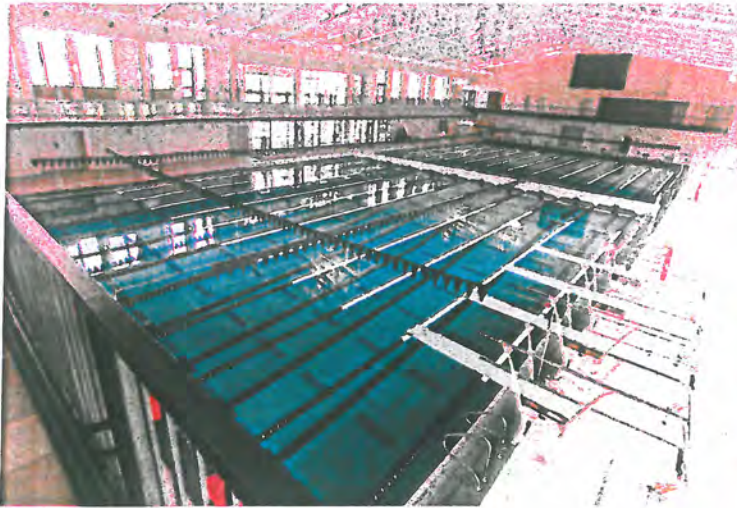


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COMPARABLE FACILITY

Ensworth High School, Nashville, Tennessee



PROJECT DESCRIPTION

YEAR BUILT:

2012

TOTAL CONSTRUCTION COST:

\$19M

TYPE OF FACILITY:

The Ensworth High School constructed a new aquatic center with an adjacent track & field stadium. The building shares bathroom and locker room facilities between the wet and dry sports. The aquatics components are mainly used for training, fitness, wellness and competitions.

POOLS:

12,400 sq. ft. Competition Pool

- Ten lane 50-meter by 25-yards lanes
- Four 1-meter diving boards
- Two fiberglass moveable bulkheads to accommodate multiple racing and training configurations

860 sq. ft. Teaching Pool

- Full-length staircase
- Color-changing LED lights

SPECTATOR SEATING:

275



Councilman Hunsaker

Hastings+Chivetta



HARLEY ELLIS DEVEREAUX

COMPARABLE FACILITY

Southeast Missouri State Aquatics Center, Cape Girardeau, MO,



PROJECT DESCRIPTION

YEAR BUILT:

2010

TOTAL CONSTRUCTION COST:

\$8.1 M

TYPE OF FACILITY:

This project was mainly a new addition housing the pools with limited renovation of existing spaces. The University planned this facility for mostly student use with limited community use. The North side of the pool deck provides an open area for tip and roll bleachers that can accommodate 150 spectators.

POOLS:

3,520 sq. ft. Lap Pool

- 6 lane 25 yard recreation and competition pool

3,990 sq. ft. Recreation Pool

- Climbing wall and zip line are main recreational features
- Underwater benches and volleyball nets are provided

185 sq. ft. Whirlpool

- Underwater bench for seating to accommodate 15 to 20 people

SPECTATOR SEATING:

150



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COMPARABLE FACILITY

Fort Lauderdale Aquatic Complex, Fort Lauderdale, Florida



PROJECT DESCRIPTION

YEAR BUILT:

Estimated Completion Date: 2016

TOTAL CONSTRUCTION COST:

\$32M

TYPE OF FACILITY:

The Fort Lauderdale Aquatic Complex is a municipal facility that will be replacing/renovating the existing International Hall of Fame Pool. The facility has been designed and due to funding issues, the project has been placed on indefinite hold and currently under redesign. The plans call for building new Olympic-size pools, a dive well, swimming museum and restaurant along with state-of-the-art artificial surf machines. The new facility will be ideal for hosting short-course competition swimming, platform and springboard diving, in addition to, water polo and synchronized swimming events.

