



**MONADNOCK REGIONAL
SCHOOL DISTRICT**

**ELEMENTARY LEVEL DISTRICT WIDE
FACILITY AND SPACE NEEDS
ASSESSMENT STUDY**

ADDENDUM 1 – RECOMMENDATIONS

November 30, 2019

 **Barker Architects** PLLC

DETAILED OPTIONS COMPARISONS

The Monadnock Regional School District is a diverse and sprawling school district. Finding a solution to the building issues that satisfies all is difficult. These options are meant to show a logical thought process that explores the possibilities. The final recommendation is the option that in this writer's opinion best addresses the needs at a reasonable cost.

The eight options are meant to show a natural progression of thought from the current situation through conclusions that offer a range of possibilities. Each option is reviewed for their positive and negative aspects and the cost differences. It is well understood that the District is unlikely to support any construction project that does not make financial sense. This process is intended to evaluate each option fairly and completely using the best data available at the time.

Core to the cost evaluation are the construction cost estimates and the Life-Cycle Cost Analysis worksheets. The construction cost estimates include both Hard and Soft costs to ensure complete and reasonable estimate. Hard costs are based on the NH State Department of Education FY 2020 Maximum Allowable Costs for School Construction of \$182 per square foot for an elementary school in Cheshire County. This is then modified by 10% to account for inflation for two years. The result is a cost for construction of \$200 per square foot. Other Hard costs are the site development and earthwork. These are much more difficult to estimate. What has been used is reasonable estimate based on this writer's experience.

The Life-Cycle costs are a combination of Building Needs, Utilities, Human Resources and Financial costs. Many of these numbers are estimates but as much as possible these are researched and reasonable if not conservative. They are applied fairly across options so that if there is a mistake, it is unlikely that it would cause a change in the outcome.

The Building Needs and Utilities are relatively easy to explain. The Building Needs are the issues identified in the Building Needs Assessment Study. The Utilities are the current and projected costs for heating and electricity. Mt Caesar has recently gone through heating and electrical renovations, so there is data to show what the cost difference would be if other schools also went through similar renovations. For new construction there is data from other districts or regional and national indexes.

The costs for Human Resources are more difficult to predict but is rooted in studies and common sense. The concept is that an existing, older, poorly designed facilities with less quality materials will be less efficient for the staff and less productive for students. For an example; a new school with new and more durable materials will take less time to clean than an older school. Another example; teachers and students that work in a classroom that is well-lit, well ventilated with a comfortable temperature, will be more productive and less likely to be out sick. The savings for not having as many substitute teachers can be calculated.

The Financial costs refer to the cost of financing a bond but also includes the value of existing buildings that could be included in the tax base. The cost of the bond comes in two parts; the principal payment and the interest. Most bonds are level principal so the interest payments actually decline over time. In 10 years the interest would be half of the first year's payment on a 20-year bond. In some options where there is consolidation of schools, the existing building is assumed to be repurposed and therefore gives value that offsets some of the costs. For the analysis the value of the sale of the property is not calculated but the potential property tax revenue is. Very conservative values of roughly \$30 per square foot are used.

The Life-Cycle cost projections are limited to 10 years. After more than 10 years it becomes increasingly difficult to predict building upgrade needs. This is when even new construction would start to need regular maintenance. A 10-year horizon does not cover the entire bond repayment which typically is 20 years, however after 10 years the bond payments are considerably less and also the population and valuation will have likely changed. New residents 10 years out will share the cost of the bond and it is likely property values will increase and negate some of the tax impact. The differences of the different options after 10 years is impossible to predict and possibly not significant.

Demographics should also influence the selection of the recommended option. Swanzey represents fully half of the districts population and therefor is the gravitational center of the district. The Middle School and the High School are located here. Fitzwilliam and Troy each represent about 16% of the population and Richmond 8% with these three towns together representing about 40% of the population.

Troy's town center is the most densely populated region. Swanzey is made up of several villages including East Swanzey and the largest, West Swanzey. The Middle School, High School and Mt Caesar Elementary are located between these villages about 3 miles from each center.

Lastly, inflation is added to all the numbers with a factor of 2.5% per year. Overall the district has seen an increase in energy costs by approximately 10 % a year for the last four years. Energy performance will have an even larger impact if energy costs continue to rise. Bond interest rates have averaged around 2.5% per year. There is no guarantee that bond rates will stay low but there is little indication in the market that they are going up any time soon. With inflation and energy costs rising at the rate higher than inflation, there is a great incentive to borrow money for needed improvements.

The success of any option is likely tied to receiving State Building Aid. The rate for the Monadnock Regional School District is currently 54% which is paid up-front thus reducing the need for a bond. There are some restrictions and it is possible that some options would receive less aid or even risk not being funded at all. The State Department of Education is encouraging the implementation of certain factors including; consolidation, solving life safety problems, energy efficiency, reuse of historic structures and other items. Options that contain the most of these factors are more likely to receive Building Aid.

OPTIONS

The options start with the simplest of scenarios and increase in complexity and explores alternatives.

Option 1 - Do Nothing

This option is literally what happens if the schools are left exactly the way they are. This is obviously not a viable option because it does nothing to solve the problems identified in the schools. What is important however is to note that “doing nothing” actually has a cost. The schools will cost more to heat, staff will spend more time cleaning and maintaining the buildings and teachers and students will be less productive. These added costs can be estimated and should be used as a benchmark when comparing to other options.

BUILDING PROJECT COST	=	\$0
STATE BUILDING AID	=	\$0
BOND AMOUNT	=	\$0
LIFE -CYCLE, 10YR COSTS	=	\$19,036,920

Option 2 - Upgrades Over 10 Years

This option is the “pay as you go” option. Common Sense might suggest that this is the most financially responsible option but that ignores a number of factors. First of all, inflation in construction and energy are outpacing the bond interest. By locking in a low interest rate bond, the value of the construction is locked in for 20 years. Also, by putting off needed improvements the district is denied the benefits of lower energy bills and better teacher and student performance. The result is a much higher long-term cost.

Building Aid is assumed to not be available due to the projects being paid through the operating budget. If Building Aid is available it would be limited by rules setting maximum size and cost of projects. Emerson and Gilsum would only be allowed a small amount of state aid due to the fact that they have received large additions within the last 50 years that received Building Aid.

BUILDING PROJECT COST	=	\$0
STATE BUILDING AID	=	\$??
BOND AMOUNT	=	\$0
LIFE -CYCLE, 10YR COSTS	=	\$40,974,573

Option 3 – Additions/Renovations District Wide in One Year

This option performs all upgrades of Option 2 in one year by financing it through a bond. By combining all the district needs into one project there is an economy of scale. As mentioned in Option 2, the cost of the interest on the bond is lower than the cost of

inflation. Add to that the benefit of better facilities on maintenance and performance and the net cost of this option is much lower than doing the projects over time.

As in Option 1, State Building Aid would be limited in this scenario. Some facilities have received Building Aid in the last 50 years and those projects need to be deducted from the square foot of new construction financed by State Aid. The State also requires that renovations not exceed 60% of the value of the existing building. Renovations at Gilsum and Troy exceed 60% of their current value.

BUILDING PROJECT COST	=	\$21,9351,000
STATE BUILDING AID	=	\$5,355,505
BOND AMOUNT	=	\$16,579,496
LIFE -CYCLE, 10YR COSTS	=	\$26,652,923

Option 4 – New South Elementary, Additions/Renovations North Schools

Due to the demographics and the relatively small size of Emerson and Troy it makes sense to combine these schools into one. Both Emerson and Troy have numerous upgrades making a new school somewhat close in cost. If both buildings can be repurposed it is possible to see revenue from the property taxes. The efficiency of a new school adds to the savings. Most importantly this option meets many of the States criteria for Building Aid and is more likely to receive aid than the previous options.

This option does not address all the needs and most notably does not make any change to the site at Cutler.

BUILDING PROJECT COST	=	\$26,226,000
STATE BUILDING AID	=	\$10,196,712
BOND AMOUNT	=	\$16,029,288
LIFE -CYCLE, 10YR COSTS	=	\$25,739,998

Option 5 – New South Elementary, Additions/Renovations to Mt Caesar for North School for Swanzey, Additions/Renovations to Gilsum

Like Option 4, this consolidates Fitzwilliam and Troy into one new school but here Cutler is moved to the Mt Caesar site to create one school for Swanzey. This would be a relatively easy change for Swanzey since Cutler and Mt Caesar already share the same students split by grade. A single school for Swanzey would benefit the students since there would not be the transition to a new school at third grade.

BUILDING PROJECT COST	=	\$30,649,000
STATE BUILDING AID	=	\$14,427,396
BOND AMOUNT	=	\$16,221,604
LIFE -CYCLE, 10YR COSTS	=	\$22,427,410

Option 6 – New Single Consolidated Elementary School

A common sense approach might be to consolidate all the elementary school students into one central school building. This would simplify administration and maintenance. However, the experience for the students would probably not be as favorable. The school would need to hold over 1000 students which is very large for elementary ages. It would also be a very intense use for the site which would most likely be the Mt Caesar site.

The State caps Building Aid on the number of square feet per student minus any previous projects that already received Building Aid. This results in all-new construction receiving less Aid than projects that reuse buildings.

BUILDING PROJECT COST	=	\$34,332,000
STATE BUILDING AID	=	\$6,237,792
BOND AMOUNT	=	\$28,094,208
LIFE -CYCLE, 10YR COSTS	=	\$29,634,149

Option 7 – New South Elementary, Additions/Renovations to Mt Caesar for North School, Redistrict

This option consolidates five schools down to two by closing four schools and building one new on. A new South Elementary would be constructed somewhere central to Troy, Richmond and Fitzwilliam, and Mt Caesar would receive additions and renovations to make a North Elementary. These two schools would be equal in size making them efficient to staff and operate. This also provides the most equivalent experience for students throughout the district. It does require that students are distributed equally meaning that some students from Swanzey would likely attend the South School.

As in Option 6, State Building Aid is reduced due to previous projects having to be deducted from the amount of new construction allowed. Even still, the savings for the improved efficiency make this option only 10% higher over 10 years than the baseline “Do Nothing” option.

BUILDING PROJECT COST	=	\$28,338,000
STATE BUILDING AID	=	\$8,142,984
BOND AMOUNT	=	\$20,195,016
LIFE -CYCLE, 10YR COSTS	=	\$20,986,650

*Option 8 – Additions/Renovations to Troy for South Elementary,
Additions/Renovations to Mt Caesar for North School, Redistrict*

The final option is similar to the previous in that it consolidates the district into just two elementary schools, one North located at Mt Caesar and one South, now located at Troy. It preserves the Troy school which is a historic building. This option is as efficient as Option 7 for operations.

The existing Troy school can be challenging to work with, but it also gives some unique opportunities. The existing building is 3-stories which keeps the footprint of the building small. If a 3-story addition were constructed to replace the 1-story wing, it is possible to have a much larger facility that does not occupy more area than it currently does.

BUILDING PROJECT COST	=	\$24,519,000
STATE BUILDING AID	=	\$11,000,260
BOND AMOUNT	=	\$13,518,740
LIFE -CYCLE, 10YR COSTS	=	\$18,649,929

RECOMMENDATION

It is clear the cost of upgrading the Monadnock Regional School District facilities can be done cost effectively. The cost of doing nothing or trying to pay-as-you-go can be expensive and does not give the benefits of upgraded facilities right away. Which option is best can be a matter of opinion and subject to intangible influences.

In general, the concept of two schools, one North in the district and one South in the district meets the needs within a reasonable cost. This effectively reduces the options down to Option 5, Option 7 and Option 8.

