



PROPOSED AQUATIC FACILITIES

2019 Capital Improvements Program

Abstract

Review and recommendations for constructing new facilities and expanding existing aquatic facilities for the City of Denton

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CITY OF DENTON

PARKS & RECREATION DEPARTMENT - AQUATICS

CAPITAL IMPROVEMENTS PROJECTIONS THROUGH 2030

GENERAL

Below is a summary of capital intensive projects for the City of Denton related to aquatics which includes swimming pools, water parks and features, and splash pads which could be part of a larger comprehensive capital improvements bond issue. Projected projects are for a nominal planning period of 10-years to meet projected growth and replacement or enhancement of older facilities nearing the end of their respective life-cycles.

Projections of cost are based on the engineer's experience and do not reflect actual bids from contractors for the work. Design fees are included in the totals which should be sufficient for surveys, geotechnical investigation, engineering and architecture. A contingency of 8.0% has been added to all cost projections because of unknown factors that may arise during design or construction.

CARL YOUNG NEIGHBORHOOD SPLASH PAD

Denton built a small splash pad in Carl Young Park in 2017 to serve mainly the needs of the immediate neighborhood. Demand for spray parks is soaring with the addition of multi-family housing in Denton and higher density single family and two-family dwellings with small play areas.

The proposed project would more than quadruple the size of the splash pad by taking it from 1260 square feet of wetted surface to 5,800 square feet of wetted surface and adding larger and higher play value aquatic toys and interactive sprays. This expenditure would bring it more into line with the proposed new splash pads at North Lakes Park and South Lakes Park and expand the service area from a few blocks' radius to 1- mile or more in all directions.

[Exhibits at this time are very general and not necessarily oriented on the site to miss obstructions and save trees. In engineering the actual project, care will be taken to preserve trees and minimize hardscape requirements such as retaining walls, or drainage structures.]

Total cost of fees and construction, including contingency is **\$ 450,000**

SOUTH LAKES REGIONAL SPLASH PAD

This project is for a new aquatic facility, there being no pools or splash pads on the south and west sides of IH 35E. It is identical in concept but not in shape to the North Lakes Recreation Center Splash Pad, this project proposes installation of a 10,000 square foot splash pad surrounded by walk ways and seating areas. No standing water is proposed and the splash pad need not be fenced and can be daily-monitored instead of constantly staffed. The splash pad would be designed as 'interactive', meaning that it would run only when there were children present and would feature slides, dozens of jets, umbrellas, buckets, bubblers, and other attractions that sequence through a programmable logic controller constantly changing the display of water. The site shown is adjacent to tennis courts and a large playground. Restrooms and ADA compliant parking is already in place. The site is largely clear and would not require extensive utility work or earthwork. Access walks are already in place.

Total cost of fees and construction, including contingency is **\$ 1,000,000**

CIVIC CENTER POOL

This pool has been around since the mid-1960's, was remodeled in 1993, and recently went through some facelift efforts to enhance it and make it more modern. Filters and pumps were replaced in 2015 and restrooms were made ADA accessible at the same time.

Civic Center is ideal for small families and occasional swimmers who do not want the frenzy of the Water Works Water Park. Civic Center is more subdued but has its role in aquatics in Denton. Seating is limited because the deck space is narrow along the pool sides. The wooden shade trellis is worn and should be replaced before long. The facility lacks any great iconic attraction although it does possess a small body slide and a very small zero depth entry play pool attached to the main pool. Further, the facility lacks large areas for party bookings and lacks shade cabanas for families to gather out of the sun. Adult admission to Civic Center Pool is only \$4.00 per day. Party rentals are around \$110 per party.

The proposed project seeks to add an iconic slide ride to attract visitors. A significant portion of the budget for this pool is for installation of a 30-foot high slide tower with a fiberglass flume pair featuring deceleration lanes in lieu of splash down pools. An acrylic specialty climbing wall is shown to enhance the visitor's experience. Expansion of the shade by adding twenty 10-foot by 10-foot cabanas and construction of a party room are both included in the budget. Also included is a hard wall and roof structure over the mechanical room which heretofore has been open-air behind a wooden fence next to the pool deck. Covering the mechanical equipment will greatly extend its life. The addition of over 10,000 square feet of additional walks, shade pads and decks would provide access to cabanas scattered around the pool and to the slide. The slide shown in the concept drawing fits within the cleared area of the property and would not require destruction of trees or relocation of existing park sidewalks. The project proposed includes removing and replacing pool boundary fences in new locations to provide more seating and cabana area.

