

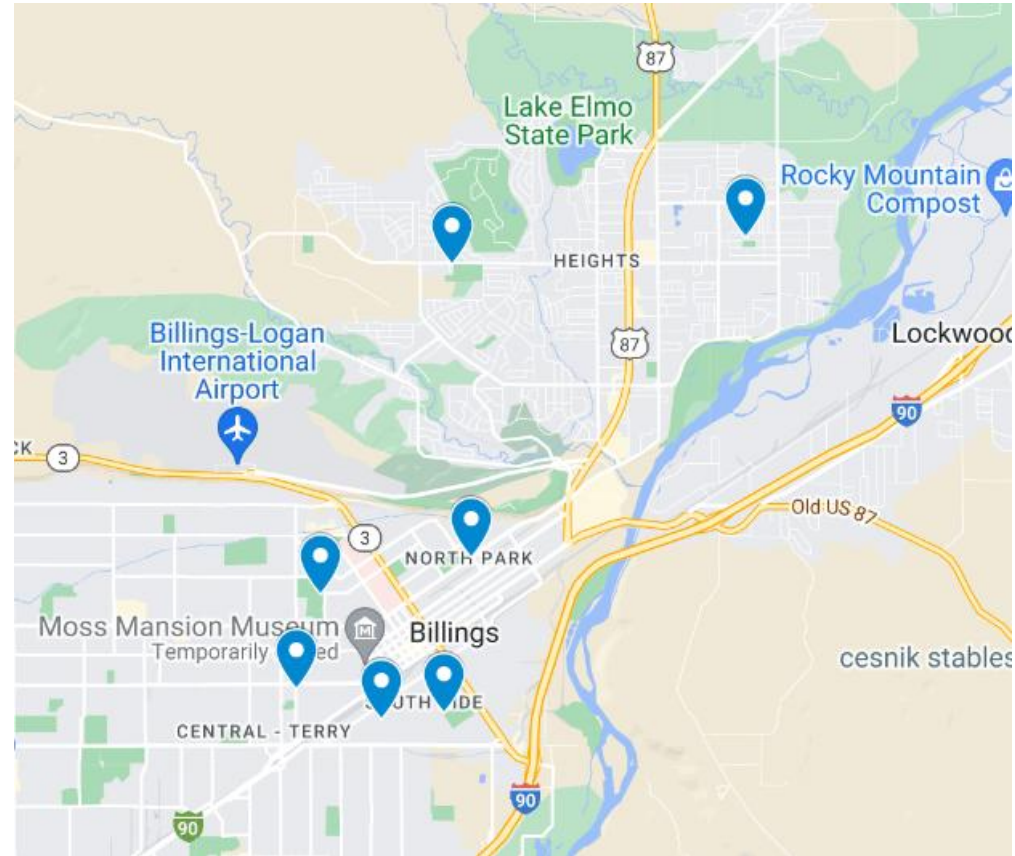


Councilman · Hunsaker
AQUATICS FOR LIFE

Billings, MT South Park Pool Study

MARKET OVERVIEW

Market Overview



Demographics

- **7 in 10 U.S. residents have at least one local park, playground, open space or recreation center within walking distance of their homes.***
- **Spraygrounds and wading pools:**
 - These cater primarily to young children and families. Studies suggest that most users live within a 10-minute walk (around 0.5 miles) of the facility. Some families might drive up to 15-20 minutes (around 1-2 miles) if there's a lack of options closer to home.
- **Pools:**
 - The draw radius for pools depends on their features and target audience. Lap pools and competitive facilities might attract users from further afield, potentially 20-30 minutes (around 3-5 miles) or more.

*National Recreation and Park Association (NRPA) - 2023 Engagement with Parks Report



Demographics

Billings Overview

- Currently there are ~115,000 residents in Billings
- 89% of residents have a park (including Amend Park) within a 5-minute walk beating national benchmarks by ~20%

Recommendations

- The Aquatics Industry is moving away from wading pools for the following reasons:
 - Kiddie/Wading Pools are the most common attractions to have low disinfectant levels (13.5%)*
 - The necessity of having lifeguards increases staffing levels and increases drowning risks.
- A new pool at Amend Park will be welcomed as it will serve the most residents through the park's current amenities



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Existing Facilities

Prioritization & Recommendations

High Priority

Full Replacement

- Terry Park
- Pioneer Park
- Hawthorn

Medium

Upgrades

- North Park

Low

No Concerns

- Castle Rock Park

Recommendations:

- Replacing Terry Park Sprayground with a potentially fire department-themed facility for a more engaging experience.
- Considering a full-sized pool or a larger sprayground at Pioneer Park to cater to a wider age range.
- Replacing outdated wading pools at Hawthorn and North Parks with modern spraygrounds to improve safety and play value.



