



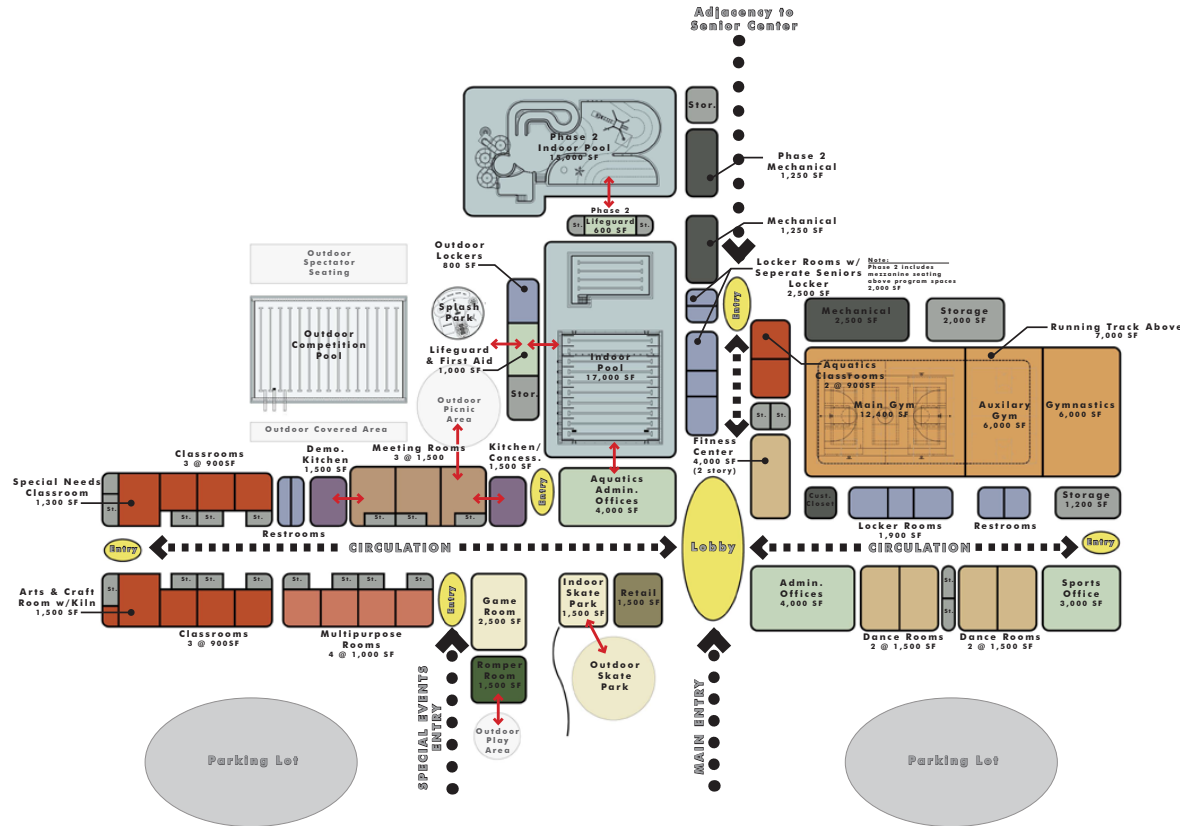
# BOULDER CITY

## AQUATIC & CULTURAL CENTER



COMMUNITY OUTREACH MEETING  
JANUARY 16TH, 2018

## MASTER PLAN PROCESS



### Needs Assessment:

- Community engagement
- Common vocabulary, vision
- Evaluate existing area providers
- Research area demographics
- Identify potential user groups
- Site analysis
- External factors
  - Ease of public transit access
  - Ease of vehicular access
  - Ease of bicycle and pedestrian access
  - Distance from competing facilities
  - Compatible facilities
  - Compatible zoning designations
  - Population density
- Site characteristics
  - Ownership
  - Value of existing site improvements
  - Topography
  - Visibility