POOLS:

14,300 sq. ft. Competition Pool

- Ten 50-meter lap lanes
- Two bulkheads
- Spectator seating for 500 patrons
- Stainless steel Myrtha pool system

6,200 sq. ft. Dive Pool

- Eight 25-meter lap lanes
- Two stair entries
- 10-meter diving platform
- Three 3-meter springboards
- Two 1-meter springboards
- Spectator seating for 500 patrons



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COMPARABLE FACILITY

Fort Lauderdale Aquatic Complex, Fort Lauderdale, Florida

- Stainless steel Myrtha pool system

12,325 sq. ft. Existing Training Pool (renovation of the existing pool)

- Nine 50-meter lap lanes
- Moveable floor
- Spectator seating for 2,000 patrons
- Stainless steel Myrtha RenovAction system

800 sq. ft. Learn-to-Swim Pool

- Stair entry
- Stainless steel Myrtha pool system

120 sq. ft. Acclimation Spa

- Stair entry

SPECTATOR SEATING:

3000

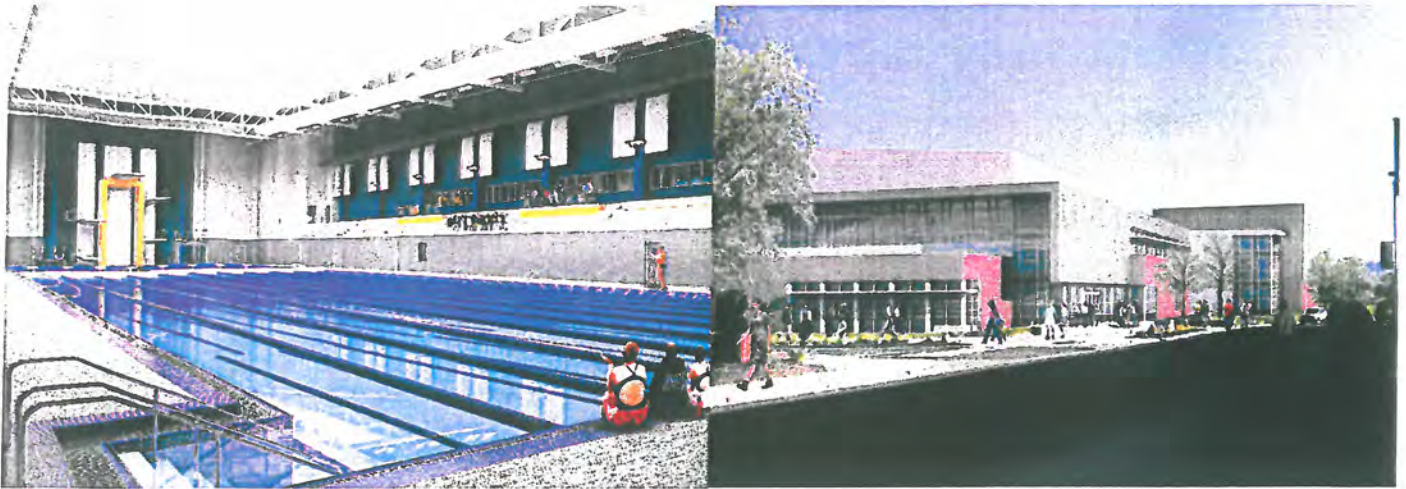


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COMPARABLE FACILITY

Northern Arizona University, Flagstaff, Arizona



PROJECT DESCRIPTION

YEAR BUILT:

Estimated Completion Date: 2015

TOTAL CONSTRUCTION COST:

\$47.5M

TYPE OF FACILITY:

Northern Arizona University is currently under construction with a new Aquatic Tennis Center. The building will be an independent building from the existing Wall Aquatic Center. Once this facility is completely built, the old Wall Aquatic Center will be torn down and on that site, six outdoor tennis courts will be built. The new facility will also have viewing areas where people can watch swim competitions from a second floor area.

POOLS:

13,000 sq. ft. Competition Pool

- Large enough to host 25-yard, 25-meter, and 50-meter competition
- Two bulkheads

4,400 sq. ft Dive Pool

- 25-yards long and 17 ft. deep
- 1 and 3-meter springboards
- 10-meter platform
- Sparger system for soft water landings

SPECTATOR SEATING:

400



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LIST OF AQUATIC FACILITIES COMPLETED BY THE DESIGN TEAM

July 2014

HARLEY ELLIS DEVEREAUX

City of Huntington Woods Community Center and Recreational Facility
de Mandel Pool, Occidental College
University of North Carolina Aquatic Center
Oaks Christian High School
Penn State University Sommer Aquatic Center