Sprayground Modernization



Recirculated

Advantages

- **Water conservation:** Uses less water as it continuously recirculates and filters the water.
- **Lower operating costs:** Saves money on water use and reduces the amount of chemicals needed for treatment.
- **Environmentally friendly:** Minimizes water waste.

Disadvantages

- **Higher initial cost:** Requires more complex plumbing and filtration systems.
- **Maintenance:** Regular cleaning and filter maintenance are crucial.
- **Potential for waterborne illness:** Improper maintenance can lead to bacteria growth in the recirculated water.



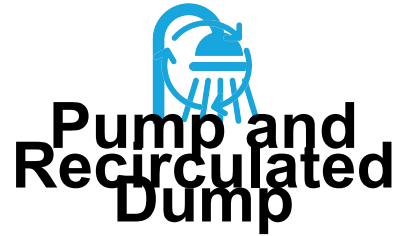
Pump and Dump

- **Lower initial cost:** Less complex plumbing is needed.
- **Simpler maintenance:** Easier to maintain and clean.
- **Lower risk of illness:** Continuously replaces water, reducing the chance of bacteria growth.

- **Higher operating costs:** Uses more water, which can be expensive depending on location.
- **Less environmentally friendly:** Uses more water and requires more chemicals for treatment.



Sprayground Modernization



Construction Costs: \$1.6M

OPINION OF PROJECT COST: SPRAYGROUND			
Description	Unit	Amount	Opinion of Cost
Ops Building		1,000	\$378,000
Mechanical	Sq. Ft.	300	
Storage	Sq. Ft.	500	
Restrooms	Sq. Ft.	200	
Sprayground		855	\$465,088
Sprayground	Sq. Ft.	855	
Features	Allowance	1	
Pool Mechanical	Add. Cost	1	
Support		2,565	\$133,742
Outdoor Deck	Sq. Ft.	1,710	
Fence	Ln. Ft.	203	
Overhead Lighting	Sq. Ft.	2,565	
Shade Structures	Quantity	3	
Total Building Construction Costs	Sq. Ft.	4,420	976,829
Site Construction Costs (landscaping, utilities, walks)			\$110,500
Furniture, Fixtures, Equipment			\$27,000
Subtotal			\$1,114,329
Inflation (1 year)	10.0%		\$111,433
Contingency	10.0%		\$122,576
Indirect Costs	12.0%		\$161,801
Total Estimated Project Costs:			\$1,510,139
Rounded			\$1,600,000

Source: Counsilman-Hunsaker

Sprayground Modernization



Recirculated

Construction Costs: \$1.5M

OPINION OF PROJECT COST: SPRAYGROUND			
Description	Unit	Amount	Opinion of Cost
Ops Building		900	\$346,500
Mechanical	Sq. Ft.	200	
Storage	Sq. Ft.	500	
Restrooms	Sq. Ft.	200	
Sprayground		855	\$465,088
Sprayground	Sq. Ft.	855	
Features	Allowance	1	
Pool Mechanical	Add. Cost	1	
Support		2,565	\$133,742
Outdoor Deck	Sq. Ft.	1,710	
Fence	Ln. Ft.	203	
Overhead Lighting	Sq. Ft.	2,565	
Shade Structures	Quantity	3	
Total Building Construction Costs	Sq. Ft.	4,320	945,329
Site Construction Costs (landscaping, utilities, walks)			\$108,000
Furniture, Fixtures, Equipment			\$26,000
Subtotal			\$1,079,329
Inflation (1 year)	10.0%		\$107,933
Contingency	10.0%		\$118,726
Indirect Costs	12.0%		\$156,719
Total Estimated Project Costs:			\$1,462,707
Rounded			\$1,500,000