### Program Requirements:

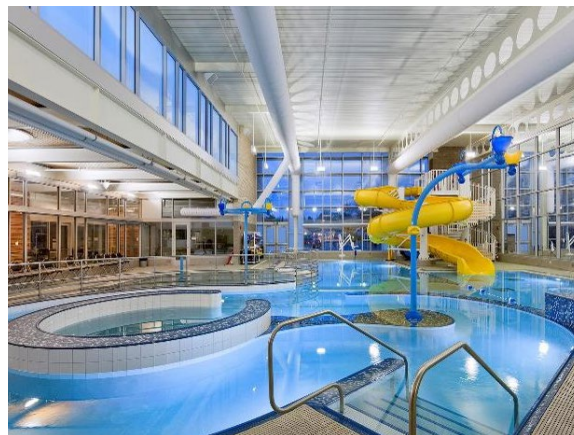
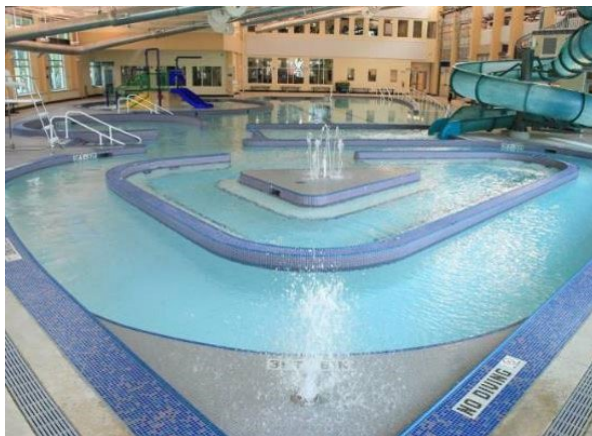
- Develop options for programming
- Develop project cost estimates
- Site requirements

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## RECREATION

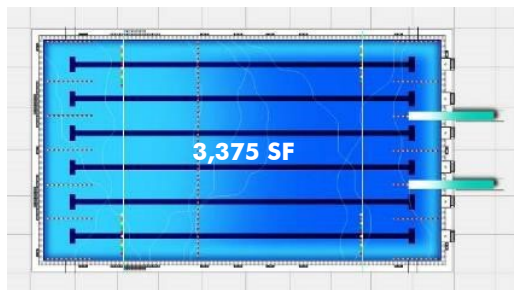
- Shallow water with leisure amenities, zero depth entry, slides
- Prefer warmer water, 86 degrees +
- Most pools meet the user expectations and needs for water fitness and fitness swimming



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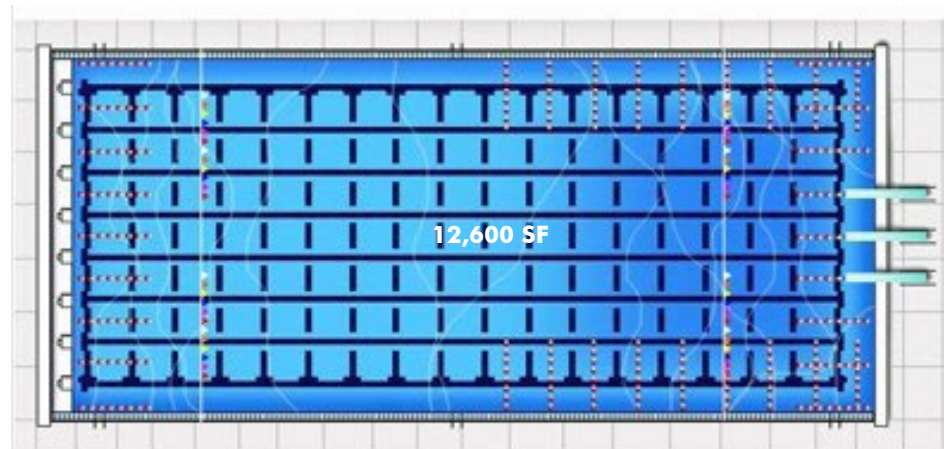


## COMPETITION



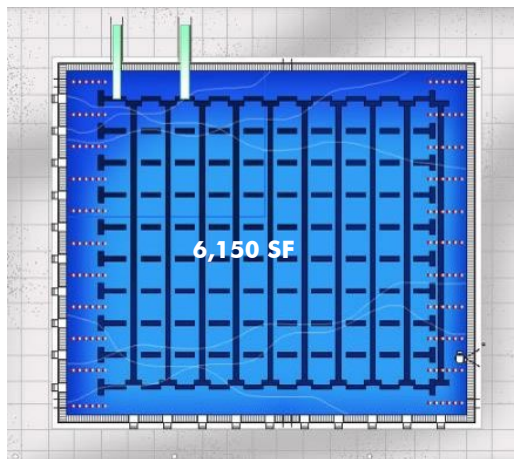
### 25 yard

- (6) 25 yard lanes



### 50 meter x 25 yard

- 8 Or 10 (50-meter lanes)
- 17-22 (Cross course 25-yard lanes)