Option 8 “Additions and Renovations to Mt Caesar and Troy to create a North and a South elementary schools” has many advantages over the other options. It has the lowest Bond cost and the lowest Life-Cycle cost. It addresses all the issues for building and educational needs. It probably has the best chance for receiving State Building Aid. It scores well on the states criteria. The fact that the district already owns both properties means that a construction proposal can be generated much more quickly which could be key in an application process that is competitive.

End Report

**Monadnock Regional School District
Elementary School Improvements**

Student Enrollment per Option

	Student Capacity						Total
	Cutler	Emerson	Gilsum	Mt Caesar	Troy	New	
Option #1 Do Nothing	275	200	100	275	200		1,050
Option #2 Additions / Renovations Over Ten Years.	275	200	100	275	200		1,050
Option #3 Additions / Renovations District Wide in One Year	275	200	100	275	200		1,050
Option #4 New South Elementary, Additions / Renovations to North Schools	275		100	275		400	1,050
Option #5 New South Elementary, Add/Reno to Mt Caesar for Swanzey, Add/Reno to Gilsum			100	550		400	1,050
Option #6 Consolidate all Elementary onto Mt Caesar Site				1,050			1,050
Option #7 New South Elementary and Mt Caesar North with Redistricting				525		525	1,050
Option #8 Troy South Elementary and Mt Caesar North with Redistricting				525	525		1,050

**Monadnock Regional School District
Elementary School Improvements**

Total Building Project Cost per Option

	Building Project Costs						Total
	Cutler	Emerson	Gilsum	Mt Caesar	Troy	New	
Option #1 Do Nothing							\$ -
Option #2 Renovations and Additions Over Ten Years.							\$ -
Option #3 Additions/Renovations District Wide in One Year	\$ 4,124,000	\$ 3,493,000	\$ 4,644,000	\$ 1,874,000	\$ 7,800,000		\$ 21,935,000
Option #4 New South Elementary, Additions/Renovations to North Schools	\$ 4,124,000		\$ 4,644,000	\$ 1,874,000		\$ 15,584,000	\$ 26,226,000
Option #5 New South Elementary, Mt Caesar North Elementary, Add/Reno to Gilsum			\$ 4,644,000	\$ 10,421,000		\$ 15,584,000	\$ 30,649,000
Option #6 Consolidate all Elementary onto Mt Caesar Site						\$ 34,332,000	\$ 34,332,000
Option #7 New South Elementary and Mt Caesar North with Redistricting				\$ 9,023,000		\$ 19,315,000	\$ 28,338,000
Option #8 Troy South Elementary and Mt Caesar North with Redistricting				\$ 9,023,000	\$ 15,496,000		\$ 24,519,000

**Monadnock Regional School District
Elementary School Improvements**

Bond Cost per Option Comparison

	Bond Amount						Total
	Cutler	Emerson	Gilsum	Mt Caesar	Troy	New	
Option #1 Do Nothing							\$ -
Option #2 Renovations and Additions Over Ten Years.							\$ -
Option #3 Additions/Renovations District Wide in One Year	\$ 3,739,304	\$ 3,029,248	\$ 4,259,304	\$ 862,040	\$ 4,689,600		\$ 16,579,496
Option #4 New South Elementary, Additions/Renovations to North Schools	\$ 3,739,304		\$ 4,259,304	\$ 862,040		\$ 7,168,640	\$ 16,029,288
Option #5 New South Elementary, Mt Caesar North Elementary, Add/Reno to Gilsum			\$ 4,259,304	\$ 4,793,660		\$ 7,168,640	\$ 16,221,604
Option #6 Consolidate all Elementary onto Mt Caesar Site						\$ 28,094,208	\$ 28,094,208
Option #7 New South Elementary and Mt Caesar North with Redistricting				\$ 7,730,348		\$ 12,464,668	\$ 20,195,016
Option #8 Troy South Elementary and Mt Caesar North with Redistricting				\$ 7,730,348	\$ 9,148,392		\$ 16,878,740

**Monadnock Regional School District
Elementary School Improvements**

Life-Cycle Cost Comparisons

	Life-Cycle Costs (including 54% State Building Aid and Bond) over 10 years						Total
	Cutler	Emerson	Gilsum	Mt Caesar	Troy	New	
Option #1 Do Nothing	\$ 4,640,795	\$ 4,367,291	\$ 2,461,464	\$ 3,940,213	\$ 3,627,157		\$ 19,036,920
Option #2 Renovations and Additions Over Ten Years.	\$ 8,435,204	\$ 7,610,766	\$ 7,355,973	\$ 5,910,134	\$ 11,662,496		\$ 40,974,573
Option #3 Additions/Renovations District Wide in One Year	\$ 6,023,520	\$ 5,430,060	\$ 4,711,942	\$ 4,527,478	\$ 5,959,923		\$ 26,652,923
Option #4 New South Elementary, Additions/Renovations to North Schools	\$ 6,023,520		\$ 4,711,942	\$ 4,527,478		\$ 10,477,058	\$ 25,739,998
Option #5 New South Elementary, Mt Caesar North Elementary, Add/Reno to Gilsum			\$ 4,711,942	\$ 7,238,410		\$ 10,477,058	\$ 22,427,410
Option #6 Consolidate all Elementary onto Mt Caesar Site						\$ 29,634,149	\$ 29,634,149
Option #7 New South Elementary and Mt Caesar North with Redistricting				\$ 9,376,831		\$ 11,609,819	\$ 20,986,650
Option #8 Troy South Elementary and Mt Caesar North with Redistricting				\$ 9,376,831	\$ 9,273,098		\$ 18,649,929

Monadnock Regional School District

Building Options

	Description	Positives	Negatives
Option #1 Do Nothing	Perform only the upgrades that are required for Life Safety and general maintenance.	Least up-front capital cost.	Worst for education. Worst for teacher retention. Highest operational cost. High amount of disruption to education.
Option #2 Additions/Renovations District Wide	Perform upgrades and additions to bring all schools up to the District goal through a 5 year Capital Improvement Plan.	Addresses most needs for an effective cost up-front cost.	Not all site issues can be fixed due to many aspects of existing not able to upgrade. Life Cycle costs actually higher than other options. Inflation causes construction costs to be higher. Most amount of disruption to education.
Option #3 Additions/Renovations District Wide in One Year	Perform upgrades and additions to bring all schools up to the District goal. This would be financed through a Bond and the construction would happen simultaneously.	Neighborhood schools for Swansey better for students. Creates 4 roughly equally sized K-6 schools. Lower bussing costs.	Not all site issues can be fixed. Not all building issues can be addressed.
Option #4 New South Elementary, Additions/Renovations to Swansey and Gilsium	A New elementary school would be built for Troy and Fitzwilliam somewhere central to the two town centers. Troy and Emerson would be closed. Additions and renovations would occur at Mt Caesar, Cutler and Gilsium.	Consolidated Troy/Fitzwilliam School would be more efficient to operate.	Cutter site issues not addressed. Troy and Fitzwilliam would have existing schools to be repurposed.
Option #5 New South Elementary, Additions to Mt Caesar to create North Elementary, Additions/Renovations to Gilsium	A New elementary school would be built for Troy and Fitzwilliam somewhere central to the two town centers. Troy and Emerson would be closed. Additions and renovations would occur at Mt Caesar to house all students from Swansey. Cutler would be closed.	Consolidated schools would be more efficient to operate. Removes student transition at third grade for Swansey.	Troy, Fitzwilliam and Swansey would have existing schools to be repurposed. The North and South elementaries would not be equal in size.
Option #6 Consolidate all Elementary onto Mt Caesar Site	All Elementary Schools would be closed and a new elementary school would be built to house all the district elementary students.	One single elementary school would be the most efficient to operate.	The size of a single school would be too large for elementary school students. State Aid would not be available for all of the construction.
Option #7 Consolidate Across Town Borders with Additions and Renovations to Mt Caesar and a New School	Two schools would be created to form a North and a South elementary schools. The North Elementary would be Mt Caesar with additions and renovations and the South Elementary would be a New school building on a new site.	Two schools of equal size would be the most efficient to operate.	Restricting to allocate students evenly would be politically difficult. Both Troy and Fitzwilliam would lose a school in their town center. Both Troy and Fitzwilliam would likely have to bus all of their students. The District does not currently own a site in the appropriate location.
Option #8 Consolidate Across Town Borders with Additions and Renovations to Mt Caesar and Troy	Two schools would be created to form a North and a South elementary schools. The North Elementary would be Mt Caesar with additions and renovations and the South Elementary would be Troy with additions and renovations.	Two schools of equal size would be the most efficient to operate. This would maintain a school presence in the center of Troy. The location of Troy School would allow some students to walk. Reusing the Troy School would preserve the historic building. The District already owns the Troy School site. This would save considerable time.	Restricting to allocate students evenly would be politically difficult. Fitzwilliam would lose a school in their town. The Troy School site is challenging for a large addition.

OPTION 1

DO NOTHING

Cutler Elementary School

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10	
BUILDING NEEDS	Division 0	-	-	-	-	-	-	-	-	-	-	
	Division 1	-	-	-	-	-	-	-	-	-	-	
	Division 2	-	-	-	-	-	-	-	-	-	-	
	Division 3	-	-	-	-	-	-	-	-	-	-	
	Division 4	-	-	-	-	-	-	-	-	-	-	
	Division 5	-	-	-	-	-	-	-	-	-	-	
	Division 6	-	-	-	-	-	-	-	-	-	-	
	Division 7	-	-	-	-	-	-	-	-	-	-	
	Division 8	-	-	-	-	-	-	-	-	-	-	
	Division 9	-	-	-	-	-	-	-	-	-	-	
	Division 10	-	-	-	-	-	-	-	-	-	-	
	Division 11	-	-	-	-	-	-	-	-	-	-	
	Division 12	-	-	-	-	-	-	-	-	-	-	
	Division 13	-	-	-	-	-	-	-	-	-	-	
	Division 14	-	-	-	-	-	-	-	-	-	-	
	Division 15	-	-	-	-	-	-	-	-	-	-	
	Division 16	-	-	-	-	-	-	-	-	-	-	
SUBTOTAL		-	-	-	-	-	-	-	-	-	-	
Water	\$	7,127	7,305	7,487	7,675	7,866	8,063	8,265	8,471	8,683	8,900	
Electricity	\$	-	-	-	-	-	-	-	-	-	-	
Grid	\$	21,024	21,549	22,088	22,640	23,206	23,786	24,381	24,990	25,615	26,256	
On-Site	\$	-	-	-	-	-	-	-	-	-	-	
Cooking Fuel	\$	713	730	749	767	787	806	826	847	868	890	
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-	
Oil	\$	31,001	31,776	32,570	33,384	34,219	35,075	33,059	33,885	34,732	35,601	
Propane	\$	-	-	-	-	-	-	-	-	-	-	
Wood	\$	-	-	-	-	-	-	-	-	-	-	
Electricity	\$	-	-	-	-	-	-	-	-	-	-	
Other	\$	-	-	-	-	-	-	-	-	-	-	
SUBTOTAL		59,864	61,360	62,894	64,467	66,078	67,730	66,531	68,194	69,899	71,646	
HUMAN RESOURCES	Cleaning	\$	124,716	127,834	131,030	134,305	137,663	141,105	144,632	148,248	151,954	155,753
	Repairs	\$	12,472	12,783	13,103	13,431	13,766	14,110	14,463	14,825	15,195	15,575
	Productivity Loss	\$	40,087	41,089	42,117	43,170	44,249	45,355	46,489	47,651	48,842	50,063
	Bussing	\$	178,166	182,620	187,185	191,865	196,661	201,578	206,617	211,783	217,077	222,504
SUBTOTAL		355,440	364,326	373,434	382,770	392,339	402,148	412,202	422,507	433,069	443,896	
BOND COST	Principal	-	-	-	-	-	-	-	-	-	-	
	Interest	-	-	-	-	-	-	-	-	-	-	
	Tax Income	-	-	-	-	-	-	-	-	-	-	
SUBTOTAL		-	-	-	-	-	-	-	-	-	-	
TOTAL		415,304	425,686	436,329	447,237	458,418	469,878	478,732	490,701	502,968	515,542	
GRAND TOTAL \$		4,640,795										