HASTINGS & CHIVETTA

Adrian College, Merillat Recreation Center
Alfred University, Athletic & Recreation Master Plan
Allegheny College, David D. Wise Sports & Fitness Center
Arkansas State University, Recreation Center
Augustana College, Elmen HPER Center
Berea College, Seabury Convocation & Rec Center
Bellermine University, Fitness Center Study
Berry College, The Cage Center
Bowling Green State University, Recreation Expansion Study
Bradley University, Student Recreation Center
Cameron University, HPER Center
Carson-Newman College, Maddox Student Activities Center
Carleton College, Recreation Center
Carthage College, Tarble Athletic & Recreation Center
Case Western State University, Veale Convocation & Rec Center
Chatham University, Athletic & Fitness Center
Chiminade School, Veale Convocation & Rec Center
City of Arnold, Community Recreation Center
City of Bellefontaine Neighbors, Community Recreation Center
City of Bridgeton, Community Recreation Center
City of Centralia, Community Recreation Center
City of Crestwood, Community Recreation Center
City of Cheaspeake, Community Recreation Feasibility Study
City of Eureka, Community Recreation Center
City of Des Peres, Community Recreation Center
City of Farmington, Community Recreation Center
City of Ferguson, Community Recreation Center
City of Florissant, Community Recreation Center
City of Fort Collins, Community Recreation Center
City of Granite City, Community Recreation Center
City of Hickory Hills, Community Recreation Feasibility Study
City of Jackson, Community Recreation Feasibility Study
City of Liberty, Community Recreation Center
City of McMinnville, Community Recreation Feasibility Study
City of Mission, Community Recreation Center

City of Morristown, Community Recreation Feasibility Study
City of Mount Vernon, Community Recreation Feasibility Study
City of Peoria - Peoria Park District, RiverPlex
City of Rapid City, Community Recreation Feasibility Study
City of Richmond Heights, Community Recreation Center
City of Shakerheights, Community Recreation Feasibility Study
City of Shrewsbury, Community Recreation Center
City of Sierra Nevada, Aquatics center Study
City of St. Charles / ShowMe Aquatics, Community Recreation Feasibility Study
City of St. Peters, Community Recreation Center
City of Sunset Hills, Community Recreation Center
City of Thornton, Community Recreation Center
City of Virginia Beach, Bow Creek Community Center
City of West Chester, Community Recreation Feasibility Study
Clemson University, Aquatics Study
College of Saint Benedict, Campus Center Master Plan
College of William and Mary, Recreation Center Addition/Renovation
College of Wooster, Athletic Facility Aquatics Study
Colorado State University, Student Recreation Center Addition
Columbus State University, Lumkin Center
Darlington School, The, Athletic Center Addition & Renovation
Denison University, Athletic and Recreation Center
Depauw University, Lilly Center Addition & Expansion
Doane College , Athletic Master Plan
Drew University, Athletic & Recreation Center
Duke University, Brodie Recreation Center
Earlham College, Athletics & Wellness Center
East Carolina University, Student Recreation Center
Edwardsville School District, Natatorium Conceptual Design Report
Fenwick High School, Fieldhouse Addition
Ferguson-Florissant School District, McCluer South-New Berkeley High
Garrett College, Student Recreation Center
George Washington University, Recreation Center Study
Georgia Institute of Technology, Campus Recreation Center
Georgia Southern University, Recreation Activity Center
Georgia State University, Student Recreation Center
Green River High School, Natatorium Addition
Gustavus Adolphus College, Lund Sports & Recreation Center
Gustavus Adolphus College, Lund Sports & Recreation Center Expansion
Hanover College, Athletic & Recreation Center
Illinois College, Bruner Fitness & Recreation Center
Indiana State University, Student Recreation Center
James Madison University, Student Recreation Expansion
John Carroll University, Athletic & recreation Center Expansion
Kent State University, Student Rec & Wellness Center
Lawrenceville School, Athletic Facility Master Plan
Luther College, Sports Center
Loyola University, Recreation Center