### 25 yard x 25 meter

- (11) 25 yard lanes
- (10) 25 meter lanes

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## INSTRUCTIONAL



- Learn to swim
- Water safety instruction
- Lifeguard instruction
- Prefer warmer water, 86 degrees +

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## INSTRUCTIONAL POOLS



Designated Instructional Pools



Multi-Purpose Leisure Pools

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## WELLNESS AND THERAPY

- Fastest growing aquatic user group
- Therapy programs
- Water exercise classes
- Water aerobics classes
- Fitness classes
- Prefer warmer water, 86 degrees +



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## YEAR ROUND PROGRAMMING POTENTIAL

### Wellness Programming

- Aqua therapy
- Water aerobics

### Personal Training

#### Group Exercise

- Water yoga
- Water Zumba
- Therapeutics
- Arthritis classes

### Rentals

- Birthday parties
- Private rentals
- Community group buyouts

### Swim lessons

- Ages 6 months to 99 years

### Lifeguard Training

#### Swim Teams

- Age group
- High school
- Masters

### Special Events

- Dive in movies
- Summer camps
- Family nights
- Teen nights

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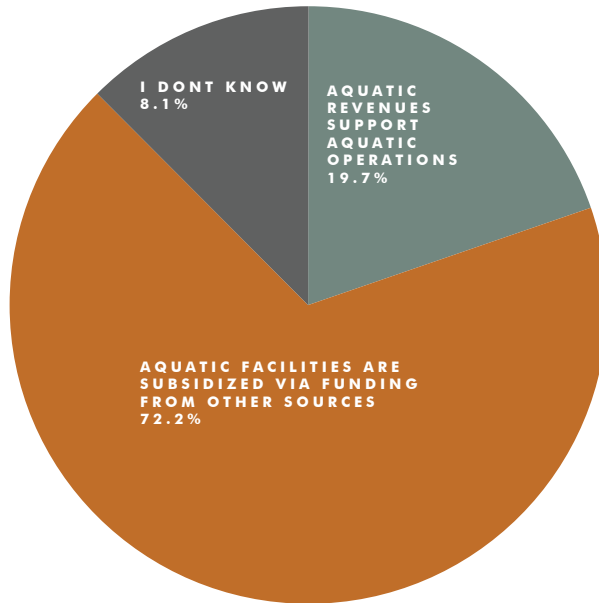




## AQUATIC TRENDS

### COST RECOVERY & AQUATICS

Does your aquatic facility generate revenue to support its operation, or is it subsidized via funding from other sources?



- Most indoor facilities being built by municipalities and/or school districts – YMCA/private fitness also building
- Development of elementary school water safety program for school district natatoriums
- Trend towards designing multiple bodies of waters to reach each of the aquatic user groups
- Aquatic facilities bundled with dryland fitness to achieve a higher level of cost recovery
- Partnerships with public entities, USA swimming clubs, and medical providers to maximize usage and overall cost recovery
- Development of sponsorships to increase revenue
- Construction costs dependent on area of the country, level of finish on building materials, number of pools, etc.

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## AQUATIC TRENDS



- Dryland recreational/fitness facilities need aquatics to boost memberships, programming opportunities and the overall appeal of the facility (both individual and family)
- Addition of recreational/fitness components to stand-alone aquatics to boost memberships and cost recovery

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### Dry Land Amenities

- Gymnasium
- Fitness Center
- Outdoor Track
- Rock Wall
- Senior Activity Center
- Preschool/Youth Program Rooms
- Community Event Rooms
- Dance/Fitness/Aerobics Room
- Indoor Cycling Room
- Teaching Kitchen
- Indoor Jogging Track
- Arts & Crafts Center



## HENDERSON MULTI-GENERATIONAL POOL

77, 000 sf • \$27 million • February 2002  
Cost Recovery: 65%

### 1. Outdoor Activity Pool

- Grass Area
- Pool Party Area
- Water Play Features
  - Water Slide
- Zero-Depth Entry
- Rental Cabanas

### 2. Indoor Pool

- 4-Lane Lap Pool
- Observation Deck
  - 14-Person Spa
  - Step-Entry Pool

### 3. Outdoor Competition Pool

- 50-Meter Pool
- (2) 3-Meter and (2) 1-Meter Competitive
- 25 Yard Short Course and 50-Meter Long Course Capability
  - 7-Foot Minimum Depth
  - Diving Boards
  - Moveable Bulkhead