Source: Counsilman-Hunsaker

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PHYSICS DEPARTMENT
PHYSICS 435: QUANTUM MECHANICS
PROBLEM SET 10

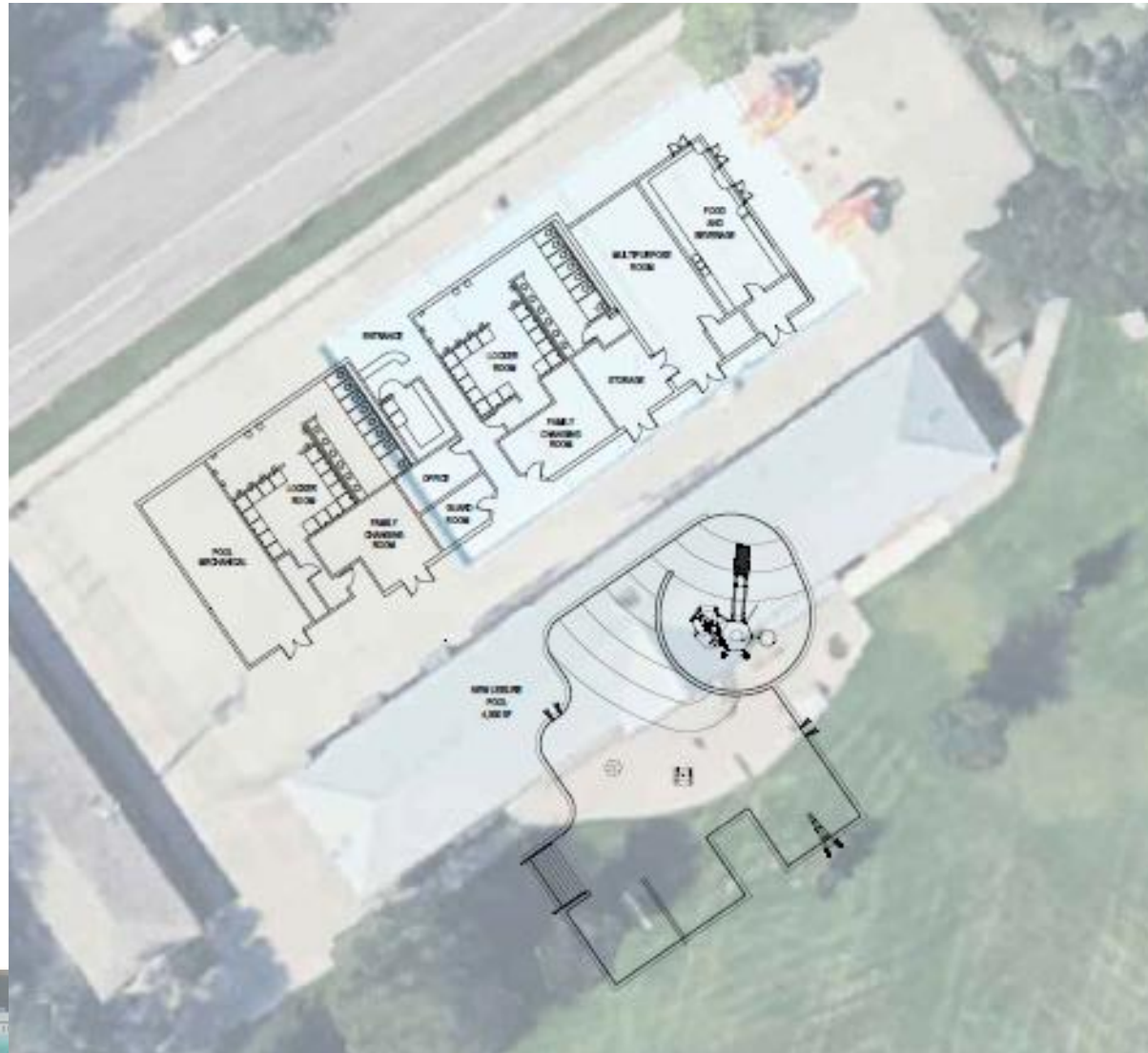
South Park Pool – Option 1

Concept Plan



South Park Pool – Option 1

Concept Plan



South Park Pool – Option 1

Opinion of Probable Cost

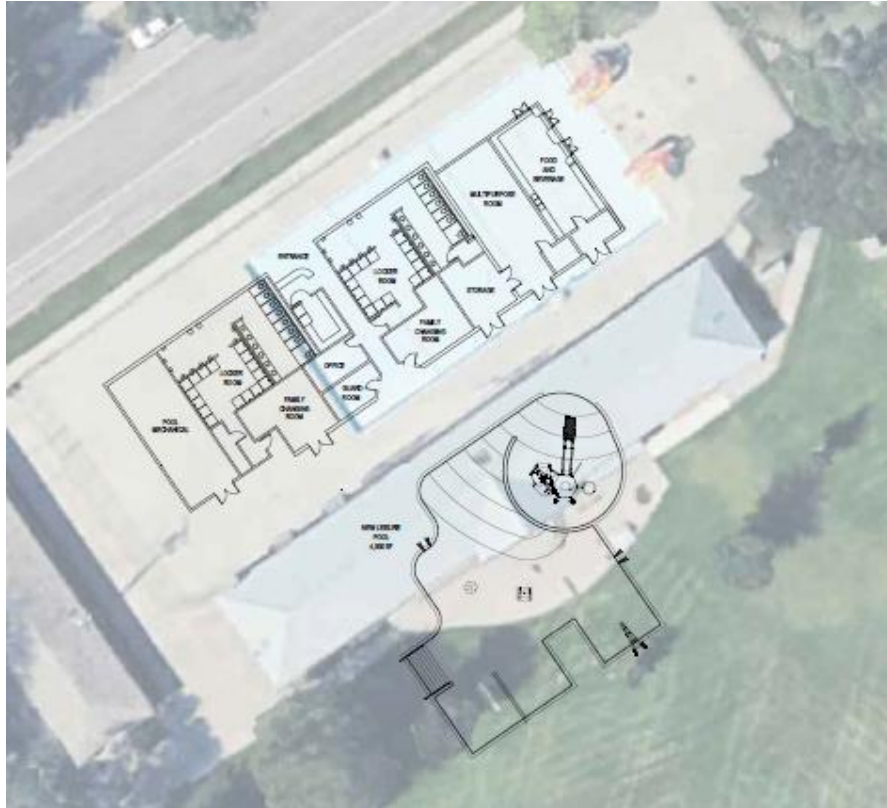


CHART OPINION OF PROJECT COST: South Park Pool Option 1

Description	Unit	Amount	Opinion of Cost
Ops Building		6,780	\$3,161,441
Entrance	Sq. Ft.	100	
Managers Office	Sq. Ft.	150	
Guard Room	Sq. Ft.	200	
Multipurpose Room	Sq. Ft.	1,200	
Pool Mechanical	Sq. Ft.	1,300	
Storage	Sq. Ft.	500	
Food and Beverage	Sq. Ft.	600	
Locker Rooms	Sq. Ft.	1,400	
Family Changing Rooms (2)	Sq. Ft.	200	
Circulation and Walls (20%)	Sq. Ft.	1,130	
Aquatic Center		4,232	\$2,154,400
Leisure Pool	Sq. Ft.	4,232	
Play structure	Allowance	1	
Support		12,696	\$471,850
Outdoor Deck	Sq. Ft.	8,464	
Fence	Ln. Ft.	451	
Overhead Lighting	Sq. Ft.	12,696	
Shade Structures	Quantity	6	
Total Construction Costs	Sq. Ft.	23,708	5,787,691
Site Construction Costs (landscaping, utilities, walks)			\$355,620
Furniture, Fixtures, Equipment			\$143,000
Subtotal			\$6,286,311
Inflation (1 year)	5.0%		\$314,316
Contingency	10.0%		\$660,063
Indirect Costs	10.0%		\$726,069
Total Estimated Project Costs:			\$7,986,758