Macalester College, Leonard Center
Marshall University, Student Recreation center
MICDS, Natatorium Conceptual Design Report
McKendree University, New Athletic & Fitness Center Study
Missouri State University, Student Recreation Expansion
Monmouth College, Huff Athletic Center
Morehead State University, Recreation Center
North Carolina State University, Recreation master Plan
Mount Union College, Athletic & Recreation Center
Nebraska Wesleyan University, Weary Center for Fitness & Health
Oberlin College, Phillips Center Fitness Addition
Occidental College, Athletic and Recreation Center
Ohio State University, The Larkins Hall Programming and Studies
Old Dominion University, Recreation Center
City of Oneid, Aquatic Center Study
Quincy University, Student Health & Fitness Center
Roanoke College, Athletic Facility Master Plan
Saint Louis University, Simon Recreation Center
Salvation Army, Kroc
Sewanee: University of the South, Fowler Center
Slippery Rock University, Recreation Center Study
Southeast Missouri State University, Aquatics Center
Southern Illinois University Carbondale, Recreation Center Master Plan
Southwestern University, Robertson Student Activities Center
St. Louis County, North County
St. Louis County, North County Renovation
St. Norbert College, Athletic Master Plan
St. Mary's University, Alumni Athletics & Convocation Center
SUNY – Cortland, Recreation Center
Texas Woman's University, Movement Science Complex
Tri-Township Park District, Recreation Feasibility Study
Trinity University, Bell Sports & Recreation Center
Truman University, Pershing Building Addition & Renovation
University of Central Florida, Recreation and Wellness Center
University of Dayton, RecPlex
University of Mary Hardin-Baylor, Mayborn Campus Center
University of Memphis, Recreation master Plan
University of Missouri-Columbia, Student Recreation Complex
University of Nebraska Lincoln, Campus Recreation & Athletic Facility
University of Nevada, Las Vegas, Student Recreation & Wellness Center
University of North Carolina-Wilmington, Recreation and Wellness Center
University of St Thomas, Anderson Athletic & Recreation Center
University of South Florida, Recreation and Wellness Master Plan
University of Texas at Tyler, Health, Kinesiology & PE Building
University of Toledo, Student Recreation Center
University of Utah, Student Recreation Center
University of Wisconsin, Recreation Master Plan
Virginia Commonwealth University, Recreational Sports Facilities

Virginia Polytechnic University, Student Health & Fitness Center
Wabash College, The Allen Athletics Center
Wartburg College, Wartburg Waverly Wellness Center
Washington University, Recreation Facility Study
The Westminster Schools, Turner Gymnasium Addition & Renovation

COUNCILMAN HUNSAKER

Appalachian Rural Wellness Center
Asphalt Green Aquatic Center
Birmingham CrossPlex
Brown University
Carmody Recreation Center
Claude Moore Recreation Center
Clayton County Aquatic Center
Coast Guard Rescue Swimmer Training Facility
Colorado Mesa University
Colorado Springs Olympic Training Center
Denison University
Edmond Recreation Center
Ensworth High School
George Mason University – Manassas
Georgia Institute of Technology
Green River High School
Grinnell College
Holland Community Aquatic Center
Ithaca College
IUPUI
Keller ISD
Kenyon College
Lakeview RecPlex
Massachusetts Institute of Technology
Miami University
Oak Point Center
Pan Am and Parapan Am Aquatics Centre and Field House
Purdue University
Saanich Commonwealth Place
Southern Utah University
St. Mary's College
St. Peters Rec-Plex
Takoma Aquatic and Community Center
Texas A&M University - College Station
The Ohio State University
U.S. Army Corps of Engineers
U.S. Naval Academy - Lejeune Pool
University of Chicago-West Campus
University of Cincinnati
University of Denver

University of Georgia
University of Iowa
University of Limerick
University of Missouri – Columbia
University of Northern Arizona
University of Tennessee – Knoxville
University of West Florida
UNLV (McDermott Pool)



Building Value Through Expertise

**Belmont Pool
Revitalization Project**
Long Beach, California

Conceptual Design Statement of Probable Cost
July 21, 2014

Prepared for Harley Ellis Devereaux

Belmont Pool Executive Construction Cost Summary

Statement of Probable Cost

Cumming has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions.

This opinion of the probable cost of construction is made on the basis of the experience, qualifications, and best judgment of a professional consultant familiar with the construction industry. However, Cumming cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this or subsequent cost estimates.

Assumptions made in the Cost Estimate

- The site will be fully accessible during normal working hours.
- Aiming to achieve LEED Gold certification.
- Construction contract procurement method is Design-Bid-Build
- Union wage labor rate structure.
- This project will not be subject to DSA review and inspection.

Items Affecting the Cost Estimate

- Modifications to the scope of work included in this estimate.
- Bids delayed beyond the projected schedule.
- Restrictive technical specifications or excessive contract conditions.
- Any other non-competitive bid situations.
- Any specified item of equipment, material, or product that cannot be obtained from at least three (3) different sources.