Total cost of fees and construction, including contingency is

\$ 1,900,000

WATER WORKS WATER PARK:

PROJECT 'A': The water park has a slide complex with 4 body-slide flumes deriving from one tower and emptying into a rectangular plunge pool used for nothing else. These slide flumes have outlived their expected service-lives and require an ever increasing amount of maintenance for cracked and spalling fiberglass, UV damage, water staining, gel coat replacement, water seals and gaskets, and welds and paint on the steel tower.

Replacement of the 15-year old four-slide complex with a newer complex of five slide flumes offering a variety of inner tube and body slide experiences is recommended. Tower platform heights range from 46 feet to 57 feet above the plunge pool water surface. The five flumes total just under 1,800 linear feet of ride length. A pumped flow rate of 4,900 gallons per minute will drive the slides. This flow rate is significantly higher than present requirements and a new mechanical room will be needed closer to the slide complex due in part to the distance to the present pump room situated across the water park. Three of the flumes terminate in a plunge pool larger than the present plunge pool so it will have to be replaced for safety's sake. Ridership throughput can be as high as 600 persons per hour reducing wait times and driving attendance upward.

The estimate includes the mechanical room, pumps, piping, slide towers and flumes, drilled pier foundations, electrical, plunge pool and decks.

Total cost of fees and construction, including contingency is

\$ 6,000,000

PROJECT 'B': The current splash pool opened in 2003 and has not been updated since and not one new feature has been added, causing the facility to become 'stale'. In addition, new regulations require higher turnover capacity and secondary water treatment presently 'grand-fathered' at Water Works. ADA rules regarding handicapped access are now in place and the present structure does not meet those requirements. These rules went into effect in 2010 and require not only access to and into the pool but also accessible play structures. Most newer play structures are accessible now.

Project 'B' replaces a small scale multi-level water feature with a large water playground similar to a Whitewater Rain Fortress RFR4b. The Rain Fortress has a user capacity of nearly 150 children and adults whereas the present dated model has a capacity of about 30. Due to the larger foot print and overspray area of the Rainfortress when compared to the 2003 structure, the splash pool would have to be enlarged by 33 per cent from 6,600 square feet of water surface to 8,800 square feet. The existing pool, though large, has many square feet with no water features or play value. This installation would require a re-configuration of the surrounding deck and shade structures and so costs include some 5,200 square feet of new deck and relocation of shade structures. Work would have to include all new pumps, plumbing, and filter units housed within the mechanical room for Project 'A'. *The estimated cost would be higher if Project 'A' is deferred and the mechanical room in Project 'A' must be built with Project 'B'. Add about \$350,000 to the total below if Project 'B' precedes 'A'.*

Total cost of fees and construction, including contingency is

\$ 4,500,000

PROJECT 'C': Since opening in 2003, Water Works Water Park has had one major addition to its repertoire that being the wave pool opened in 2016. Other than that, the park is nearly identical to when it opened in 2003. Since the water park draws from 25-miles or more surrounding Denton, competing facilities cropping up every year dictate that successful water parks must update their features occasionally to keep up their annual season pass and walk-up ticket sales.

One of the new rides to come onto the aquatics scene in recent years is the Wave Oz, a semi-circular artificial surf-wave for body surfing or boarding. The Wave Oz can be divided with soft wall partitions easily to provide multiple surfing lanes and thus configured can handle 720 riders per hour. The vessel holds over 200,000 gallons of water, occupies about 7,000 square feet of land, and the pumps use around 630 KW per hour. There are several in the world but at the moment there is not a Wave Oz in Texas or the U.S. making it an iconic, must-see ride which will draw patrons from the entire region. The Wave Oz, as is its cousin, the Flow Rider, by the same manufacturer, is usually operated not only in summer but in extended seasons before and after the regular swimming season and can be rented after hours for parties. Competitions can be scheduled as well. Competitors come from several states away to participate. The venue could host a state or national competition in coming years.