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## HERITAGE PARK AQUATIC COMPLEX

43,804 sf • \$16.5 million • February 2010  
Cost Recovery: 25%

### 1. Competitive/Lap Pool

- (14) 25-Yard Lanes
- (4) Springboards
- 3.5 - 13 Foot Depth

### 2. Instructional/Therapy Pool

- (4) 25-Yard Lanes
- 3 - 4 Foot Depth
- Stair & Ramp Entries
- Aquatic Classroom
- (4) Family Locker Rooms
- Timing/Scoring System
- Shallow Lanes for Water Walking

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## PAVILION POOL

26,400 sf • \$5 million (structure) • January 2011

### 1. Competitive Pool

- 50-Meter Pool
  - (14) Lanes
- (1) 1-Meter Springboard
- (1) 3-Meter Springboard



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## WHITNEY RANCH RECREATION CENTER

29,554 sf • March 2000

Cost Recovery: 40%

### 1. Indoor Competitive Pool

- (10) Lanes
- Retractable Roof
- Shallow Water Instructional Area

### 1. Outdoor Activity Pool

- 25-Yard Competitive Lanes
- Shallow Training Area
- Water Play Features

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### Dry Land Amenities

- (2) Full Size Gymnasiums
- (2) Racquetball Courts
- Fitness Room
- Aerobics/Dance Room
- Meeting Rooms
- Youth & Adult Gathering Areas
- Climbing Wall
- Outdoor Basketball Courts
- Synthetic Soccer Field



## MESQUITE RECREATION CENTER

77,000 sf • 1999

### 1. Outdoor Activity Pool

- Water Play Features
  - Water Playground
    - Water Slide
- (6) 25-Yard Lanes

### 2. Indoor Pool

- (2) 20-Meter Lanes
- Zero-Depth Entry

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## SITE OPTIONS

- Site Option 1: Broadbent Park
- Site Option 2: ABC Park
- Site Option 3: Veterans Memorial & NV Highway 93

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## SITE OPTION 1: BROADBENT PARK

- 1 Boulder City Pool
- 2 Multi-Use Building
- 3 Boulder City High School
- 4 Garret Junior High School
- 5 Mitchell Elementary School

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## SITE OPTION 2: ABC PARK



- 1 Boulder City Library
- 2 Mountain View Care Center
- 3 Garret Junior High School
- 4 Boulder City High School
- 5 Mitchell Elementary School

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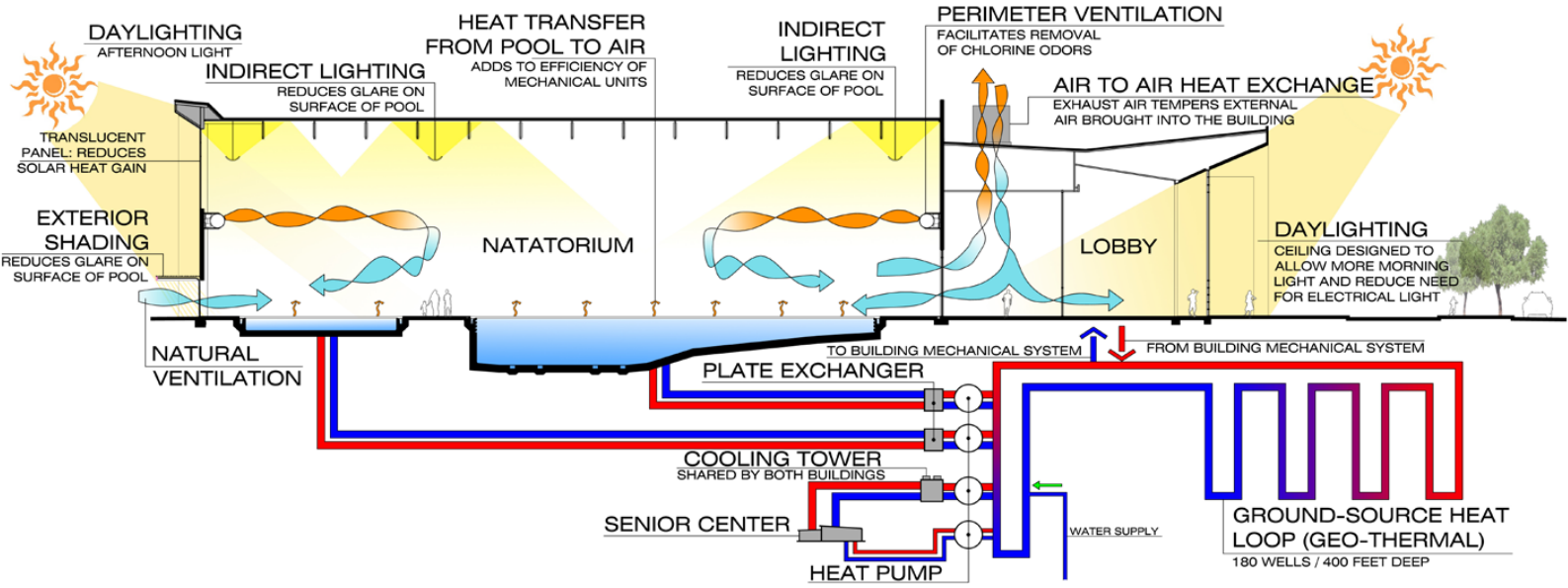