Bond Amount: \$ - Building Size: 34764 Total Project Cost: \$ -
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ -
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

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Emerson Elementary

Student Capacity: 200

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	\$ 0.20	6,733	7,074	7,251	7,432	7,618	7,809	8,004	8,204	8,409
Electricity	\$ -	-	-	-	-	-	-	-	-	-
Grid	\$ 0.60	20,200	21,223	21,754	22,297	22,855	23,426	24,012	24,612	25,227
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$ -	-	-	-	-	-	-	-	-	-
Heating Fuel	\$ -	-	-	-	-	-	-	-	-	-
Oil	\$ 0.82	27,607	28,297	29,005	29,730	30,473	31,235	32,016	32,816	33,637
Propane	\$ 0.80	-	28,297	29,005	29,730	30,473	31,235	32,016	32,816	33,637
Wood	\$ 0.40	-	-	-	-	-	-	-	-	-
Electricity	\$ 0.40	-	-	-	-	-	-	-	-	-
Other	\$ -	-	-	-	-	-	-	-	-	-
SUBTOTAL	54,541	55,904	56,594	58,009	59,460	60,946	62,470	64,031	65,632	67,273
Cleaning	\$ 3.50	117,835	123,800	126,895	130,068	133,320	136,653	140,069	143,571	147,160
Repairs	\$ 0.35	11,784	12,078	12,690	13,007	13,332	13,665	14,007	14,357	14,716
Productivity Loss	3%	37,876	38,822	39,793	40,788	42,853	43,924	45,022	46,148	47,301
Bussing	\$ 5.00	168,336	172,544	176,858	181,279	185,811	190,456	195,218	200,098	210,228
SUBTOTAL	335,830	344,226	352,831	361,652	370,693	379,961	389,460	399,196	409,176	419,405
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	390,371	400,130	409,426	419,661	430,153	440,907	451,929	463,228	474,808	486,678
GRAND TOTAL \$	4,367,291									

Bond Amount: \$ - Building Size: 32846 Total Project Cost: \$ -
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ -
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

Gilsium STEAM Academy

Student Capacity: 100

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	3,704	3,797	3,891	3,989	4,088	4,191	4,295	4,403	4,513	4,626
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	15,742	16,135	16,539	16,952	17,376	17,810	18,256	18,712	19,180	19,659
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	17,409	17,844	18,290	-	-	-	-	-	-	-
Propane	-	-	-	15,955	16,354	16,763	17,182	17,611	18,052	18,503
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	36,854	37,776	38,720	36,896	37,818	38,764	39,733	40,726	41,744	42,788
UTILITIES										
Cleaning	64,819	66,439	68,100	69,803	71,548	73,337	75,170	77,049	78,976	80,950
Repairs	6,482	6,644	6,810	6,980	7,155	7,334	7,517	7,705	7,898	8,095
Productivity Loss	20,835	21,356	21,889	22,437	22,998	23,573	24,162	24,766	25,385	26,020
Bussing	92,599	94,913	97,286	99,718	102,211	104,767	107,386	110,071	112,822	115,643
SUBTOTAL	184,734	189,352	194,086	198,938	203,912	209,010	214,235	219,591	225,080	230,707
HUMAN RESOURCES										
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
BOND COST										
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	221,588	227,128	232,806	235,834	241,730	247,773	253,968	260,317	266,825	273,495
GRAND TOTAL \$	2,461,464									

Bond Amount: \$ - Building Size: 18068 Total Project Cost: \$ -
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ -
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

Mt Caesar Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
Cleaning	78,900	80,873	82,895	84,967	87,091	89,269	91,500	93,788	96,132	98,536
Repairs	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Productivity Loss	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL	298,835	306,306	313,964	321,813	329,858	338,105	346,557	355,221	364,102	373,204
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	351,699	360,491	369,503	378,741	388,209	397,915	407,862	418,059	428,511	439,223
GRAND TOTAL \$	3,940,213									

Bond Amount:	\$	-	Building Size:	384,888	Total Project Cost:	\$	-
Bond Term:	20	Inflation Rate	2.5%	State Building Aid:	\$	-	
Bond Rate:	2.5%	Value of Exist	\$				

Table H
12/10/2019

Barker Architects, PLLC

Troy Elementary

Student Capacity 200

Life-Cycle Cost Analysis

Task	1	2	3	4	5	6	7	8	9	10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	0.64	18,557	19,021	19,496	19,984	20,483	20,995	21,520	22,058	22,610
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	0.83	23,479	24,066	25,284	25,916	26,564	27,228	27,909	28,607	29,322
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	41,583	42,623	43,688	44,781	45,900	47,048	48,224	49,429	50,665	51,932
Cleaning	3.50	99,008	101,483	104,020	106,621	109,286	111,989	114,731	117,514	120,337
Repairs	0.35	9,901	10,148	10,402	10,662	10,929	11,202	11,482	11,769	12,063
Productivity Loss	3%	31,824	32,620	33,435	34,271	35,128	36,006	36,906	37,829	38,774
Bussing	5.00	141,440	144,976	148,600	152,315	156,123	160,026	164,027	168,127	172,331
SUBTOTAL	282,172	289,227	296,457	303,869	311,465	319,252	327,233	335,414	343,800	352,395
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	323,756	331,849	340,146	348,649	357,366	366,300	375,457	384,844	394,465	404,326
TOTAL	323,756	331,849	340,146	348,649	357,366	366,300	375,457	384,844	394,465	404,326
GRAND TOTAL \$	3,627,157									

Bond Amount:	\$	-	Building Size:	27598	Total Project Cost:	\$	-
Bond Term	20	Inflation Rate	2.5%	State Building Aid:	\$	-	
Bond Rate	2.5%	Value of Exist	\$				

Table H
12/10/2019

Barker Architects, PLLC

OPTION 2

ADDITIONS AND RENOVATIONS OVER 10 YEARS

Cutler Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$200,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities				\$200,000	
2. General Construction - New					\$3,164,000
New Constuction	4,357	s.f.	\$ 200	per s.f.	\$871,000
Renovation					\$2,205,000
Construction Contingency	5.00%				\$44,000
Construction Manager Fee	5.00%				\$44,000
3. Design Fees					\$200,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$40,000
A&E Renovation	7.00%				\$150,000
4. Furniture, Equipment and Services					\$300,000
Loose Equipment	5.00%				\$160,000
Phone Service	1.00%				\$30,000
Computers	2.00%				\$60,000
Utility Charges	1.50%				\$50,000
5. Administrative Costs					\$60,000
Testing	0.25%				\$10,000
Survey, Borings	0.25%				\$10,000
Clerk of the Works	0.75%				\$30,000
Bonding/Legal	0.30%				\$10,000
6. Design Contingency	5%				\$200,000

Total Project Cost**\$4,124,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Emerson Elementary School

Bond Cost Worksheet

Student Capacity 200

1. Site Development Costs					\$200,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities					\$200,000
2. General Construction - New					\$2,653,000
New Constuction	1,123	s.f.	\$ 200	per s.f.	\$225,000
Renovation				\$	2,406,000
Construction Contingency	5.00%				\$11,000
Construction Manager Fee	5.00%				\$11,000
3. Design Fees					\$140,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$130,000
A&E Renovation	7.00%				\$0
4. Furniture, Equipment and Services					\$250,000
Loose Equipment	5.00%				\$130,000
Phone Service	1.00%				\$30,000
Computers	2.00%				\$50,000
Utility Charges	1.50%				\$40,000
5. Administrative Costs					\$50,000
Testing	0.25%				\$10,000
Survey, Borings	0.25%				\$10,000
Clerk of the Works	0.75%				\$20,000
Bonding/Legal	0.30%				\$10,000
6. Design Contingency					\$200,000
	5%				

Total Project Cost

\$3,493,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Gilsum Elementary**Bond Cost Worksheet**

Student Capacity 200

1. Site Development Costs				\$0
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				
2. General Construction - New				\$3,824,000
New Constuction	8,383	s.f.	\$ 200 per s.f.	\$1,677,000
Renovation				\$1,979,000
Construction Contingency	5.00%			\$84,000
Construction Manager Fee	5.00%			\$84,000
3. Design Fees				\$190,000
Civil Engineering	6.00%			\$0
A&E New Construction	5.00%			\$190,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$370,000
Loose Equipment	5.00%			\$190,000
Phone Service	1.00%			\$40,000
Computers	2.00%			\$80,000
Utility Charges	1.50%			\$60,000
5. Administrative Costs				\$60,000
Testing	0.25%			\$10,000
Survey, Borings	0.25%			\$10,000
Clerk of the Works	0.75%			\$30,000
Bonding/Legal	0.30%			\$10,000
6. Design Contingency				\$200,000
	5%			

Total Project Cost**\$4,644,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Ceasar Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$100,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities				\$100,000	
2. General Construction - New					\$1,454,000
New Constuction	5,407	s.f.	\$ 200	per s.f.	\$1,081,000
Renovation					\$265,000
Construction Contingency	5.00%				\$54,000
Construction Manager Fee	5.00%				\$54,000
3. Design Fees					\$80,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$50,000
A&E Renovation	7.00%				\$20,000
4. Furniture, Equipment and Services					\$130,000
Loose Equipment	5.00%				\$70,000
Phone Service	1.00%				\$10,000
Computers	2.00%				\$30,000
Utility Charges	1.50%				\$20,000
5. Administrative Costs					\$10,000
Testing	0.25%				\$0
Survey, Borings	0.25%				\$0
Clerk of the Works	0.75%				\$10,000
Bonding/Legal	0.30%				\$0
6. Design Contingency	5%				\$100,000

Total Project Cost**\$1,874,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Troy Elementary School

Bond Cost Worksheet

Student Capacity 200

1. Site Development Costs				\$200,000
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				\$200,000
2. General Construction - New				\$6,130,000
New Constuction	11,658	s.f.	\$ 200 per s.f.	\$2,332,000
Renovation				\$3,564,000
Construction Contingency	5.00%			\$117,000
Construction Manager Fee	5.00%			\$117,000
3. Design Fees				\$380,000
Civil Engineering	6.00%			\$10,000
A&E New Construction	5.00%			\$120,000
A&E Renovation	7.00%			\$250,000
4. Furniture, Equipment and Services				\$580,000
Loose Equipment	5.00%			\$310,000
Phone Service	1.00%			\$60,000
Computers	2.00%			\$120,000
Utility Charges	1.50%			\$90,000
5. Administrative Costs				\$110,000
Testing	0.25%			\$20,000
Survey, Borings	0.25%			\$20,000
Clerk of the Works	0.75%			\$50,000
Bonding/Legal	0.30%			\$20,000
6. Design Contingency				\$400,000
	5%			