Operating costs for the ride are estimated to run \$126,000 per year including electricity and staffing. If there were no increase at all in park attendance, the cost would be only about \$1.64 per person. If park attendance increased only ten percent the effect on a ticket is less than \$1.50 per person. Even so, this would still leave Denton with one of the lowest admission prices in the MetroPlex.

The costs could further be reduced by lesson revenue at \$8.00 to \$12.00 per session per participant.

The location of this feature on the north and east side of the natatorium allows the area to be gated off from the rest of the park. The popularity of the ride and spectator appeal make it advisable to add restrooms, food and beverage sales, lockers, and retail sales for this area.

Cost projections for this facility include the Wave Oz, substantial new concrete decks, a retail/food and beverage/restaurant building, restrooms, and a new mechanical room to house the pumps and accessories.

Total cost of fees and construction, including contingency is **\$ 4,651,000**

PROJECT C-1: A recommended auxiliary project for the Wave Oz is a support complex centered on the Wave Oz which would include expanded decks, a retail/food and beverage concession/restaurant, and restrooms for this part of the park. The present restrooms and concessions are too far away to adequately serve the Wave Oz area. Construction of facilities next to the Wave Oz would relieve overcrowding in other support areas within the park. It would also allow this part of the park to be isolated for extended seasons/extended hours where the rest of the park could be secured.

Total cost of fees and construction, including contingency is **\$ 1,924,000**

PROJECT 'D': Party Rental Rooms are heavily booked during water park season and, for this park owing to its indoor pool facilities, well past the conventional summer water park season. Rentals are booked months in advance and frequently sell out for an entire season before the season even begins. They are an excellent source of revenue, rapidly paying for themselves, and driving attendance and season pass sales as a side benefit.

The proposed three rental rooms are contemplated to be about 576 square feet net usable air conditioned space for each room. They are simple with a small kitchen cabinet and sink and a small LED wall mount TV for showing movies or slides or even water park closed circuit TV. Staff can arrange for party 'packages' to include food, beverage and birthday cakes. Rooms are usually rented for 1—1/2 hours, include pool use, and then are cleaned for the next party. Rentals run from \$100 per session to \$350 per session depending on what is included in the package.

Total cost of fees and construction, including contingency is **\$503,000**

PROJECT 'E': Lifeguards rotate every 45-minutes to one hour from station to station to avoid them becoming bored and lose their concentration. After rotating several stations they rotate off-duty to a secure and private location. Lifeguard trainers teach that these off-duty lifeguards should be removed from the pool area, out of reach of the public, in a cool, restful place. Lifeguards also need a place to clock in and out every day and a place to store their clothes and valuables in a locker.

Project E is a proposal for a 625 square foot building equipped with a locker area, a restroom, a small kitchen and refrigerator, and a seating area. The area should also be large enough for staff meetings and training 30 to 40 persons in a class room setting.

Total cost of fees and construction, including contingency is **\$ 194,000**

NORTH LAKES PARK REGIONALSPLASH PAD

The North Lakes Park, even though it has a recreation center, has no aquatic recreation elements at all. Unless an aquatic facility is built at North Lakes Park or its companion park, South Lakes Park, there are

no City aquatic facilities west of downtown, an area rapidly expanding in population. A splash pad of the size envisioned in this report has a common service area of at least 2.5 miles radius with occasional users traveling much farther.

This project proposes installation of a 10,000 square foot splash pad surrounded by walk ways situated over an existing two-court tennis court. This splash pad would have no standing water and therefore not need to be staffed by lifeguards. Placement next to the North Lakes Recreation Center will allow for convenient use of both the center and the splash pad by patrons and their children. The splash pad would be designed as interactive meaning that it would run only when there were children present and would feature dozens of jets, umbrellas, buckets, bubblers, slides, and other attractions that sequence through a programmable logic controller constantly changing the display of water. The site shown is clear and would not require extensive utility work or earthwork. A parking lot is nearby and new spaces would not be needed but an accessible route from the splash pad to the parking lot would be required. Splash pads do not generate any source of direct revenue.