Specific Exclusions

- A/E Fees, Specialty Consultants Fees
- Reimbursables
- Permits and Plan Check / Testing & Inspection Fees
- Utility Fees
- Project Management
- Construction Contingency
- Permanent dewatering system
- Extensive BIM Management

Direct Construction Cost	\$51,344,980
Indirect Construction Cost	\$18,030,985
Other Project Costs	
Furniture, Fixtures & Equipment	\$250,000
Security Equipment	\$125,000
Telecomm Equipment / Cable	\$150,000
Art and Graphics	\$350,000
Total Construction Cost	93,685 SF (\$750 / SF) \$70,250,964

Belmont Pool Building & Site Development Construction Cost Summary

<u>Specific Assumptions</u>	<u>74.0%</u>	<u>(\$548 / SF)</u>
CIP Underground Pool Structure	93,685	\$11,709,460
Type Ib Construction	93,685	\$9,379,608
LEED Gold Building	93,685	\$5,273,815
Driven Pile Foundation Systems	93,685	\$6,884,425
Design-Bid-Build Construction	93,685	\$7,666,625
Stainless steel ductwork	93,685	\$4,163,350
Efficient glass & window systems	230,000	\$6,267,697
Comprehensive construction waste management plan Enhanced commissioning		<u>Sub-Total Direct Costs: \$51,344,980</u>
Flat Roofing System is single ply	<u>26.0%</u>	<u>(\$192 / SF)</u>
Decorative Façade includes panelized and glass systems		
Extensive Daylighting		
Assumes construction start September 1, 2015		
18-month construction schedule		
Long Span space frame system over pool		
Low voltage scope of work is backbone only		
LED lighting systems		
Solar hot water collectors at cloud trellis roof structure excluded		
Trigeneration systems excluded, see mechanical		
Geothermal systems excluded		
Special AV systems, excluded		
		<u>Sub-Total Indirect Costs: \$18,030,985</u>
	<u>93,685 SF</u>	<u>\$741</u>
		<u>Total Construction Cost \$69,375,964</u>

Controls & Program Detail

<u>Building Controls</u>	<u>Unit</u>	<u>Ratio</u>
Basement Area	17,730 SF	18.93%
First Floor Area	54,959 SF	58.66%
Second Floor Area	20,996 SF	22.41%
Total Building Area	93,685 SF	
<u>Site Controls</u>		
Total Site Area	230,000 SF	
Hardscape	72,491 SF	31.52%
Landscape	87,521 SF	38.05%
<u>Program</u>		
Public Spaces	2,015 SF	2.15%
Aquatic Spaces	29,430 SF	31.41%
Restaurant	5,650 SF	6.03%
Aquatics Support	23,470 SF	25.05%
Multi-Purpose Room	4,335 SF	4.63%
Parks & Recreation Dept. Offices	1,575 SF	1.68%
Building Support	6,800 SF	7.26%
Building Circulation	20,410 SF	21.79%

Indirect Markups

General Conditions	7.00%
General Requirements	2.50%
Contractor's Bonds	1.00%
General Liability Insurance	0.70%
Contractor's OH&P	2.75%
Design Contingency	10.00%
Construction Contingency	Excluded


Construction Schedule

Start Date	September 1, 2015
End Date	June 15, 2017
Midpoint	July 23, 2016
Duration	22 Months

Total Compounded
 Escalation to Midpoint



Building Structure Construction Cost Detail

<u>Controls</u>	<u>Unit</u>					
Total Building Area	93,685 SF					
						
BRBs (Star-Seismic)						
<u>Foundations</u>						
Driven piles will most likely be precast concrete with corrosion protection measures, assume 75 EA at 60'-0" depth						
		Premium for vibration monitoring	4,500 VLF	\$150.00		\$675,000
		Shallow foundations, including pile caps	1 LS	\$100,000.00		\$100,000
			54,959 SF	\$5.00		\$274,795
<u>Plinth</u>						
Raised CIP concrete platform at the pool deck and first floor level, including a two-way structural slab 10-14" thick. Concrete columns over pile caps will raise the structure above the current grade. The pool shells will tie into the Plinth, but will be independently supported by their own structure and piles (Includes entire plinth)						
			86,865 SF	\$30.00		\$2,605,950
<u>Support / Hospitality Bar</u>						
With spectator seating on the roof, Framing will be structural steel with concrete on metal deck floors and roof. Special attention to protecting the structure will be required for the salt and chlorine environments. The seismic lateral system will be steel moment frames or buckling restrained braced frames (BRBF)						
			56,311 SF	\$45.00		\$2,533,995
<u>Restaurant</u>						
Framing will be structural steel with concrete on metal deck floors and roof. The seismic lateral system will be steel moment frames or buckling restrained braced frames (BRBF)						
			11,542 SF	\$60.00		\$692,520
<u>Natorium Enclosure</u>						
Steel framed structure over indoor pool						
			55,200 SF	\$50.00		\$2,760,000
<u>Perimeter Canopy</u>						
Canopy structure with columns and light weight shading system						
			51,680 SF	\$40.00		\$2,067,200
					(\$125 / SF)	\$11,709,460