### SITE OPTION 3: VETERANS MEMORIAL PARK

- 1 Nevada State Veterans Home

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SUSTAINABILITY

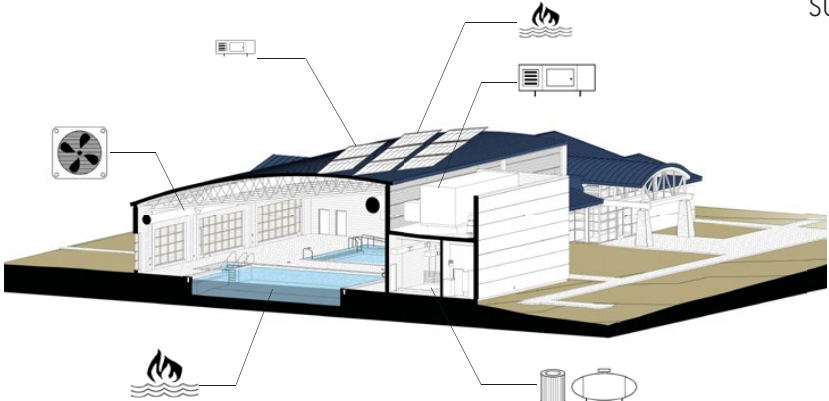
BASIC DESIGN

	BUILDING ELECTRICAL LIGHTING	25.4 Kva
	BUILDING ELECTRICAL POWER	14.0 Kva
	WATER HEAT	200 Kva
	DE-HUMIDIFICATION UNIT	210 Kva
	BUILDING MECHANICAL FANS AND MISC. MECH	207.5 Kva (FRONT END SPACE HEAT AND MECH) (79 KVA FANS ON D.U.)
	PUMPS AND FILTERS	54.4 Kva
		795 Kva

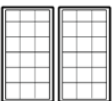
MECHANICAL DUAL-MODE DESIGN

	BUILDING ELECTRICAL LIGHTING	25.4 Kva
	BUILDING ELECTRICAL POWER	14.0 Kva
	WATER HEAT	200 Kva
	DE-HUMIDIFICATION UNIT	210 Kva
	BUILDING MECHANICAL FANS AND MISC. MECH	207.5 Kva (FRONT END SPACE HEAT AND MECH) (79 KVA FANS ON D.U.)
	PUMPS AND FILTERS	54.4 Kva
		595 Kva

INTERLOCK THE TWO  
UNITS TO ELIMINATE LOAD  
CAPACITY BY 50%



+ SOLAR POWER



PHOTOVOLTAIC PANELS

72 KW (95 Kva) @ 5040 SF  
@ \$4.00 PER WATT

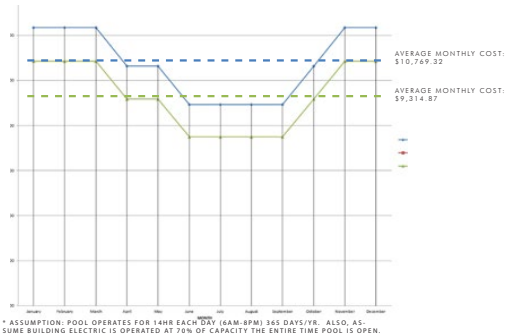
500 KVA

	ELECTRICAL COST WITH BASIC DESIGN	ELECTRICAL COST WITH PV
JANUARY	\$12,334.49	\$10,855.76
FEBRUARY	\$12,334.49	\$10,855.76
MARCH	\$12,334.49	\$10,855.76
APRIL	\$10,627.04	\$9,174.79
MAY	\$10,627.04	\$9,174.79
JUNE	\$8,919.58	\$7,493.81
JULY	\$8,919.58	\$7,493.81
AUGUST	\$8,919.58	\$7,493.81
SEPTEMBER	\$8,919.58	\$7,493.81
OCTOBER	\$10,627.04	\$9,174.79
NOVEMBER	\$12,334.49	\$10,855.76
DECEMBER	\$12,334.49	\$10,855.76
AVERAGE	\$10,769.32	\$9,314.87
ANNUAL TOTAL	\$126,251.89	\$111,778.41