Total cost of fees and construction, including contingency is

\$ 1,000,000

FORECASTS

The population of Denton in 2003, when the last aquatic project of any size was built, was around 95,000 persons and reached 113,383 in the 2010 U.S. Census. Estimated population for 2019 is between 140,000 and 150,000 and growing at the rate of about 2.39% per annum which means by the end of the planning period in 2030, the population will have grown to 181,000 according to the U.S. Census. Moreover, the DENTON PLAN 2030 adopted in 2015 presents a population of 207,400 by 2030 using a different method of trending forecast.

Within the 2.5 mile radius of a major splash pad at North Lakes Park and South Lakes Park live nearly 28,000 people each based on census data showing 1,422 persons per square mile.

Swimming pools per capita is a difficult calculation given the varied municipal offerings, shapes and sizes of natatoriums, indoor water parks, outdoor water parks, combined indoor and outdoor pools, multiple pools on one site, etc. The general average in the Dallas-Fort Worth Metroplex is about one swimming pool (excluding splash pads) for every 50,000 persons with ratios as low as 1 pool site per 13,500 persons in Grapevine and as high as 1 pool site for 80,000 persons in Irving. Denton, then, has a ratio of 1 pool (site) for every 68,100 persons if we count the shared indoor aquatic complex and Water Works as one pool site or 1 pool in 45,423 if we count the indoor aquatic center pool and the wave pool at Water Works as two pools and include Civic Center Pool. That puts the City of Denton ratio of swimmable pool venues per capita at around the average in the Metroplex.

Even with 10-year growth forecasts the City of Denton should not need an additional pool to be in the mix of neighboring communities. However, the spatial distribution should be a consideration. There are no aquatic facilities south and west of Interstate 35E nor south of McKinney Street making for an imbalance in area served. Should the city, in the future, elect to build a multi-purpose recreation facility on the south or southwest sides of the city, consideration should be given to indoor/outdoor aquatic facilities such as those in Plano, McKinney, Frisco and Grapevine, to name a few.

Meanwhile, in the intervening years, the addition of well-designed splash pads can bridge the need and provide an economical option to build and to maintain.

The City of Denton will eventually want to build a recreation center, possibly on the south side to complement the Northside Recreation Center.

A well-equipped recreation center with climbing wall, multiple gymnasiums, cardio equipment, spinning equipment, free weights and weight machines, rental rooms, snack bar/juice bar, locker rooms, craft rooms and administrative offices will start at a minimum of 48,000 square feet and go up from there. You should budget around \$280 per square foot and a recommended size would be about 72,000 square feet. Together with parking facilities, this would add up to around \$20,000,000 to \$30,000,000 fully equipped. A good source of information is www.athleticbusiness.com. We recommend reading the June 2018 digital issue for the latest in recreation center design. You will see that per square foot costs vary.

The addition of fitness space to existing buildings should also be estimated at about \$280 per square foot except for natatoriums or indoor water parks which are more expensive at \$580 per square foot fully equipped due to special air handling and mechanical spaces.

The Town of Little Elm indoor water park which is designed as un-air conditioned but uses a green-house concept like Grand Prairie's Epic Waters will cost about \$562 per square foot fully equipped with water features. It is around 40,000 s.f. but does NOT include other fitness space.

WATER PARK GROWTH

The Water Works Water Park is a well-designed and managed facility but after 15-years some of the features such as slides and children's water play apparatus are showing their age and becoming 'stale' to the regular users of the park. The addition of new elements should seriously be considered. The installation of an iconic ride such as the Wave Oz will drive season pass sales, walk up admissions, party rentals, food and beverage and retail sales, and event bookings.

For comparison, Denton's adult admission (walk-up) price of \$14.00 is one of the best values in the Metroplex. Frisco is lower at \$12.00 per day but lacks a wave pool. Hawaiian Falls Parks in Roanoke and The Colony charge \$29.00 for adults. The new Grand Prairie 80,000 s.f. indoor/outdoor Epic Waters facility charges \$17.00 for GP residents and \$29 for out-of-towners.