Total Project Cost

\$7,800,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Cutler Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year									
	1	2	3	4	5	6	7	8	9	10
Division 0	28,413	62,407	83,157	75,103	38,694	36,530	72,748	33,897	4,496	200,692
Division 1	102,500	-	-	-	-	-	-	-	-	1,114,954
Division 2	13,838	105,063	43,076	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	10,506	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	52,531	-	-	-	-	-	-	-	-
Division 8	29,725	-	-	331,144	-	-	-	-	-	-
Division 9	10,250	73,544	-	-	45,256	-	-	-	-	-
Division 10	-	-	19,384	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	26,266	-	-	-	-	-	-	-	-
Division 15	1,538	78,797	399,526	48,568	169,711	202,946	404,153	-	-	-
Division 16	-	-	-	37,530	-	-	-	182,760	24,977	-
SUBTOTAL	186,263	409,113	545,144	492,345	253,662	239,477	476,901	215,657	29,473	1,315,645
Water	\$ 0.20	\$ 7,127	\$ 7,487	\$ 7,675	\$ 7,866	\$ 8,063	\$ 8,265	\$ 8,471	\$ 8,683	\$ 8,900
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.59	\$ 21,024	\$ 22,088	\$ 22,640	\$ 23,206	\$ 23,786	\$ 24,381	\$ 24,990	\$ 25,615	\$ 26,256
On-Site	\$ 0.70	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cooking Fuel	\$ 0.02	\$ 713	\$ 749	\$ 767	\$ 787	\$ 806	\$ 826	\$ 847	\$ 868	\$ 890
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ 0.87	\$ 31,001	\$ 32,570	\$ 33,384	\$ 34,219	\$ 35,075	\$ 33,059	\$ 33,885	\$ 34,732	\$ 35,601
Propane	\$ 0.80	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wood	\$ 0.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ 0.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	59,864	61,360	62,894	64,467	66,078	67,730	66,531	68,194	69,899	71,646
Cleaning	\$ 3.00	\$ 106,899	\$ 109,572	\$ 112,311	\$ 117,997	\$ 120,947	\$ 123,970	\$ 127,070	\$ 130,246	\$ 133,503
Repairs	\$ 0.30	\$ 10,690	\$ 10,957	\$ 11,231	\$ 11,512	\$ 11,800	\$ 12,095	\$ 12,397	\$ 12,707	\$ 13,025
Productivity Loss	\$ 2%	\$ 26,725	\$ 27,393	\$ 28,078	\$ 28,780	\$ 29,499	\$ 30,237	\$ 30,993	\$ 31,767	\$ 32,562
Bussing	\$ 5.00	\$ 178,166	\$ 182,620	\$ 187,185	\$ 191,865	\$ 196,661	\$ 201,578	\$ 206,617	\$ 211,783	\$ 222,504
SUBTOTAL	322,480	330,542	338,805	347,275	355,957	364,856	373,977	383,327	392,910	402,733
Principal Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	568,606	801,015	946,843	904,086	675,697	672,063	917,409	667,178	492,282	1,790,024

GRAND TOTAL \$ 8,435,204

Bond Amount: \$ -
 Bond Term 20
 Bond Rate 2.5%
 Building Size: 34764
 Inflation Rate 2.5%
 Value of Exist 0
 Total Project Cost: \$ -
 State Building Aid: \$ -

Table H
12/10/2019

Barker Architects PLLC

Emerson Elementary

Student Capacity 200

Life-Cycle Cost Analysis

Task	Year									
	1	2	3	4	5	6	7	8	9	10
Division 0	27,306	26,665	78,505	51,857	58,245	58,449	53,491	55,925	74,182	63,364
Division 1	102,500	6,304	-	-	-	-	-	-	62,443	288,019
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	8,200	-	-	-	135,769	-	-	-	-	-
Division 6	20,500	21,013	-	-	-	-	-	-	-	-
Division 7	-	10,506	-	55,191	-	-	-	60,920	-	-
Division 8	20,500	10,506	134,611	-	-	-	-	-	-	-
Division 9	-	-	-	44,153	28,285	-	59,434	60,920	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	23,180	63,359	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	78,797	301,529	-	22,628	324,714	237,737	152,300	349,682	-
Division 16	-	21,013	-	165,572	73,542	-	-	36,552	-	64,004
SUBTOTAL	179,006	174,803	514,646	339,952	381,828	383,163	350,662	366,617	486,307	415,387
Water	\$ 0.20	\$ 6,733	\$ 7,074	\$ 7,251	\$ 7,432	\$ 7,618	\$ 7,809	\$ 8,004	\$ 8,204	\$ 8,409
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.60	\$ 20,705	\$ 21,223	\$ 21,754	\$ 22,297	\$ 22,855	\$ 23,426	\$ 24,012	\$ 24,612	\$ 25,227
On-Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ 0.82	\$ 27,607	\$ 28,297	\$ 29,005	\$ 29,730	\$ 30,473	\$ 31,235	\$ 32,016	\$ 32,816	\$ 33,637
Propane	\$ 0.80	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wood	\$ 0.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ 0.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	54,541	55,904	56,594	58,009	59,460	60,946	62,470	64,031	65,632	67,273
Cleaning	\$ 3.00	\$ 101,001	\$ 106,115	\$ 108,768	\$ 111,487	\$ 114,274	\$ 117,131	\$ 120,059	\$ 123,060	\$ 126,137
Repairs	\$ 0.30	\$ 10,100	\$ 10,353	\$ 10,611	\$ 11,149	\$ 11,427	\$ 11,713	\$ 12,006	\$ 12,306	\$ 12,614
Productivity Loss	\$ 2%	\$ 25,250	\$ 25,882	\$ 26,529	\$ 27,192	\$ 28,568	\$ 29,283	\$ 30,015	\$ 30,765	\$ 31,534
Bussing	\$ 5.00	\$ 168,336	\$ 172,544	\$ 176,858	\$ 181,279	\$ 185,811	\$ 190,456	\$ 195,218	\$ 200,098	\$ 205,101
SUBTOTAL	304,688	312,305	320,113	328,115	336,318	344,726	353,344	362,178	371,232	380,513
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	538,234	543,012	891,353	726,077	777,605	788,835	766,476	792,827	923,172	863,174
GRAND TOTAL	\$ 7,610,766									

Bond Amount:	\$ -	Building Size:	32846	Total Project Cost:	\$ -
Bond Term:	20	Inflation Rate	2.5%	State Building Aid:	\$ -
Bond Rate:	2.5%	Value of Exist	0		

Table H
12/10/2019

Barker Architects, PLLC

Gilsium STEAM Academy

Student Capacity 100

Life-Cycle Cost Analysis

Task	Year									
	1	2	3	4	5	6	7	8	9	10
Division 0	37,638	47,467	50,398	56,626	47,655	67,842	53,491	26,318	11,240	386,406
Division 1	102,500	-	-	-	90,513	-	-	-	-	2,146,702
Division 2	-	-	43,076	165,572	-	-	118,869	-	62,443	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	4,100	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	73,544	-	-	28,285	-	-	-	-	-
Division 7	-	-	-	-	5,657	-	-	-	-	-
Division 8	-	-	-	-	13,577	-	-	-	-	-
Division 9	-	37,823	32,307	-	-	-	-	-	-	-
Division 10	10,250	-	21,538	-	-	-	-	-	-	-
Division 11	-	-	-	-	8,486	-	-	-	-	-
Division 12	-	-	-	-	1,697	-	-	-	-	-
Division 13	-	-	-	-	42,994	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	21,013	172,303	149,015	16,971	376,900	148,586	146,208	-	-
Division 16	92,250	131,328	107,769	-	56,570	-	29,717	-	-	-
SUBTOTAL	246,738	311,174	330,390	371,212	312,404	444,742	350,662	172,526	73,683	2,533,108
Water	\$ 0.20	\$ 3,797	\$ 3,891	\$ 3,989	\$ 4,088	\$ 4,191	\$ 4,295	\$ 4,403	\$ 4,513	\$ 4,626
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.85	\$ 15,742	\$ 16,539	\$ 16,952	\$ 17,376	\$ 17,810	\$ 18,256	\$ 18,712	\$ 19,180	\$ 19,659
On-Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ 0.94	\$ 17,409	\$ 18,290	\$ 18,977	\$ 19,777	\$ 20,581	\$ 21,391	\$ 22,206	\$ 23,026	\$ 23,851
Propane	\$ 0.40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	36,854	37,776	38,720	39,641	40,561	41,481	42,401	43,321	44,241	45,161
Cleaning	\$ 3.00	\$ 56,948	\$ 58,372	\$ 59,831	\$ 61,327	\$ 62,860	\$ 64,432	\$ 66,042	\$ 67,693	\$ 69,386
Repairs	\$ 0.30	\$ 5,556	\$ 5,837	\$ 6,133	\$ 6,443	\$ 6,766	\$ 7,103	\$ 7,454	\$ 7,819	\$ 8,199
Productivity Loss	\$ 2%	\$ 13,890	\$ 14,593	\$ 15,332	\$ 16,108	\$ 16,923	\$ 17,776	\$ 18,667	\$ 19,599	\$ 20,571
Bussing	\$ 5.00	\$ 92,599	\$ 97,286	\$ 102,111	\$ 107,183	\$ 112,394	\$ 117,754	\$ 123,274	\$ 128,954	\$ 134,794
SUBTOTAL	167,603	171,793	176,088	180,490	185,003	189,628	194,368	199,228	204,208	209,314
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	451,195	520,743	545,198	580,621	527,048	664,753	576,173	403,674	310,610	2,775,958
GRAND TOTAL \$	7,355,973									

Bond Amount: \$ - Building Size: 18068 Total Project Cost: \$ -
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ -
 Bond Rate: 2.5% Value of Exist \$ -

Table H
12/10/2019

Barker Architects, PLLC

Mt Caesar Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year									
	1	2	3	4	5	6	7	8	9	10
Division 0	21,218	4,728	4,846	4,967	5,091	5,219	5,349	-	-	249,079
Division 1	102,500	-	-	-	-	-	-	-	-	1,383,771
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	15,375	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	26,922	-	28,285	-	29,717	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	26,266	-	27,595	-	28,992	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	139,093	30,993	31,768	32,562	33,377	34,211	35,066	-	-	1,632,850
Water	\$ 0.20	\$ 7,890	\$ 8,087	\$ 8,497	\$ 8,709	\$ 8,927	\$ 9,150	\$ 9,379	\$ 9,613	\$ 9,854
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.75	\$ 29,588	\$ 30,327	\$ 31,086	\$ 31,863	\$ 32,659	\$ 33,476	\$ 34,313	\$ 35,170	\$ 36,050
On-Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Propane	\$ 0.39	\$ 15,386	\$ 15,770	\$ 16,164	\$ 16,569	\$ 17,007	\$ 17,443	\$ 17,889	\$ 18,346	\$ 18,814
Wood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
Cleaning	\$ 2.00	\$ 78,900	\$ 80,873	\$ 84,967	\$ 87,091	\$ 89,269	\$ 91,500	\$ 93,788	\$ 96,132	\$ 98,536
Repairs	\$ 0.20	\$ 7,890	\$ 8,087	\$ 8,497	\$ 8,709	\$ 8,927	\$ 9,150	\$ 9,379	\$ 9,613	\$ 9,854
Productivity Loss	\$ 1%	\$ 14,794	\$ 15,164	\$ 15,543	\$ 16,330	\$ 16,738	\$ 17,156	\$ 17,585	\$ 18,025	\$ 18,475
Bussing	\$ 5.00	\$ 197,251	\$ 202,182	\$ 207,237	\$ 212,418	\$ 217,728	\$ 223,171	\$ 228,751	\$ 234,469	\$ 240,331
SUBTOTAL	298,835	306,306	313,964	321,813	329,858	338,105	346,557	355,221	364,102	373,204
Principal	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
TOTAL	490,791	391,484	401,272	411,303	421,586	432,126	442,929	418,059	428,511	2,072,074
GRAND TOTAL	\$ 5,910,134									