Building Envelope Construction Cost Detail

<u>Controls</u>	<u>Unit</u>		<u>(\$34 / SF)</u>	
Total Building Area	93,685 SF			
Gross Wall Area	45,000 SF	Metal stud framed walls, insulated with gypsum sheathing	\$16.00	\$720,000
Sloped Roof Area	55,200 SF	Applied finishes - cement plaster	\$20.00	\$660,000
Flat Roof Area	21,000 SF	Curtain wall and storefront glazing systems	\$120.00	\$1,440,000
Walkable Roof Area	8,000 SF	Interior finishes to exterior walls	\$4.00	\$132,000
Total Roof Area	84,200 SF	Doors, frames and hardware (per leaf)	\$3,000.00	\$60,000
Exterior Doors	20 EA	Soffit finishes	No Work Anticipated	\$125,000
		Fascias's bands and trim	\$400.00	\$33,600
		Glass balustrade at outdoor banquet, 48" height	\$150.00	\$30,000
		Glass balustrade at outdoor seating grandstand, 18" height		
			<u>(\$6 / SF)</u>	
Roof Systems				
		Single Ply Roofing System	\$15.00	\$165,000
		Light weight roofing system including aluminum extrusions	\$80.00	\$4,416,000
		Tnemec finish to exposed steel cloud trellis	\$5.00	\$258,400
		Tnemec finish to exposed steel columns	\$35.00	\$57,750
		Specialty finish to structural subframe	\$5.00	\$276,000
		Roof paver system over Restaurant	\$20.00	\$116,500
		Miscellaneous caulking, sheetmetals, etc.	\$1.50	\$140,528
Waterproofing				
		Below grade waterproofing to sub-structure	\$5.00	\$100,000
		Waterproofing to roof pavers	\$7.00	\$40,775
		Waterproofing at plinth	\$7.00	\$608,055
			<u>(\$100 / SF)</u>	<u>\$9,379,608</u>

Building Interior Construction Cost Detail

<u>Controls</u>	<u>Unit</u>		<u>(\$15 / SF)</u>		
Total Building Area	93,685 SF				
Total seating	2,500 EA				
<u>Notes</u>					
- Interior finishes include floor, wall and ceiling costs.					
- Function equipment includes restroom specialties, code and directional signage, miscellaneous FLSA building elements, millwork, etc.					
- Premium finishes in Banquet room					
- Pool deck included in cost of finishes at aquatic spaces. Cost valued at \$15/SF.					
- Interior finishes at Aquatic spaces includes wall graphics / finish.					
- Interior finishes at Aquatic spaces excludes wall and ceiling finish at bubble.					
<u>Interior Partition Framing, Glazing & Doors</u>					
		Metal stud framing with gypsum board sheathing and batt insulation, typ	2,100 LF	\$350.00	\$735,000
		Metal stud framing with gypsum board sheathing and batt insulation, high at pool face	57 LF	\$1,125.00	\$64,125
		CMU partitions, typ	600 LF	\$600.00	\$360,000
		CMU partitions, low at indoor pool face	200 LF	\$400.00	\$80,000
		Doors, frames and hardware	50 EA	\$2,000.00	\$100,000
		Glazing (Storefronts, sidelights, etc.)	1,200 SF	\$85.00	\$102,000
<u>Interior Finishes</u>					
		Public Spaces	2,015 SF	\$40.00	\$80,600
		Aquatic Spaces (Pool deck, wall finishes)	29,430 SF	\$15.00	\$441,450
		Restaurant, shell only	5,650 SF		Shell Only
		Aquatics Support	23,470 SF	\$25.00	\$586,750
		Multi-Purpose Room	4,335 SF	\$20.00	\$86,700
		Parks & Recreation Dept. Offices	1,575 SF	\$16.00	\$25,200
		Building Support	6,800 SF	\$5.00	\$34,000
		Building Circulation	20,410 SF	\$15.00	\$306,150
<u>Function Equipment & Specialties</u>					
		Public Spaces	2,015 SF	\$15.00	\$30,225
		Aquatic Spaces, cost includes indoor seating	29,430 SF	\$30.00	\$882,900
		Restaurant, shell only	5,650 SF		Shell Only
		Aquatics Support, cost includes outdoor seating	23,470 SF	\$30.00	\$704,100
		Multi-Purpose Room	4,335 SF	\$35.00	\$151,725
		Parks & Recreation Dept. Offices	1,575 SF	\$30.00	\$47,250
		Building Support	6,800 SF	\$5.00	\$34,000
		Building Circulation	20,410 SF	\$4.00	\$81,640
<u>Vertical Circulation</u>					
		Elevators, 3-stop traction, assume 4000 lbs., including finishes	2 EA	\$120,000.00	\$240,000
		Stairs	4 FLT	\$25,000.00	\$100,000
				(\$56 / SF)	\$5,273,815

Outdoor & Indoor Pool Construction Cost Summary

Assumptions

Budgetary information based on preliminary feedback from Counsilman Hunsaker, dated March 21st, 2014.