The Wave Oz can stand alone as a revenue source by offering a premium ticket or it could be blended into uniform day-pass pricing.

Another source of revenue will be party rentals and 'buy the park after-hours' rentals. In some commercial water parks, the going rate for after-hours 'buy the park' rentals is about \$2,500 to \$3,500 for three to four hours. A separate 'buy the park' rate could be established for the Wave Oz.

The success of the Wave Oz, if implemented, will be due to aggressive marketing both locally and regionally to display the 'unique-ness' of the ride, and to develop a business model for its use.

SUMMATION

The cumulative cost for all projects listed above is \$22.0 million for the 10-year planning period. The addition of large interactive splash pads and the enhancement of a third splash pad should meet the needs of families in Denton, replacing the need for small, expensive to operate, neighborhood park pools. While no revenues are associated with splash pads, splash pads are easier to maintain, cheaper to operate, and require less staffing than do swimming pools and water parks.

The expansion of the Water Works Water Park will drive season pass sales and other revenues thereby protecting the city's investment in the water park and making it competitive with surrounding venues while lowering deficits or increasing profitability.

The next major swimming pool project for Denton should be the inclusion of swimming and water play facilities at any new recreation centers the city may contemplate. Building at recreation centers lowers the staffing expense, maintenance expenses due to staff availability on-site, and protects against vandalism or unlawful intrusion.

ATTACHMENTS

Attached to this report are cost projections for each project, location maps, existing facility pictures and prospective 'precedent' photos to show a possible vision for each park.

CITY OF DENTON, TEXAS							
CAPITAL IMPROVEMENTS - PROJECTED PROJECTS FOR 2020-2030							
PARKS & RECREATION DEPARTMENT							
AQUATICS DIVISION							
PROJECT: Splash pad enhancement and enlargement at Carl Young Park							
Item	Description:	Quantity	Units	Unit Cost	Extension		
1	Clearing and grubbing	0.25	ac.	15000	3750		
2	Earthwork	1000	c.y.	25	25000		
3	Drainage	150	l.f.	50	7500		
4	Splash pad site plumbing	1	LS	35000	35000		
5	Splash pad mechanical system expansion	1	LS	25000	25000		
6	Splash pad features	1	LS	94000	94000		
7	Concrete for splash pad	6000	s.f.	10	60000		
8	Concrete walks	2650	s.f.	8.5	22525		
9	Off-street parking	0	s.f.		0		
10	Landscaping and irrigation	1	LS	20000	20000		
11	Colored/cushioned surfaces	7400	s.f.	8.5	62900		
Total Construction					\$355,675		
Engineering/surveying/landscape architecture					28454		
Contingency 8%					28454		
Total Project					\$412,583		

PROJECT: New splash pad at South Lakes Park						
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	Clearing and grubbing	0.5	ac.	20000	10000	
2	Earthwork	2500	c.y.	25	62500	
3	Drainage	450	l.f.	50	22500	
4	Splash pad site plumbing	1	LS	85000	85000	
5	Splash pad mechanical system	1	LS	65000	65000	
6	Splash pad features	1	LS	350000	350000	
7	Concrete for splash pad	10000	s.f.	10	100000	
8	Concrete walks	3500	s.f.	8.5	29750	
9	Off-street parking	0	s.f.		0	
10	Landscaping and irrigation	1	LS	45000	45000	
11	Colored/cushioned surfaces	10000	s.f.	8.5	85000	
Total Construction					854750	
Engineering/surveying/landscape architecture					68380	
Contingency 8%					68380	
Total Project					\$991,510	