Bond Amount:	\$ -	Building Size:	384,888	Total Project Cost:	\$ -
Bond Term:	20	Inflation Rate	2.5%	State Building Aid:	\$ -
Bond Rate:	2.5%	Value of Exist	\$ -		

Table H
12/10/2019

Barker Architects, PLLC

Troy Elementary

Student Capacity 200

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
Division 0		64,575	83,210	62,417	66,560	56,208	76,401	70,608	169,967	83,174	537,328
Division 1		-	126,075	-	-	-	289,923	-	913,802	-	2,985,157
Division 2		-	-	-	-	28,285	-	-	-	-	-
Division 3		-	105,063	-	-	-	-	77,265	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	55,191	-	-	-	-	-	-
Division 6		-	-	-	66,229	33,942	-	-	-	-	-
Division 7		-	52,531	-	-	-	-	-	-	-	-
Division 8		-	-	323,067	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	69,582	106,982	30,460	124,886	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	23,760	64,943	-	-	24,977	-
Division 13		-	-	-	-	-	-	-	-	312,216	-
Division 14		-	-	-	-	-	-	208,020	-	-	-
Division 15		358,750	157,594	-	-	197,996	-	-	-	-	-
Division 16		-	21,013	23,692	248,358	28,285	-	-	-	-	-
SUBTOTAL		423,325	545,485	409,175	436,337	368,477	500,848	462,874	1,114,229	545,254	3,522,485
Water	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Grid	\$	0.64	18,557	19,021	19,496	19,984	20,483	20,995	21,520	22,058	22,610
On-Site	-	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$	-	-	-	-	-	-	-	-	-	-
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-
Oil	\$	-	-	-	-	-	-	-	-	-	-
Propane	\$	0.83	23,479	24,668	25,284	25,916	26,564	27,228	27,909	28,607	29,322
Wood	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Other	\$	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		41,583	42,623	43,688	44,781	45,900	47,048	48,224	49,429	50,665	51,932
Cleaning	\$	3.00	84,864	86,985	89,160	91,389	93,674	96,016	98,416	100,876	103,398
Repairs	\$	0.30	8,486	8,699	8,916	9,139	9,367	9,602	9,842	10,088	10,340
Productivity Loss		2%	21,216	21,746	22,290	22,847	23,418	24,004	24,604	25,219	25,850
Bussing	\$	5.00	141,440	144,976	148,600	152,315	156,123	160,026	164,027	168,127	172,331
SUBTOTAL		256,006	262,406	268,966	275,690	282,583	289,647	296,888	304,311	311,918	319,716
Principal	-	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-	-
Tax Income	-	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
TOTAL		720,914	850,513	721,830	756,808	696,960	837,543	807,987	1,467,970	907,837	3,894,134
GRAND TOTAL	\$	11,662,496									

Bond Amount: \$ - Building Size: 27598 Total Project Cost: \$ -
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ -
 Bond Rate: 2.5% Value of Exist \$ -

OPTION 3

ADDITIONS / RENOVATIONS IN ONE YEAR

Cutler Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$200,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities				\$200,000	
2. General Construction - New					\$3,164,000
New Constuction	4,357	s.f.	\$ 200	per s.f.	\$871,000
Renovation					\$2,205,000
Construction Contingency	5.00%				\$44,000
Construction Manager Fee	5.00%				\$44,000
3. Design Fees					\$200,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$40,000
A&E Renovation	7.00%				\$150,000
4. Furniture, Equipment and Services					\$300,000
Loose Equipment	5.00%				\$160,000
Phone Service	1.00%				\$30,000
Computers	2.00%				\$60,000
Utility Charges	1.50%				\$50,000
5. Administrative Costs					\$60,000
Testing	0.25%				\$10,000
Survey, Borings	0.25%				\$10,000
Clerk of the Works	0.75%				\$30,000
Bonding/Legal	0.30%				\$10,000
6. Design Contingency	5%				\$200,000

Total Project Cost**\$4,124,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Emerson Elementary School

Bond Cost Worksheet

Student Capacity 200

1. Site Development Costs				\$200,000
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				\$200,000
2. General Construction - New				\$2,653,000
New Constuction	1,123	s.f.	\$ 200 per s.f.	\$225,000
Renovation				\$ 2,406,000
Construction Contingency	5.00%			\$11,000
Construction Manager Fee	5.00%			\$11,000
3. Design Fees				\$140,000
Civil Engineering	6.00%			\$10,000
A&E New Construction	5.00%			\$130,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$250,000
Loose Equipment	5.00%			\$130,000
Phone Service	1.00%			\$30,000
Computers	2.00%			\$50,000
Utility Charges	1.50%			\$40,000
5. Administrative Costs				\$50,000
Testing	0.25%			\$10,000
Survey, Borings	0.25%			\$10,000
Clerk of the Works	0.75%			\$20,000
Bonding/Legal	0.30%			\$10,000
6. Design Contingency				\$200,000
	5%			

Total Project Cost

\$3,493,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Gilsum Elementary**Bond Cost Worksheet**

Student Capacity 200

1. Site Development Costs				\$0
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				
2. General Construction - New				\$3,824,000
New Constuction	8,383	s.f.	\$ 200 per s.f.	\$1,677,000
Renovation				\$1,979,000
Construction Contingency	5.00%			\$84,000
Construction Manager Fee	5.00%			\$84,000
3. Design Fees				\$190,000
Civil Engineering	6.00%			\$0
A&E New Construction	5.00%			\$190,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$370,000
Loose Equipment	5.00%			\$190,000
Phone Service	1.00%			\$40,000
Computers	2.00%			\$80,000
Utility Charges	1.50%			\$60,000
5. Administrative Costs				\$60,000
Testing	0.25%			\$10,000
Survey, Borings	0.25%			\$10,000
Clerk of the Works	0.75%			\$30,000
Bonding/Legal	0.30%			\$10,000
6. Design Contingency				\$200,000
	5%			

Total Project Cost**\$4,644,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Ceasar Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$100,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities				\$100,000	
2. General Construction - New					\$1,454,000
New Constuction	5,407	s.f.	\$ 200	per s.f.	\$1,081,000
Renovation					\$265,000
Construction Contingency	5.00%				\$54,000
Construction Manager Fee	5.00%				\$54,000
3. Design Fees					\$80,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$50,000
A&E Renovation	7.00%				\$20,000
4. Furniture, Equipment and Services					\$130,000
Loose Equipment	5.00%				\$70,000
Phone Service	1.00%				\$10,000
Computers	2.00%				\$30,000
Utility Charges	1.50%				\$20,000
5. Administrative Costs					\$10,000
Testing	0.25%				\$0
Survey, Borings	0.25%				\$0
Clerk of the Works	0.75%				\$10,000
Bonding/Legal	0.30%				\$0
6. Design Contingency	5%				\$100,000

Total Project Cost**\$1,874,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Troy Elementary School

Bond Cost Worksheet

Student Capacity 200

1. Site Development Costs				\$200,000
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				\$200,000
2. General Construction - New				\$6,130,000
New Constuction	11,658	s.f.	\$ 200 per s.f.	\$2,332,000
Renovation				\$3,564,000
Construction Contingency	5.00%			\$117,000
Construction Manager Fee	5.00%			\$117,000
3. Design Fees				\$380,000
Civil Engineering	6.00%			\$10,000
A&E New Construction	5.00%			\$120,000
A&E Renovation	7.00%			\$250,000
4. Furniture, Equipment and Services				\$580,000
Loose Equipment	5.00%			\$310,000
Phone Service	1.00%			\$60,000
Computers	2.00%			\$120,000
Utility Charges	1.50%			\$90,000
5. Administrative Costs				\$110,000
Testing	0.25%			\$20,000
Survey, Borings	0.25%			\$20,000
Clerk of the Works	0.75%			\$50,000
Bonding/Legal	0.30%			\$20,000
6. Design Contingency				\$400,000
	5%			

Total Project Cost

\$7,800,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Cutler Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL										
Water	7,127	7,305	7,487	7,675	7,866	8,063	8,265	8,471	8,683	8,900
Electricity	0.20	-	-	-	-	-	-	-	-	-
Grid	26,725	27,393	28,078	28,780	29,499	30,237	30,993	31,767	32,562	33,376
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	713	730	749	767	787	806	826	847	868	890
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	31,001	-	-	-	-	-	-	-	-	-
Propane	0.87	-	-	-	-	-	-	-	-	-
Wood	0.80	29,219	29,950	30,698	31,466	32,252	33,059	33,885	34,732	35,601
Electricity	0.40	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	65,565	64,647	66,264	67,920	69,618	71,359	73,143	74,971	76,845	78,767
UTILITIES										
Cleaning	71,266	73,048	74,874	76,746	78,665	80,631	82,647	84,713	86,831	89,002
Repairs	7,127	7,305	7,487	7,675	7,866	8,063	8,265	8,471	8,683	8,900
Productivity Loss	13,362	13,696	14,039	14,390	14,750	15,118	15,496	15,884	16,281	16,688
Bussing	51,250	52,531	53,865	55,250	56,684	58,163	59,696	61,284	62,927	64,629
SUBTOTAL	143,005	146,580	151,265	156,061	160,965	165,982	171,112	176,359	181,725	187,209
HUMAN RESOURCES										
Principal	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965
Interest	88,808	84,134	79,460	74,786	70,112	65,438	60,764	56,090	51,415	46,741
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	275,774	271,100	266,425	261,751	257,077	252,403	247,729	243,055	238,381	233,707
BOND COST										
TOTAL	484,344	482,327	616,274	620,347	624,637	629,152	633,897	638,877	644,098	649,567
GRAND TOTAL \$	6,023,520									

Bond Amount: \$ 3,739,304
 Bond Term: 20
 Bond Rate: 2.5%
 Building Size: 34764
 Inflation Rate: 2.5%
 Value of Exist: 0
 Total Project Cost: \$4,124,000
 State Building Aid: \$ 384,696 (limited by previous additions)

Emerson Elementary

Student Capacity 200

Life-Cycle Cost Analysis

Task	Year										
	1	2	3	4	5	6	7	8	9	10	
BUILDING NEEDS											
Division 0	-	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-	-
Water	6,733	6,902	7,074	7,251	7,432	7,618	7,809	8,004	8,204	8,409	
Electricity	-	-	-	-	-	-	-	-	-	-	
Grid	25,250	25,882	26,529	27,192	27,872	28,568	29,283	30,015	30,765	31,534	
On-Site	-	-	-	-	-	-	-	-	-	-	
Cooking Fuel	-	-	-	-	-	-	-	-	-	-	
Heating Fuel	-	-	-	-	-	-	-	-	-	-	
Oil	0.82	-	-	-	-	-	-	-	-	-	
Propane	0.40	13,804	14,149	14,502	14,865	15,237	15,617	16,008	16,408	16,818	
Wood	0.40	-	-	-	-	-	-	-	-	-	
Electricity	0.40	-	-	-	-	-	-	-	-	-	
Other	-	-	-	-	-	-	-	-	-	-	
SUBTOTAL	45,451	46,587	47,752	48,945	50,169	51,423	52,709	54,027	55,377	56,762	
UTILITIES											
Cleaning	67,334	69,018	70,743	72,512	74,324	76,183	78,087	80,039	82,040	84,091	
Repairs	6,733	6,902	7,074	7,251	7,432	7,618	7,809	8,004	8,204	8,409	
Productivity Loss	12,625	12,941	13,264	13,596	13,936	14,284	14,641	15,007	15,383	15,767	
Bussing	168,336	172,544	176,858	181,279	185,811	190,456	195,218	200,098	205,101	210,228	
SUBTOTAL	255,029	261,404	267,939	274,638	281,504	288,542	295,755	303,149	310,728	318,496	
HUMAN RESOURCES											
Principal	151,462	151,462	151,462	151,462	151,462	151,462	151,462	151,462	151,462	151,462	
Interest	71,945	68,158	64,372	60,585	56,798	53,012	49,225	45,439	41,652	37,866	
Tax Income	-	-	-	-	-	-	-	-	-	-	
SUBTOTAL	223,407	219,620	215,834	212,047	208,261	204,474	200,688	196,901	193,115	189,328	
BOND COST											
TOTAL	523,886	527,612	531,525	535,631	539,934	544,439	549,152	554,077	559,219	564,585	
GRAND TOTAL	\$ 5,430,060										