Costs included cover the following scope of work:

- Swimming pool and spa structures - including reinforcing steel, concrete pool floor, and shotcrete walls, stairs, and gutter.
- Surge pit walls and floor. Surge pit soffit by others. Access hatch provided (installed by others). Surge pit ladder rungs provided and installed.
- Cementitious waterproofing for pool gutters and Surge pit.
- Swimming pool finish - including all finishes within pool and spa, all deck tile at pool and spa perimeter gutter, and all deck markings/signs at pool and spa perimeter
- Swimming pool and spa deck equipment - including safety equipment, maintenance equipment, competition equipment, pool handrails and fittings, access lifts, and anchors. Deck anchors will be set prior to deck pour.
- Swimming pool and spa mechanical equipment - including pumps, filtration systems, heaters, and chemical treatment equipment.
- Swimming pool and spa piping systems - including underground pool circulation piping and mechanical equipment piping. Excess spoils from trenching operations shall be stockpiled on site
- Swimming pool and spa underwater lighting - including light fixtures, junction boxes, and connection to Panel SP. Panel SP in elect. costs. Concrete junction box pedestals in elect. costs.
- Pool mechanical equipment control wiring and power to equipment from Panel SP.
- Power to pool and spa circulation pumps and motor starters in electrical costs.

Pool Construction

Outdoor Recreation Pool	3,741	SF	\$225.00	\$841,725
Outdoor 50x25 meter pool	15,086	SF	\$175.00	\$2,640,050
Indoor 50x25 meter pool	14,126	SF	\$175.00	\$2,472,050
Indoor Teaching Pool	1,223	SF	\$200.00	\$244,600
Indoor Spa Pool, 2x	372	SF	\$500.00	\$186,000
Indoor Dive tower structure	1	EA	\$500,000.00	\$500,000
			(\$207 / SF)	\$6,884,425

Mechanical Services Construction Cost Detail

<u>Controls</u>	<u>Unit</u>	<u>Plumbing</u>	<u>(\$22 / SF)</u>		
Total Building Area	93,685 SF				
		General plumbing equipment	93,685 SF	\$1.00	\$93,685
		Sanitary fixtures	93,685 SF	\$5.00	\$468,425
		Domestic CH/HW distribution	93,685 SF	\$4.00	\$374,740
		Waste / Vent destitution	93,685 SF	\$5.00	\$468,425
		Natural gas	93,685 SF	\$1.00	\$93,685
		Condensate drainage	93,685 SF	\$1.60	\$149,896
		Roof drainage	93,685 SF	\$1.25	\$117,106
		Kitchen shell rough-ins	5,500 SF	\$35.00	\$192,500
		General plumbing requirements	93,685 SF	\$1.50	\$140,528
		HVAC	(\$56 / SF)		
		Air side equipment (AHU, 40,000 CFM) - including supply air fans, return air fans, hot water heating coils, chilled water cooling coils, an air-to-air heat exchanger, filters and dampers, etc.	93,685 SF	\$20.00	\$1,873,700
		Air distribution - including stainless steel and galvanized ductwork, insulation wrap and liner, fire / smoke dampers, diffusers/grilles/louvers, return/exhaust air at pools, makeup air at locker and toilet rooms	93,685 SF	\$26.00	\$2,435,810
		Building Management System (DDC)	93,685 SF	\$8.00	\$749,480
		General HVAC requirements	93,685 SF	\$2.00	\$187,370
		Fire Suppression			
		Fully automatic wet pipe sprinklers, Schedule 10 or 40 black steel	64,255 SF	\$5.00	\$321,275
				(\$82 / SF)	\$7,666,625