PROJECT: Replacement Slide Complex - Water Works			Project 'A'			
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	Demolition/disposal of slide & pool	1	LS	96000	96000	
1a	Demolition of old concrete aprons/walks	16000	s.f.	2.75	44000	
2	Earthwork	1000	c.y.	25	25000	
3	Drainage	200	l.f.	50	10000	
4	Splash down pool and feature plumbing	1	LS	140000	140000	
5	Pumps and mechanical system/electrical	1	LS	185000	185000	
6	Whitewater 40949 SK-4 5-Slide Complex	1	LS	3850000	3850000	
7	Piers and foundations	44	ea.	6500	286000	
8	Concrete walks	2200	s.f.	8.5	18700	
9	New mechanical room	1600	s.f.	200	320000	
10	Landscaping and irrigation	1	LS	36000	36000	
11	Colored/cushioned surfaces	0	s.f.	8.5	0	
12	Temporary fencing and facilities	1	LS	55000	55000	
13	Painting and finishes	1	LS	24000	24000	
14	Restrooms/food and beverage/retail	Refer wave oz				
Total Construction					\$5,089,700	
Engineering/surveying/landscape architecture					407176	
Contingency 8%					407176	
Total Project					\$5,904,052	

PROJECT: Replacement Splash Pool And Structure - Water Works				Project 'B'		
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	Demolition of structures	1	LS	15000	15000	
1a	Demolition of old concrete	14000	s.f.	2.75	38500	
2	Earthwork	3000	c.y.	25	75000	
3	Drainage	350	l.f.	50	17500	
4	Pool and feature plumbing	1	LS	135000	135000	
5	Pumps and mechanical system/electrical	1	LS	125000	125000	
6	Rainfortress 4b Multilevel Structure, structure only	1	LS	2250000	2250000	
7	Concrete pool, zero depth	8800	s.f.	120	1056000	
8	Concrete walks	5200	s.f.	8.5	44200	
9	Off-street parking	0	s.f.		0	
10	Landscaping and irrigation	1	LS	45000	45000	
11	Colored/cushioned surfaces	8000	s.f.	8.5	68000	
	Total Construction					\$3,869,200
	Engineering/surveying/landscape architecture					309536
	Contingency 8%					309536
	Total Project					\$4,488,272

PROJECT: New Feature-Wave Oz and Supporting Structures				Project 'C'		
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	Demolition of old structures	1	LS	45000	45000	
1a	Demolition of old concrete aprons/walks	8400	s.f.	2.75	23100	
2	Earthwork	3500	c.y.	25	87500	
3	Drainage	400	l.f.	50	20000	
4	Wave Oz concrete vessel	800	c.y.	800	640000	
5	Pumps and mechanical system/electrical	1	LS	125000	125000	
6	Wave Oz	1	LS	2800000	2800000	
7	Piers and foundations	20	ea.	6500	130000	
8	Concrete walks/ramps	9000	s.f.	8.5	76500	
9	New mechanical room (refer slide complex)	0	s.f.	200	0	
10	Landscaping and irrigation	1	LS	30000	30000	
11	Colored/cushioned surfaces	2000	s.f.	8.5	17000	
12	Temporary fencing and facilities	1	LS	15000	15000	
	Total Construction					\$4,009,100
	Engineering/surveying/landscape architecture					320728
	Contingency 8%					320728
	Total Project					\$4,650,556

PROJECT: Wave Oz Food and Beverage and Supporting Structures				Project 'C-1'		
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	HVAC, plumbing, electrical	1	LS	75000	75000	
2	Piers and foundations	10	ea.	6500	65000	
3	Concrete walks/seating areas	10000	s.f.	8.5	85000	
4	Landscaping and irrigation	1	LS	18000	18000	
5	Colored/cushioned surfaces	6000	s.f.	8.5	51000	
6	Temporary fencing and facilities	1	LS	40000	40000	
7	Painting and finishes	1	LS	24000	24000	
8	Shade cabanas, 8 x 8 , 10 x 10	15	ea.	3500	52500	
9	Restrooms/food and beverage/retail building	5200	s.f.	240	1248000	
	Total Construction				\$1,658,500	
	Engineering/surveying/landscape architecture				132680	
	Contingency 8%				132680	
	Total Project				\$1,923,860	