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## ELECTRICAL UTILITY COSTS



## GROUND SOURCE HEAT PUMP

- 60 TONS OF CAPACITY REQUIRED
- 35-40 BORE HOLES AT 400' DEEP

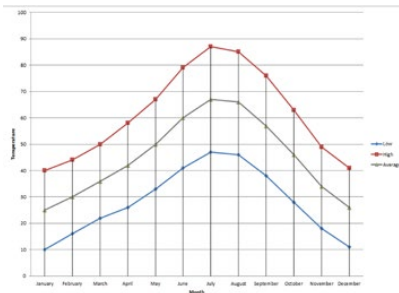
### INITIAL COST

- DRILLING \$15.00 PER LINEAR FOOT @ 400' PER WELL FOR 40 WELLS: \$240,000
- PIPING TO THE BUILDING: \$10,000
- HEAT EXCHANGER AND PUMPS TO TIE GSHP TO BUILDING SYSTEM: \$50,000

= \$300,000

This system will cover the required maintenance heating capacity for the pools and should be able to offset some of the heating load on the pool dehumidification unit. However, since this system has no perceived cooling load associated with it, the system will continually become less and less efficient as the ground in the well field continues to cool as heat is pulled out of it and into the building. Without the ability to completely eliminate the pool boiler load and a significant portion of the pool dehumidification unit load, there is not sufficient capacity to get to the lower utility rate.

## ELY EXTERIOR TEMPERATURES



## PHOTOVOLTAIC PANELS

- 72 KW GOAL TO OFFSET ELECTRICAL CONSUMPTION ABOVE 500 Kva
- 300 WATTS PER PANEL AT 21SF PER PANEL

### INITIAL COST

- 240 PANELS: 72,000 WATTS = 72 KW
- 240 PANELS X 300 SQUARE FEET PER PANEL = 5,040SF
- \$4.00 PER WATT INSTALLED

= \$288,000

This is the only solution that directly addresses the electrical load in the building. This would get the building into the lower utility rate.



## SOLAR HOT WATER

- **WADING POOL**  
SIZE: 5,191.44SF  
CAPACITY: 17,680W  
ANNUAL ENERGY DELIVERED: 211.0m Btu  
ENERGY SAVED: 77.3 KW

- **COMPETITION POOL**  
SIZE: 3,574.31SF  
CAPACITY: 132.44 KW  
ANNUAL ENERGY DELIVERED: 633m Btu  
ENERGY SAVED: 231.9 KW

### INITIAL COST

- WADING POOL = \$72,600
- COMPETITION POOL = \$179,800

= \$252,400

This will cover the required maintenance heating capacity for the pools, but does not eliminate enough electrical demand on the system to get to the lower utility rate and thereby nearly negates any reasonable return on investment.



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— THANK YOU —

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**1) What style of aquatic pool and cultural center would best serve the Boulder City community? (Please rate each of the following on a rating scale 1-4, where 1 is the "most desirable" and 4 is the "least desirable".)**

- ☐ Recreational  
☐ Competition/ Lap  
☐ Instructional  
☐ Wellness/ Therapy

**2) Three various sites are under consideration. Please circle one that you feel would be the best location for this facility:**

- a. Broadbent park (existing location of pool)  
b. Adams Boulevard Community Park (ABC Park)  
c. Southwest corner of Nevada Highway 93 and Veterans Memorial Drive

**3) List one feature, program, or event that you feel will bring value to this community based project:** \_\_\_\_\_

**4) Please circle the amenities that you would like to see be a part of this facility:**

- Racquetball Courts
- Art Center
- Youth Center
- Fitness Center
- Group Exercise Room
- Meeting/ Special Events room
- Parent/kiddie pool
- Water playground with spray features
- Water Climbing Wall
- Water slide
- Diving Boards
- Lazy River
- Splash Pads with zero depth entry
- Hot Tub
- Other: \_\_\_\_\_

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