Bond Amount: \$ 3,029,248 Building Size: 32846 Total Project Cost: \$ 3,493,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 463,752 (Limited by previous additions)
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

Gilsium STEAM Academy

Student Capacity 100

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Grid	\$ 0.75	13,890	14,237	14,593	14,958	15,332	15,715	16,108	16,511	16,923	17,346
On-Site		-	-	-	-	-	-	-	-	-	-
Cooking Fuel		-	-	-	-	-	-	-	-	-	-
Heating Fuel		-	-	-	-	-	-	-	-	-	-
Oil	\$ 0.94	-	-	-	-	-	-	-	-	-	-
Propane	\$ 0.40	7,408	7,593	7,783	7,977	8,177	8,381	8,591	8,806	9,026	9,251
Wood		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		21,298	21,830	22,376	22,935	23,509	24,096	24,699	25,316	25,949	26,598
UTILITIES											
Cleaning	\$ 2.00	37,039	37,965	38,915	39,887	40,885	41,907	42,954	44,028	45,129	46,257
Repairs	\$ 0.20	3,704	3,797	3,891	3,989	4,088	4,191	4,295	4,403	4,513	4,626
Productivity Loss	\$ 1%	6,945	7,119	7,296	7,479	7,666	7,858	8,054	8,255	8,462	8,673
Bussing	\$ 5.00	92,599	94,913	97,286	99,718	102,211	104,767	107,386	110,071	112,822	115,643
SUBTOTAL		140,287	143,794	147,389	151,073	154,850	158,722	162,690	166,757	170,926	175,199
HUMAN RESOURCES											
Principal		212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965
Interest		101,158	95,834	90,510	85,186	79,862	74,538	69,214	63,890	58,565	53,241
Tax Income		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		314,124	308,800	303,475	298,151	293,827	287,503	282,179	276,855	271,531	266,207
BOND COST											
TOTAL		475,708	474,424	473,240	472,160	471,186	470,321	469,567	468,928	468,406	468,003
GRAND TOTAL	\$	4,711,942									

Bond Amount: \$ 4,259,304 Building Size: 18068 Total Project Cost: \$ 4,644,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 384,696 (limited by previous additions)
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

Mt Caesar Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
HUMAN RESOURCES										
Cleaning	78,900	80,873	82,895	84,967	87,091	89,269	91,500	93,788	96,132	98,536
Repairs	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Productivity Loss	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL	298,835	306,306	313,964	321,813	329,858	338,105	346,557	355,221	364,102	373,204
Principal	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102
Interest	20,473	19,396	18,318	17,241	16,163	15,086	14,008	12,931	11,853	10,776
Tax Income	-	-	-	-	-	-	-	-	-	-
BOND COST										
SUBTOTAL	63,575	62,498	61,420	60,343	59,265	58,188	57,110	56,033	54,955	53,878
TOTAL	415,274	422,989	430,924	439,084	447,475	456,102	464,973	474,092	483,466	493,101
GRAND TOTAL \$	4,527,478									

Bond Amount:	\$ 862,040	Building Size:	38488	Total Project Cost:	\$ 1,874,000
Bond Term:	20	Inflation Rate	2.5%	State Building Aid:	\$ 1,011,960
Bond Rate:	2.5%	Value of Exist	0		

Table H
12/10/2019

Barker Architects, PLLC

Troy Elementary

Student Capacity 200

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Grid	\$ 0.75	21,216	21,746	22,290	22,847	23,418	24,004	24,604	25,219	25,850	26,496
On-Site		-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$	-	-	-	-	-	-	-	-	-	-
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-
Oil	\$	-	-	-	-	-	-	-	-	-	-
Propane	\$ 0.40	11,315	11,598	11,888	12,185	12,490	12,802	13,122	13,450	13,786	14,131
Wood	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Other	\$	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		32,531	33,344	34,178	35,032	35,908	36,806	37,726	38,669	39,636	40,627
UTILITIES											
Cleaning	\$ 2.00	56,576	57,990	59,440	60,926	62,449	64,010	65,611	67,251	68,932	70,656
Repairs	\$ 0.20	5,658	5,799	5,944	6,093	6,245	6,401	6,561	6,725	6,893	7,066
Productivity Loss	\$ 1%	10,608	10,873	11,145	11,424	11,709	12,002	12,302	12,610	12,925	13,248
Bussing	\$ 5.00	141,440	144,976	148,600	152,315	156,123	160,026	164,027	168,127	172,331	176,639
SUBTOTAL		214,281	219,638	225,129	230,757	236,526	242,440	248,501	254,713	261,081	267,608
HUMAN RESOURCES											
Principal		234,480	234,480	234,480	234,480	234,480	234,480	234,480	234,480	234,480	234,480
Interest		111,378	105,516	99,654	93,792	87,930	82,068	76,206	70,344	64,482	58,620
Tax Income		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		345,858	339,996	334,134	328,272	322,410	316,548	310,686	304,824	298,962	293,100
BOND COST											
TOTAL		592,670	592,979	593,441	594,062	594,845	595,794	596,913	598,206	599,679	601,335
GRAND TOTAL \$		5,959,923									

Bond Amount: \$ 4,689,600 Building Size: 27598 Total Project Cost: \$7,800,000
 Bond Term 20 Inflation Rate 2.5% State Building Aid: \$3,110,400 (limited by maximum size/cost rules)
 Bond Rate 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

OPTION 4

NEW SOUTH ELEMENTARY
ADDITIONS / RENOVATIONS TO NORTH SCHOOLS

Cutler Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$200,000
Land Acquisition					
Playfields	1	Field			
Paving	100	Spaces			
Site Prep & Utilities				\$200,000	
2. General Construction - New					\$3,164,000
New Constuction	4,357	s.f.	\$ 200	per s.f.	\$871,000
Renovation					\$2,205,000
Construction Contingency	5.00%				\$44,000
Construction Manager Fee	5.00%				\$44,000
3. Design Fees					\$200,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$40,000
A&E Renovation	7.00%				\$150,000
4. Furniture, Equipment and Services					\$300,000
Loose Equipment	5.00%				\$160,000
Phone Service	1.00%				\$30,000
Computers	2.00%				\$60,000
Utility Charges	1.50%				\$50,000
5. Administrative Costs					\$60,000
Testing	0.25%				\$10,000
Survey, Borings	0.25%				\$10,000
Clerk of the Works	0.75%				\$30,000
Bonding/Legal	0.30%				\$10,000
6. Design Contingency					\$200,000
	5%				

Total Project Cost**\$4,124,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Gilsum Elementary**Bond Cost Worksheet**

Student Capacity 200

1. Site Development Costs				\$0
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				
2. General Construction - New				\$3,824,000
New Constuction	8,383	s.f.	\$ 200 per s.f.	\$1,677,000
Renovation				\$1,979,000
Construction Contingency	5.00%			\$84,000
Construction Manager Fee	5.00%			\$84,000
3. Design Fees				\$190,000
Civil Engineering	6.00%			\$0
A&E New Construction	5.00%			\$190,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$370,000
Loose Equipment	5.00%			\$190,000
Phone Service	1.00%			\$40,000
Computers	2.00%			\$80,000
Utility Charges	1.50%			\$60,000
5. Administrative Costs				\$60,000
Testing	0.25%			\$10,000
Survey, Borings	0.25%			\$10,000
Clerk of the Works	0.75%			\$30,000
Bonding/Legal	0.30%			\$10,000
6. Design Contingency				\$200,000
	5%			

Total Project Cost**\$4,644,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Ceasar Elementary**Bond Cost Worksheet**

Student Capacity 275

1. Site Development Costs					\$100,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces		
Site Prep & Utilities				\$100,000	
2. General Construction - New					\$1,454,000
New Constuction	5,407	s.f.	\$ 200	per s.f.	\$1,081,000
Renovation					\$265,000
Construction Contingency	5.00%				\$54,000
Construction Manager Fee	5.00%				\$54,000
3. Design Fees					\$80,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$50,000
A&E Renovation	7.00%				\$20,000
4. Furniture, Equipment and Services					\$130,000
Loose Equipment	5.00%				\$70,000
Phone Service	1.00%				\$10,000
Computers	2.00%				\$30,000
Utility Charges	1.50%				\$20,000
5. Administrative Costs					\$10,000
Testing	0.25%				\$0
Survey, Borings	0.25%				\$0
Clerk of the Works	0.75%				\$10,000
Bonding/Legal	0.30%				\$0
6. Design Contingency	5%				\$100,000

Total Project Cost**\$1,874,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Cutler Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL										
Water	7,127	7,305	7,487	7,675	7,866	8,063	8,265	8,471	8,683	8,900
Electricity	0.20	-	-	-	-	-	-	-	-	-
Grid	26,725	27,393	28,078	28,780	29,499	30,237	30,993	31,767	32,562	33,376
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	713	730	749	767	787	806	826	847	868	890
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	31,001	-	-	-	-	-	-	-	-	-
Propane	0.87	-	-	-	-	-	-	-	-	-
Wood	0.80	29,219	29,950	30,698	31,466	32,252	33,059	33,885	34,732	35,601
Electricity	0.40	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	65,565	64,647	66,264	67,920	69,618	71,359	73,143	74,971	76,845	78,767
UTILITIES										
Cleaning	71,266	73,048	74,874	76,746	78,665	80,631	82,647	84,713	86,831	89,002
Repairs	7,127	7,305	7,487	7,675	7,866	8,063	8,265	8,471	8,683	8,900
Productivity Loss	13,362	13,696	14,039	14,390	14,750	15,118	15,496	15,884	16,281	16,688
Bussing	51,250	52,531	53,865	55,250	56,684	58,163	59,694	61,276	62,909	64,594
SUBTOTAL	143,005	146,580	151,265	156,066	160,985	165,992	171,106	176,330	181,665	187,106
HUMAN RESOURCES										
Principal	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965	186,965
Interest	88,808	84,134	79,460	74,786	70,112	65,438	60,764	56,090	51,415	46,741
Tax Income	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	275,774	271,100	266,425	261,751	257,077	252,403	247,729	243,055	238,381	233,707
BOND COST										
TOTAL	484,344	482,327	616,274	620,347	624,637	629,152	633,897	638,877	644,098	649,567
GRAND TOTAL \$	6,023,520									

Bond Amount: \$ 3,739,304
 Bond Term 20
 Bond Rate 2.5%
 Building Size: 34764
 Inflation Rate 2.5%
 Value of Exist 0
 Total Project Cost: \$4,124,000
 State Building Aid: \$ 384,696 (limited by previous additions)