PROJECT: New Party Rental Rooms (3)				Project 'D'		
Item	Description:	Quantity	Units	Unit Cost	Extension	
1	Demolition of structures	1	LS	15000	15000	
1a	Demolition of old concrete	14000	s.f.	2.75	38500	
2	Earthwork	100	c.y.	25	2500	
3	Drainage	50	l.f.	50	2500	
4	Party Rooms for Rent	3	ea.	95040	285120	
8	Concrete foundations	2000	s.f.	10.5	21000	
9	Piers	8	ea.	2000	16000	
10	Landscaping and irrigation	1	LS	1500	1500	
11	Carpeting	2000	s.f.	8.5	17000	
12	Roofing	2000	s.f.	12	24000	
13	Cabinetry	3	ea.	3500	10500	
	Total Construction				\$433,620	
	Engineering/surveying/landscape architecture				34689.6	
	Contingency 8%				34689.6	
	Total Project				\$502,999	

PROJECT: Lifeguard Office/Lockers/Break Room				Project 'E'			
Item	Description:	Quantity	Units	Unit Cost	Extension		
1	Demolition of structures	1	LS	1500	1500		
1a	Demolition of old concrete	14000	s.f.	0	0		
2	Earthwork	100	c.y.	25	2500		
3	Drainage	50	l.f.	150	7500		
4	Lifeguard office framing & masonry, finishes	625	s.f.	90	56250		
5	Electrical and lighting	625	s.f.	15	9375		
6	HVAC, mechanical, plumbing	625	s.f.	40	25000		
7	Concrete foundations	625	s.f.	10.5	6562.5		
8	Piers	6	ea.	2000	12000		
9	Landscaping and irrigation	1	LS	1500	1500		
10	Flooring	625	s.f.	10.5	6562.5		
11	Roofing	625	s.f.	15	9375		
12	Furniture/fixtures/equipment	1	LS	20000	20000		
12	Cabinetry/Lockers	1	ea.	8500	8500		
Total Construction					\$166,625		
Engineering/surveying/landscape architecture					13330		
Contingency 8%					13330		
Total Project					\$193,285		

PROJECT: New splash pad at North Lakes Park							
Item	Description:	Quantity	Units	Unit Cost	Extension		
1	Clearing and grubbing	0.5	ac.	20000	10000		
2	Earthwork	2500	c.y.	25	62500		
3	Drainage	450	l.f.	50	22500		
4	Splash pad site plumbing	1	LS	65000	65000		
5	Splash pad mechanical system	1	LS	65000	65000		
6	Splash pad features	1	LS	350000	350000		
7	Concrete for splash pad	10000	s.f.	10	100000		
8	Concrete walks	3500	s.f.	8.5	29750		
9	Off-street parking	0	s.f.		0		
10	Landscaping and irrigation	1	LS	45000	45000		
11	Colored/cushioned surfaces	10000	s.f.	8.5	85000		
Total Construction					\$834,750		
Engineering/surveying/landscape architecture					66780		
Contingency 8%					66780		
Total Project					\$968,310		

PROJECT: Upgrades to Civic Center Pool							
Item	Description:	Quantity	Units	Unit Cost	Extension		
1	Demolition of old structures	1	LS	36000	36000		
1a	Demolition of old concrete aprons/walks	1000	s.f.	2.75	2750		
2	Earthwork	500	c.y.	25	12500		
3	Drainage	150	l.f.	50	7500		
4	30' Slide feature	385	l.f.	1500	577500		
5	Pumps and mechanical system/electrical	1	LS	95000	95000		
6	New building: a/c rental party room	1000	s.f.	150	150000		
7	Piers and foundations	22	ea.	6500	143000		
8	Concrete walks	10000	s.f.	8.5	85000		
9	New mechanical room over existing	900	s.f.	100	90000		
10	Landscaping and irrigation	1	LS	40000	40000		
11	12 x 12 cabanas; lights, fans;	20	ea.	7500	150000		
12	Replace fencing	5,000	l.f.	36	180000		
13	Climbing wall	1	ea.	20,000	20000		
14	Cabana furnishings	20	ea.	1500	30000		
Total Construction						\$1,619,250	
Engineering/surveying/landscape architecture						129540	
Contingency 8%						129540	
Total Project						\$1,878,330	