Rounded			\$8,000,000

Source: Counsilman-Hunsaker

South Park Pool – Option 1

Projected Revenue

CHART Option 1					
Revenue	Year1	Year2	Year3	Year4	Year5
Daily Admissions / Memberships					
Admissions / Memberships (Indoor)	\$151,382	\$152,492	\$168,299	\$169,521	\$179,279
Admissions / Memberships (Outdoor)	\$200,057	\$201,524	\$222,415	\$224,029	\$236,925
Swim Team Revenue					
In-House Swim Team	\$3,900	\$0	\$0	\$0	\$0
Aquatic Programs					
Swim Lessons	\$5,760	\$6,336	\$7,318	\$7,684	\$8,472
Water Fitness	\$1,000	\$1,100	\$1,271	\$1,334	\$1,471
Lifeguard Certification	\$4,587	\$4,587	\$5,045	\$5,045	\$5,297
Food and Beverage					
Food and Beverage	\$13,123	\$13,219	\$14,589	\$14,695	\$15,541
Rentals					
Birthday Party	\$6,000	\$6,600	\$7,623	\$8,004	\$8,825
Private (Full Pool)	\$1,750	\$1,925	\$2,223	\$2,335	\$2,574
Area Revenue	\$387,558	\$387,782	\$428,784	\$432,646	\$458,383
Expense	Year1	Year2	Year3	Year4	Year5
Program Supplies	\$3,876	\$3,878	\$4,288	\$4,326	\$4,584
LG Class Materials	\$5,504	\$5,504	\$5,504	\$5,504	\$5,504
Food and Beverage	\$7,874	\$7,931	\$8,753	\$8,817	\$9,324
Competitive Events	\$0				
In-House Swim Team	\$68,700				
Part-Time Program Staff	\$5,673	\$6,011	\$6,817	\$7,032	\$7,620
Area Expense	\$91,626	\$23,324	\$25,362	\$25,679	\$27,032
Net Revenue	\$295,932	\$364,458	\$403,422	\$406,968	\$431,351