Table H
12/10/2019

Barker Architects PLLC

Gilsium STEAM Academy

Student Capacity 100

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Grid	\$ 0.75	13,890	14,237	14,593	14,958	15,332	15,715	16,108	16,511	16,923	17,346
On-Site		-	-	-	-	-	-	-	-	-	-
Cooking Fuel		-	-	-	-	-	-	-	-	-	-
Heating Fuel		-	-	-	-	-	-	-	-	-	-
Oil	\$ 0.94	-	-	-	-	-	-	-	-	-	-
Propane	\$ 0.40	7,408	7,593	7,783	7,977	8,177	8,381	8,591	8,806	9,026	9,251
Wood		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		21,298	21,830	22,376	22,935	23,509	24,096	24,699	25,316	25,949	26,598
UTILITIES											
Cleaning	\$ 2.00	37,039	37,965	38,915	39,887	40,885	41,907	42,954	44,028	45,129	46,257
Repairs	\$ 0.20	3,704	3,797	3,891	3,989	4,088	4,191	4,295	4,403	4,513	4,626
Productivity Loss	\$ 1%	6,945	7,119	7,296	7,479	7,666	7,858	8,054	8,255	8,462	8,673
Bussing	\$ 5.00	92,599	94,913	97,286	99,718	102,211	104,767	107,386	110,071	112,822	115,643
SUBTOTAL		140,287	143,794	147,389	151,073	154,850	158,722	162,690	166,757	170,926	175,199
HUMAN RESOURCES											
Principal		212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965
Interest		101,158	95,834	90,510	85,186	79,862	74,538	69,214	63,890	58,565	53,241
Tax Income		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		314,124	308,800	303,475	298,151	293,827	287,503	282,179	276,855	271,531	266,207
BOND COST											
TOTAL		475,708	474,424	473,240	472,160	471,186	470,321	469,567	468,928	468,406	468,003
GRAND TOTAL	\$	4,711,942									

Bond Amount: \$ 4,259,304
 Bond Term: 20
 Bond Rate: 2.5%

Building Size: 18068
 Inflation Rate: 2.5%
 Value of Exist: 0

Total Project Cost: \$ 4,644,000
 State Building Aid: \$ 384,696 (limited by previous additions)

Table H
12/10/2019

Barker Architects, PLLC

Mt Caesar Elementary

Student Capacity 275

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
HUMAN RESOURCES										
Cleaning	78,900	80,873	82,895	84,967	87,091	89,269	91,500	93,788	96,132	98,536
Repairs	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Productivity Loss	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL	298,835	306,306	313,964	321,813	329,858	338,105	346,557	355,221	364,102	373,204
Principal	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102	43,102
Interest	20,473	19,396	18,318	17,241	16,163	15,086	14,008	12,931	11,853	10,776
Tax Income	-	-	-	-	-	-	-	-	-	-
BOND COST										
SUBTOTAL	63,575	62,498	61,420	60,343	59,265	58,188	57,110	56,033	54,955	53,878
TOTAL	415,274	422,989	430,924	439,084	447,475	456,102	464,973	474,092	483,466	493,101
GRAND TOTAL \$	4,527,478									

Bond Amount: \$ 862,040 Building Size: 38488 Total Project Cost: \$ 1,874,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 1,011,960
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

South Elementary

Student Capacity 400

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Grid	\$	0.60	34,171	35,026	35,901	36,799	37,719	38,662	39,628	40,619	41,634
On-Site	-	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$	-	-	-	-	-	-	-	-	-	-
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-
Oil	\$	-	-	-	-	-	-	-	-	-	-
Propane	\$	0.40	22,225	23,350	23,934	24,533	25,146	25,775	26,419	27,079	27,756
Wood	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Other	\$	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		55,563	56,952	58,376	59,835	61,331	62,865	64,436	66,047	67,698	69,391
Cleaning	\$	1.00	55,563	56,952	58,376	59,835	61,331	62,865	64,436	66,047	67,698
Repairs	\$	0.10	5,556	5,695	5,838	5,984	6,133	6,286	6,444	6,605	6,770
Productivity Loss	\$	0%	-	-	-	-	-	-	-	-	-
Bussing	\$	6.00	333,379	341,714	350,257	359,013	367,988	377,188	386,618	396,283	406,190
SUBTOTAL		394,499	404,361	414,470	424,832	435,453	446,339	457,498	468,935	480,658	492,675
Principal		358,432	358,432	358,432	358,432	358,432	358,432	358,432	358,432	358,432	358,432
Interest		170,255	161,294	152,334	143,373	134,412	125,451	116,490	107,530	98,569	89,608
Tax Income		49,200	50,430	51,691	52,983	54,308	55,665	57,057	58,483	59,945	61,444
SUBTOTAL		577,887	570,156	562,456	554,788	547,152	539,548	531,979	524,445	516,946	509,484
TOTAL		1,027,949	1,031,470	1,035,303	1,039,455	1,043,936	1,048,752	1,053,913	1,059,427	1,065,303	1,071,550
GRAND TOTAL	\$	10,477,058									

Bond Amount:	\$	7,168,640	Building Size:	54208	Total Project Cost:	\$	15,584,000
Bond Term	20		Inflation Rate	2.5%	State Building Aid:	\$	8,415,360
Bond Rate	2.5%		Value of Exist	\$2,000,000			

Table H
12/10/2019

Barker Architects, PLLC

OPTION 5

NEW SOUTH ELEMENTARY
ADDITIONS / RENOVATIONS TO MT CAESAR FOR
SWANZEY
ADDITIONS / RENOVATIONS TO GILSUM

Gilsum Elementary**Bond Cost Worksheet**

Student Capacity 200

1. Site Development Costs				\$0
Land Acquisition				
Playfields	1	Field		
Paving	100	Spaces		
Site Prep & Utilities				
2. General Construction - New				\$3,824,000
New Constuction	8,383	s.f.	\$ 200 per s.f.	\$1,677,000
Renovation				\$1,979,000
Construction Contingency	5.00%			\$84,000
Construction Manager Fee	5.00%			\$84,000
3. Design Fees				\$190,000
Civil Engineering	6.00%			\$0
A&E New Construction	5.00%			\$190,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$370,000
Loose Equipment	5.00%			\$190,000
Phone Service	1.00%			\$40,000
Computers	2.00%			\$80,000
Utility Charges	1.50%			\$60,000
5. Administrative Costs				\$60,000
Testing	0.25%			\$10,000
Survey, Borings	0.25%			\$10,000
Clerk of the Works	0.75%			\$30,000
Bonding/Legal	0.30%			\$10,000
6. Design Contingency				\$200,000
	5%			

Total Project Cost**\$4,644,000**

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Ceasar Elementary**Bond Cost Worksheet**

Student Capacity 550

1. Site Development Costs					\$400,000
Land Acquisition					
Playfields	1		Field		
Paving	100		Spaces	\$100,000	
Site Prep & Utilities				\$300,000	
2. General Construction - New					\$8,221,000
New Constuction	36,160	s.f.	\$ 200 per s.f.	\$7,232,000	
Renovation				\$265,000	
Construction Contingency	5.00%			\$362,000	
Construction Manager Fee	5.00%			\$362,000	
3. Design Fees					\$400,000
Civil Engineering	6.00%			\$20,000	
A&E New Construction	5.00%			\$360,000	
A&E Renovation	7.00%			\$20,000	
4. Furniture, Equipment and Services					\$770,000
Loose Equipment	5.00%			\$410,000	
Phone Service	1.00%			\$80,000	
Computers	2.00%			\$160,000	
Utility Charges	1.50%			\$120,000	
5. Administrative Costs					\$130,000
Testing	0.25%			\$20,000	
Survey, Borings	0.25%			\$20,000	
Clerk of the Works	0.75%			\$60,000	
Bonding/Legal	0.30%			\$30,000	
6. Design Contingency	5%				\$500,000

Total Project Cost**\$10,421,000**

(Note: all numbers rounded to nearest \$10,000)

Table H

Barker Architects, Inc.

12/10/2019

New Elementary School

Bond Cost Worksheet

Student Capacity 400

1. Site Development Costs					\$700,000
Land Acquisition				??	
Playfields	1	Field			\$300,000
Paving	100	Spaces			\$200,000
Site Prep & Utilities					\$200,000
2. General Construction - New					\$12,234,000
New Constuction	55,609	s.f.	\$ 200	per s.f.	\$11,122,000
Renovation					\$0
Construction Contingency	5.00%				\$556,000
Construction Manager Fee	5.00%				\$556,000
3. Design Fees					\$600,000
Civil Engineering	6.00%				\$40,000
A&E New Construction	5.00%				\$560,000
A&E Renovation	7.00%				\$0
4. Furniture, Equipment and Services					\$1,150,000
Loose Equipment	5.00%				\$610,000
Phone Service	1.00%				\$120,000
Computers	2.00%				\$240,000
Utility Charges	1.50%				\$180,000
5. Administrative Costs					\$200,000
Testing	0.25%				\$30,000
Survey, Borings	0.25%				\$30,000
Clerk of the Works	0.75%				\$100,000
Bonding/Legal	0.30%				\$40,000
6. Design Contingency					\$700,000
	5%				

Total Project Cost

\$15,584,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Gilsium STEAM Academy

Student Capacity 100

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Grid	\$ 0.75	13,890	14,237	14,593	14,958	15,332	15,715	16,108	16,511	16,923	17,346
On-Site		-	-	-	-	-	-	-	-	-	-
Cooking Fuel		-	-	-	-	-	-	-	-	-	-
Heating Fuel		-	-	-	-	-	-	-	-	-	-
Oil	\$ 0.94	-	-	-	-	-	-	-	-	-	-
Propane	\$ 0.40	7,408	7,593	7,783	7,977	8,177	8,381	8,591	8,806	9,026	9,251
Wood		-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		21,298	21,830	22,376	22,935	23,509	24,096	24,699	25,316	25,949	26,598
UTILITIES											
Cleaning	\$ 2.00	37,039	37,965	38,915	39,887	40,885	41,907	42,954	44,028	45,129	46,257
Repairs	\$ 0.20	3,704	3,797	3,891	3,989	4,088	4,191	4,295	4,403	4,513	4,626
Productivity Loss	\$ 1%	6,945	7,119	7,296	7,479	7,666	7,858	8,054	8,255	8,462	8,673
Bussing	\$ 5.00	92,599	94,913	97,286	99,718	102,211	104,767	107,386	110,071	112,822	115,643
SUBTOTAL		140,287	143,794	147,389	151,073	154,850	158,722	162,690	166,757	170,926	175,199
HUMAN RESOURCES											
Principal		212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965	212,965
Interest		101,158	95,834	90,510	85,186	79,862	74,538	69,214	63,890	58,565	53,241
Tax Income		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		314,124	308,800	303,475	298,151	293,827	287,503	282,179	276,855	271,531	266,207
BOND COST											
TOTAL		475,708	474,424	473,240	472,160	471,186	470,321	469,567	468,928	468,406	468,003
GRAND TOTAL	\$	4,711,942									

Bond Amount: \$ 4,259,304 Building Size: 18068 Total Project Cost: \$ 4,644,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 384,696 (limited by previous additions)
 Bond Rate: 2.5% Value of Exist 0

Table H
12/10/2019

Barker Architects, PLLC

Mt Caesar Elementary

Student Capacity 550

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
HUMAN RESOURCES										
Cleaning	59,175	60,655	62,171	63,725	65,318	66,951	68,625	70,341	72,099	73,902
Repairs	5,918	6,065	6,217	6,373	6,532	6,695	6,863	7,034	7,210	7,390
Productivity Loss	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL	277,138	284,066	291,168	298,447	305,908	313,556	321,395	329,430	337,665	346,107
Principal	239,683	239,683	239,683	239,683	239,683	239,683	239,683	239,683	239,683	239,683
Interest	113,849	107,857	101,865	95,873	89,881	83,889	77,897	71,905	65,913	59,921
Tax Income	24,600	25,215	25,845	26,492	27,154	27,833	28,528	29,242	29,973	30,722
SUBTOTAL	378,132	372,755	367,394	362,048	356,718	351,405	346,108	340,830	335,569	330,326
TOTAL	708,133	711,006	714,101	717,423	720,977	724,770	728,808	733,097	737,643	742,452
GRAND TOTAL \$	7,238,410									