Electrical Services Construction Cost Detail

<u>Controls</u>	<u>Unit</u>	<u>Electrical Service & Distribution</u>	<u>(\$10.8 / SF)</u>	
Total Building Area	93,685 SF	Normal power - Main switchboard, lighting panels, transformers, feeders, etc. Emergency power - One 50kW, three phase, with 20-year sealed lead-calcium indoor rated central inverter system	93,685 SF	\$5.00 \$468,425
<u>Notes</u>		Site distribution - Pad mounted transformer and 2000A, 480/277Volt main distribution switchboard, (2) 4" primary conduits with 30" minimum cover, two banks of four 4" secondary conduits encased in concrete, digital sub-metering Site telecommunications and security distribution	93,685 SF	\$3.00 \$281,055
LED Lighting infrastructure for future broadcast systems AV equipment excluded			750 LF	\$350.00 \$262,500
			750 LF	\$150.00 \$112,500
		<u>General Purpose Electrical Power</u>	<u>(\$4.2 / SF)</u>	
		HVAC equipment connections Convenience power to indoor pool area Convenience power to hospitality / support bar	63,962 SF 29,723 SF 63,962 SF	\$1.50 \$95,943 \$0.50 \$14,862 \$3.50 \$223,867
		<u>Lighting Fixtures, Conduit & Controls</u>	<u>(\$16.8 / SF)</u>	
		Public Spaces Aquatic Spaces Restaurant, shell only Aquatics Support Parks & Recreation Dept. Offices Multi-Purpose Room Building Support Building Circulation	2,015 SF 29,430 SF 5,650 SF 23,470 SF 4,335 SF 1,575 SF 6,800 SF 20,410 SF	\$30.00 \$60,450 \$28.00 \$824,040 \$1.00 \$5,650 \$15.00 \$352,050 \$12.00 \$52,020 \$20.00 \$31,500 \$6.00 \$40,800 \$10.00 \$204,100
		<u>Low voltage Systems</u>	<u>(\$9.4 / SF)</u>	
		Fire alarm, complete AV and Broadcast systems, backbone Telecommunications, backbone infrastructure Public Address, backbone infrastructure Security & Surveillance systems, backbone infrastructure Scoring/time clock/other systems	93,685 SF 93,685 SF 93,685 SF 93,685 SF 93,685 SF 93,685 SF	\$3.50 \$327,898 \$2.50 \$234,213 \$1.50 \$140,528 \$0.75 \$70,264 \$1.10 \$103,054 \$0.75 \$70,264
		<u>General Electrical Requirements</u>	93,685 SF	\$2.00 \$187,370
				(\$44 / SF) \$4,163,350

Site Development Construction Cost Detail

<u>Controls</u>	<u>Unit</u>				
Total Building Footprint	54,959 SF				
Site Area	230,000 SF				
Finished Site Area	175,041 SF				
Outdoor Pool Areas	18,827 SF				
<u>Site Preparation and Demolition Package (per Cumming estimate 6/13/14)</u>					
Site Prep & demo		1	LS	\$1,805,392.56	\$1,805,393
Temporary facilities		1	LS	\$309,588.00	\$309,588
Utilities		1	LS	\$217,559.90	\$217,560
Maintenance Building Remodel		1	LS	\$93,059.00	\$93,059
Demolition of existing temporary pool		15,000	SF	\$15.00	\$225,000
General improvements to parking and path of travel		1	LS	\$75,000.00	\$75,000
<u>Site Development</u>					
Hardscape					
Pool deck over plinth		20,937	SF	\$12.00	\$251,244
On-grade paving		36,144	SF	\$8.00	\$289,148
Elevated paving (topping slab) at main entrance		15,410	SF	\$9.00	\$138,690
Landscaping at 50% of finished area		87,521	SF	\$5.00	\$437,603
Site furnishings		175,041	SF	\$0.50	\$87,521
Site ramps - including retaining walls, CIP paving, etc.		7,767	SF	\$60.00	\$466,020
Site stairs		7,263	SF	\$50.00	\$363,150
Site lighting fixtures and distribution		175,041	SF	\$3.00	\$525,123
Perimeter fencing (TVD, Decorative Art Fence)		1	LS	\$250,000.00	\$250,000
Trash enclosure		100	SF	\$250.00	\$25,000
Beach Unisex Restroom		120	SF	\$900.00	\$108,000
Chemical Storage Room		300	SF	\$400.00	\$120,000
Glass guardrails		264	LF	\$400.00	\$105,600
<u>Wet / Dry Utilities</u>					
Storm		500	LF	\$300.00	\$150,000
Sanitary sewer		500	LF	\$200.00	\$100,000
Water		500	LF	\$150.00	\$75,000
Gas		500	LF	\$100.00	\$50,000
				(\$27 / SF)	\$6,267,697