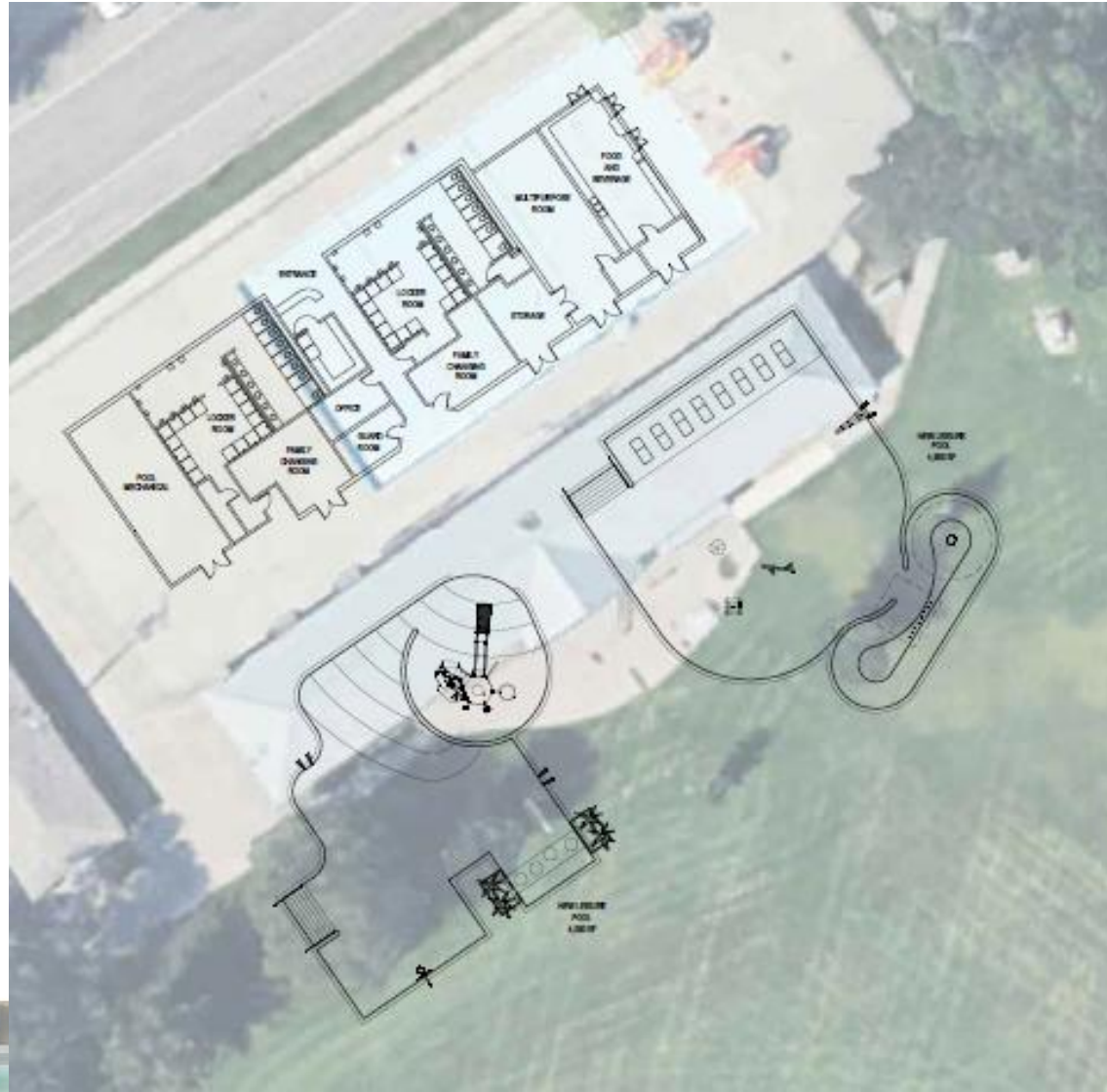
South Park Pool – Option 2

Concept Plan



South Park Pool – Option 2

Concept Plan



South Park Pool – Option 2

Opinion of Probable Cost

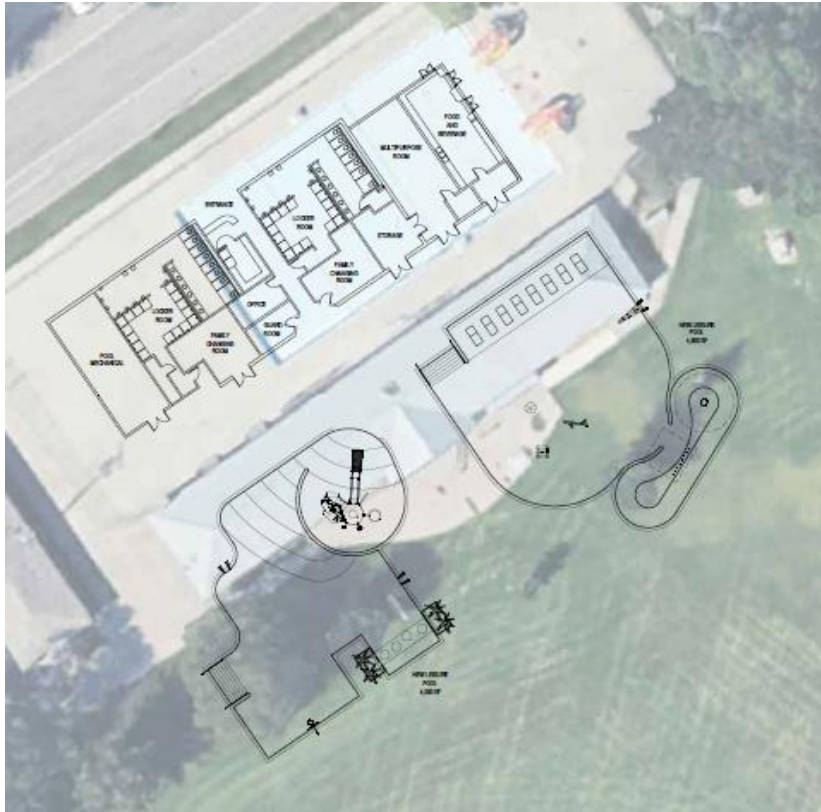



CHART OPINION OF PROJECT COST: South Park Pool Option 1			
Description	Unit	Amount	Opinion of Cost
Ops Building		6,780	\$3,161,441
Entrance	Sq. Ft.	100	
Managers Office	Sq. Ft.	150	
Guard Room	Sq. Ft.	200	
Multipurpose Room	Sq. Ft.	1,200	
Pool Mechanical	Sq. Ft.	1,300	
Storage	Sq. Ft.	500	
Food and Beverage	Sq. Ft.	600	
Locker Rooms	Sq. Ft.	1,400	
Family Changing Rooms (2)	Sq. Ft.	200	
Circulation and Walls (20%)	Sq. Ft.	1,130	
Aquatic Center		8,732	\$4,158,150
Lap Pool	Sq. Ft.	4,500	
1M Diving	Quantity	1	
Drop Slide	Quantity	1	
Leisure Pool	Sq. Ft.	4,232	
Play structure	Allowance	1	
Support		26,196	\$849,331
Outdoor Deck	Sq. Ft.	17,464	
Fence	Ln. Ft.	647	
Overhead Lighting	Sq. Ft.	26,196	
Shade Structures	Quantity	6	
Total Construction Costs	Sq. Ft.	41,708	8,168,921
Site Construction Costs (landscaping, utilities, walks)			\$625,620
Furniture, Fixtures, Equipment			\$251,000
Subtotal			\$9,045,541
Inflation (1 year)	5.0%		\$452,277
Contingency	10.0%		\$949,782
Indirect Costs	10.0%		\$1,044,760
Total Estimated Project Costs:			\$11,492,360
Rounded			\$11,500,000

Source: Councilman-Hunsaker

South Park Pool – Option 2

Projected Revenue

 Option 2					
Revenue	Year1	Year2	Year3	Year4	Year5
Daily Admissions/Memberships					
Admissions / Memberships (Outdoor)	\$300,613	\$302,755	\$334,219	\$336,576	\$355,878
Swim Team Revenue					
Meet Rental	\$800	\$880	\$1,016	\$1,067	\$1,177
In-House Swim Team	\$5,850				
Aquatic Programs					
Swim Lessons	\$12,960	\$14,256	\$16,466	\$17,289	\$19,061
Water Fitness	\$1,500	\$1,650	\$1,906	\$2,001	\$2,206
Lifeguard Certification	\$7,399	\$7,399	\$8,139	\$8,139	\$8,546
Food and Beverage					
Food and Beverage	\$19,718	\$19,859	\$21,923	\$22,077	\$23,343
Rentals					
Birthday Party	\$12,000	\$13,200	\$15,246	\$16,008	\$17,649
Private (Full Pool)	\$5,250	\$5,775	\$6,670	\$7,004	\$7,722
Area Revenue	\$366,091	\$365,774	\$405,585	\$410,161	\$435,582
Expense	Year1	Year2	Year3	Year4	Year5
Program Supplies	\$3,661	\$3,658	\$4,056	\$4,102	\$4,356
LG Class Materials	\$8,879	\$8,879	\$8,879	\$8,879	\$8,879
Food and Beverage	\$11,831	\$11,915	\$13,154	\$13,246	\$14,006
Competitive Events	\$0				
In-House Swim Team	\$68,700				
Part-Time Program Staff	\$10,930	\$11,653	\$13,255	\$13,714	\$14,907
Area Expense	\$104,000	\$36,104	\$39,344	\$39,941	\$42,147
Net Revenue	\$262,090	\$329,669	\$366,242	\$370,220	\$393,435



South Park Pool – Option 3

Concept Plan



South Park Pool – Option 3

Opinion of Probable Cost

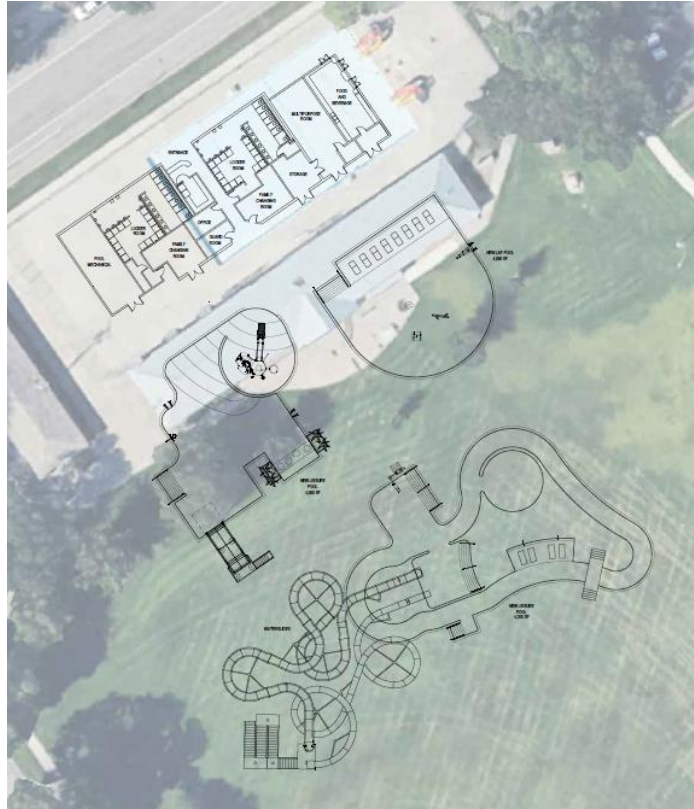


CHART OPINION OF PROJECT COST: South Park Pool				
Description	Unit	Amount	Cost per Unit	Opinion of Cost
Ops Building		6,780	466	\$3,161,441
Entrance	Sq. Ft.	100	428	
Managers Office	Sq. Ft.	150	383	
Guard Room	Sq. Ft.	200	383	
Multipurpose Room	Sq. Ft.	1,200	383	
Pool Mechanical	Sq. Ft.	1,300	315	
Storage	Sq. Ft.	500	315	
Food and Beverage	Sq. Ft.	600	630	
Locker Rooms	Sq. Ft.	1,400	630	
Family Changing Rooms (2)	Sq. Ft.	200	630	
Circulation and Walls (20%)	Sq. Ft.	1,130	507	
Aquatic Center		13,141	506	\$6,647,200
Lap Pool	Sq. Ft.	4,500	428	
1M Diving	Quantity	1	15,000	
Leisure Pool	Sq. Ft.	4,409	450	
Vortex	Add Cost	1	20,000	
River Mechanical	Allowance	1	75,000	
Play features	Allowance	1	100,000	
Waterslide w/ Tower	Allowance	1	225,000	
Second Slide	Allowance	1	150,000	
Leisure Pool 2	Sq. Ft.	4,232	450	
Play structure	Allowance	1	250,000	
Support		39,423		\$1,211,945
Outdoor Deck	Sq. Ft.	26,282	25	
Fence	Ln. Ft.	794	158	
Overhead Lighting	Sq. Ft.	39,423	9	
Shade Structures	Quantity	6	12,500	
Total Construction Costs	Sq. Ft.	59,344	186	11,020,586
Site Construction Costs (landscaping, utilities, walks)				\$890,160
Furniture, Fixtures, Equipment				\$357,000
Subtotal				\$12,267,746
Inflation (1 year)	5.0%			\$613,387
Contingency	10.0%			\$1,288,113
Indirect Costs	10.0%			\$1,416,925
Total Estimated Project Costs:				\$15,586,171
Rounded				\$15,600,000

Source: Counsilman-Hunsaker

South Park Pool – Option 3

Projected Revenue

CHART <small>AQUATIC RESEARCH POOL</small>	Option 3				
Revenue	Year 1	Year 2	Year 3	Year 4	Year 5
Daily Admissions / Memberships					
Admissions / Memberships	\$360,300	\$363,661	\$402,558	\$406,255	\$430,450
Summer League	\$7,150	\$7,865	\$9,084	\$9,538	\$10,516
Aquatic Programs					
Swim Lessons	\$15,000	\$16,500	\$19,058	\$20,010	\$22,061
Water Fitness	\$3,000	\$3,300	\$3,812	\$4,002	\$4,412
Lifeguard Certification	\$1,500	\$1,500	\$1,650	\$1,650	\$1,733
Food and Beverage					
Food and Beverage	\$23,633	\$23,854	\$26,405	\$26,648	\$28,235
Rentals					
Birthday Party	\$16,000	\$17,600	\$20,328	\$21,344	\$23,532
Private (Full Pool)	\$3,500	\$3,850	\$4,447	\$4,669	\$5,148
Area Revenue	\$430,083	\$438,130	\$487,341	\$494,117	\$526,087
Expense	Year 1	Year 2	Year 3	Year 4	Year 5
Program Supplies	\$4,301	\$4,381	\$4,873	\$4,941	\$5,261
LG Class Materials	\$1,800	\$1,800	\$1,800	\$1,800	\$1,800
Food and Beverage	\$14,180	\$14,312	\$15,843	\$15,989	\$16,941
Competitive Events	\$0				
In-House Swim Team	\$68,700				
Part-Time Program Staff	\$13,325	\$14,583	\$16,802	\$17,600	\$19,361
Area Expense	\$102,306	\$35,076	\$39,318	\$40,330	\$43,363
Net Revenue	\$327,777	\$403,054	\$448,023	\$453,787	\$482,724



South Park Pool – Cash Flow

	2025	2026	2027	2028	2029
Option 1					
Project Cost	\$8,000,000				
Attendance	26,245				
Revenue	\$387,558	\$387,782	\$428,784	\$432,646	\$458,383
Expense	\$278,218	\$285,173	\$292,303	\$299,610	\$307,101
Operating Cashflow	\$109,340	\$102,609	\$136,481	\$133,036	\$151,282
Recapture Rate	139%	136%	147%	144%	149%
Capital Replacement Fund	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Cash Flow	\$69,340	\$62,609	\$96,481	\$93,036	\$111,282
Option 2					
Project Cost	\$11,500,000				
Attendance	39,437				
Revenue	\$366,091	\$365,774	\$405,585	\$410,161	\$435,582
Expense	\$570,050	\$584,301	\$598,909	\$613,882	\$629,229
Operating Cashflow	(\$203,960)	(\$218,527)	(\$193,324)	(\$203,721)	(\$193,647)
Recapture Rate	64%	63%	68%	67%	69%
Capital Replacement Fund	\$57,500	\$57,500	\$57,500	\$57,500	\$57,500
Cash Flow	(\$261,460)	(\$276,027)	(\$250,824)	(\$261,221)	(\$251,147)
Option 3					
Project Cost	\$15,600,000				
Attendance	59,622				
Revenue	\$430,083	\$438,130	\$487,341	\$494,117	\$526,087
Expense	\$708,686	\$726,403	\$744,563	\$763,177	\$782,257
Operating Cashflow	(\$278,603)	(\$288,273)	(\$257,222)	(\$269,060)	(\$256,169)
Recapture Rate	61%	60%	65%	65%	67%
Capital Replacement Fund	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000
Cash Flow	(\$356,603)	(\$366,273)	(\$335,222)	(\$347,060)	(\$334,169)

*revenue assumes fee increase in years 3 and 5



Billings, MT South Park Pool Study