Bond Amount: \$ 4,793,660 Building Size: 384,888 Total Project Cost: \$ 10,421,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 5,627,340
 Bond Rate: 2.5% Value of Exist \$1,000,000

Table H
12/10/2019

Barker Architects, PLLC

South Elementary

Student Capacity 400

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
BUILDING NEEDS										
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.60	\$ 34,171	\$ 35,026	\$ 35,901	\$ 36,799	\$ 37,719	\$ 38,662	\$ 39,628	\$ 40,619	\$ 41,634
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Propane	\$ 0.40	\$ 22,225	\$ 23,350	\$ 23,934	\$ 24,533	\$ 25,146	\$ 25,775	\$ 26,419	\$ 27,079	\$ 27,756
Wood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	55,563	56,952	58,376	59,835	61,331	62,865	64,436	66,047	67,698	69,391
Cleaning	\$ 1.00	\$ 55,563	\$ 56,952	\$ 58,376	\$ 59,835	\$ 61,331	\$ 62,865	\$ 64,436	\$ 66,047	\$ 67,698
Repairs	\$ 0.10	\$ 5,556	\$ 5,695	\$ 5,838	\$ 5,984	\$ 6,133	\$ 6,286	\$ 6,444	\$ 6,605	\$ 6,770
Productivity Loss	\$ 0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bussing	\$ 6.00	\$ 333,379	\$ 341,714	\$ 350,257	\$ 359,013	\$ 367,988	\$ 377,188	\$ 386,618	\$ 396,283	\$ 406,190
SUBTOTAL	394,499	404,361	414,470	424,832	435,453	446,339	457,498	468,935	480,658	492,675
Principal	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432	\$ 358,432
Interest	\$ 170,255	\$ 161,294	\$ 152,334	\$ 143,373	\$ 134,412	\$ 125,451	\$ 116,490	\$ 107,530	\$ 98,569	\$ 89,608
Tax Income	\$ 49,200	\$ 50,430	\$ 51,691	\$ 52,983	\$ 54,308	\$ 55,665	\$ 57,057	\$ 58,483	\$ 59,945	\$ 61,444
SUBTOTAL	577,887	570,156	562,456	554,788	547,152	539,548	531,979	524,445	516,946	509,484
TOTAL	1,027,949	1,031,470	1,035,303	1,039,455	1,043,936	1,048,752	1,053,913	1,059,427	1,065,303	1,071,550
GRAND TOTAL \$	10,477,058									

Bond Amount: \$ 7,168,640 Building Size: 54208 Total Project Cost: \$ 15,584,000
 Bond Term 20 Inflation Rate 2.5% State Building Aid: \$ 8,415,360
 Bond Rate 2.5% Value of Exist \$2,000,000

Table H
12/10/2019

Barker Architects, PLLC

OPTION 6

CONSOLIDATE ALL ELEMENTARY SCHOOLS ONTO A
NEW SCHOOL AT
MT CAESAR SITE

New Consolidated Elementary

Bond Cost Worksheet

Student Capacity 1050

1. Site Development Costs				\$1,100,000
Land Acquisition			??	
Playfields	1	Field		\$300,000
Paving	100	Spaces		\$300,000
Site Prep & Utilities				\$500,000
2. General Construction - New				\$27,292,000
New Constuction	#####	s.f.	\$ 200 per s.f.	\$24,810,000
Renovation				\$0
Construction Contingency	5.00%			\$1,241,000
Construction Manager Fee	5.00%			\$1,241,000
3. Design Fees				\$1,310,000
Civil Engineering	6.00%			\$70,000
A&E New Construction	5.00%			\$1,240,000
A&E Renovation	7.00%			\$0
4. Furniture, Equipment and Services				\$2,590,000
Loose Equipment	5.00%			\$1,360,000
Phone Service	1.00%			\$270,000
Computers	2.00%			\$550,000
Utility Charges	1.50%			\$410,000
5. Administrative Costs				\$440,000
Testing	0.25%			\$70,000
Survey, Borings	0.25%			\$70,000
Clerk of the Works	0.75%			\$210,000
Bonding/Legal	0.30%			\$90,000
6. Design Contingency				\$1,600,000
	5%			

Total Project Cost

\$34,332,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

New Consolidated Elementary Student Capacity 1050 Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Grid	\$	0.60	71,863	75,659	75,501	77,388	79,323	81,306	83,339	85,422	87,558
On-Site	-	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$	-	-	-	-	-	-	-	-	-	-
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-
Oil	\$	-	-	-	-	-	-	-	-	-	-
Propane	\$	0.40	46,740	49,106	50,334	51,592	52,882	54,204	55,559	56,948	58,372
Wood	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Other	\$	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		116,850	119,771	122,766	125,835	128,981	132,205	135,510	138,898	142,370	145,930
Cleaning	\$	0.20	23,370	23,954	24,553	25,167	25,796	26,441	27,102	27,780	28,474
Repairs	\$	0.08	9,348	9,582	9,821	10,067	10,318	10,576	10,841	11,112	11,390
Productivity Loss	\$	0%	-	-	-	-	-	-	-	-	-
Bussing	\$	6.00	701,100	718,628	736,593	755,008	773,883	793,230	813,061	833,388	854,222
875,578											
SUBTOTAL		733,818	752,163	770,968	790,242	809,998	830,248	851,004	872,279	894,086	916,438
Principal		1,404,710	1,404,710	1,404,710	1,404,710	1,404,710	1,404,710	1,404,710	1,404,710	1,404,710	1,404,710
Interest		667,237	632,120	597,002	561,884	526,766	491,649	456,531	421,413	386,295	351,178
Tax Income		86,100	88,253	90,459	92,720	95,038	97,414	99,850	102,346	104,904	107,527
SUBTOTAL		2,158,048	2,125,083	2,092,171	2,059,315	2,026,515	1,993,773	1,961,091	1,928,469	1,895,910	1,863,415
TOTAL		3,008,716	2,997,017	2,985,904	2,975,391	2,965,493	2,956,226	2,947,605	2,939,646	2,932,367	2,925,783
GRAND TOTAL	\$	29,634,149									

Bond Amount: \$ 28,094,208 Building Size: 114000 Total Project Cost: \$ 34,332,000
 Bond Term: 20 Inflation Rate 2.5% State Building Aid: \$ 6,237,792 (limited by previous additions)
 Bond Rate: 2.5% Value of Exist \$ 3,500,000

Table H
12/10/2019

Barker Architects, PLLC

OPTION 7

NEW SOUTH ELEMENTARY
ADDITIONS / RENOVATIONS TO CAESAR SITE AS NEW
NORTH ELEMENTARY

North Elementary at Mt Caesar

Bond Cost Worksheet

Student Capacity 525

1. Site Development Costs					\$400,000
Land Acquisition					
Playfields	1	Field			
Paving	100	Spaces		\$100,000	
Site Prep & Utilities				\$300,000	
2. General Construction - New					\$7,083,000
New Constuction	30,989	s.f.	\$ 200	per s.f.	\$6,198,000
Renovation					\$265,000
Construction Contingency	5.00%				\$310,000
Construction Manager Fee	5.00%				\$310,000
3. Design Fees					\$350,000
Civil Engineering	6.00%				\$20,000
A&E New Construction	5.00%				\$310,000
A&E Renovation	7.00%				\$20,000
4. Furniture, Equipment and Services					\$670,000
Loose Equipment	5.00%				\$350,000
Phone Service	1.00%				\$70,000
Computers	2.00%				\$140,000
Utility Charges	1.50%				\$110,000
5. Administrative Costs					\$120,000
Testing	0.25%				\$20,000
Survey, Borings	0.25%				\$20,000
Clerk of the Works	0.75%				\$60,000
Bonding/Legal	0.30%				\$20,000
6. Design Contingency					\$400,000

Total Project Cost

\$9,023,000

(Note: all numbers rounded to nearest \$10,000)

Table H

Barker Architects, Inc.

12/10/2019

New Elementary School

Bond Cost Worksheet

Student Capacity 525

1. Site Development Costs					\$700,000
Land Acquisition				??	
Playfields	1	Field			\$300,000
Paving	100	Spaces			\$200,000
Site Prep & Utilities					\$200,000
2. General Construction - New					\$15,285,000
New Constuction	69,477	s.f.	\$ 200	per s.f.	\$13,895,000
Renovation					\$0
Construction Contingency	5.00%				\$695,000
Construction Manager Fee	5.00%				\$695,000
3. Design Fees					\$730,000
Civil Engineering	6.00%				\$40,000
A&E New Construction	5.00%				\$690,000
A&E Renovation	7.00%				\$0
4. Furniture, Equipment and Services					\$1,450,000
Loose Equipment	5.00%				\$760,000
Phone Service	1.00%				\$150,000
Computers	2.00%				\$310,000
Utility Charges	1.50%				\$230,000
5. Administrative Costs					\$250,000
Testing	0.25%				\$40,000
Survey, Borings	0.25%				\$40,000
Clerk of the Works	0.75%				\$120,000
Bonding/Legal	0.30%				\$50,000
6. Design Contingency					\$900,000
	5%				

Total Project Cost

\$19,315,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Caesar Elementary

Student Capacity 525

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	-	-	-	-	-	-	-	-	-	-
Grid	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	-	-	-	-	-	-	-	-	-	-
Heating Fuel	-	-	-	-	-	-	-	-	-	-
Oil	-	-	-	-	-	-	-	-	-	-
Propane	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	-	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
Cleaning	59,175	60,655	62,171	63,725	65,318	66,951	68,625	70,341	72,099	73,902
Repairs	5,918	6,065	6,217	6,373	6,532	6,695	6,863	7,034	7,210	7,390
Productivity Loss	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL	277,138	284,066	291,168	298,447	305,908	313,556	321,395	329,430	337,665	346,107
Principal	386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517
Interest	183,596	173,933	164,270	154,607	144,944	135,281	125,618	115,955	106,292	96,629
Tax Income	36,900	37,823	38,768	39,737	40,731	41,749	42,793	43,863	44,959	46,083
SUBTOTAL	607,013	588,273	589,555	580,862	572,192	563,547	554,928	546,335	537,769	529,230
TOTAL	937,014	936,524	936,263	936,237	936,451	936,913	937,628	938,603	939,843	941,356
GRAND TOTAL \$	9,376,831									

Bond Amount: \$ 7,730,348
 Bond Term: 20
 Bond Rate: 2.5%

Building Size: 38488
 Inflation Rate: 2.5%
 Value of Exist: \$1,500,000

Total Project Cost: \$9,023,000
 State Building Aid: \$1,292,652 (limited by previous additions)

Table H
12/10/2019

Barker Architects, PLLC

South Elementary

Student Capacity 525

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.60	\$ 17,397	\$ 17,832	\$ 18,278	\$ 18,735	\$ 19,203	\$ 19,683	\$ 20,175	\$ 20,680	\$ 21,197
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Propane	\$ 0.40	\$ 11,598	\$ 11,888	\$ 12,185	\$ 12,490	\$ 12,802	\$ 13,122	\$ 13,450	\$ 13,786	\$ 14,131
Wood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	28,288	28,995	29,720	30,463	31,225	32,005	32,805	33,625	34,466	35,328
Cleaning	\$ 1.00	\$ 28,288	\$ 29,720	\$ 30,463	\$ 31,225	\$ 32,005	\$ 32,805	\$ 33,625	\$ 34,466	\$ 35,328
Repairs	\$ 0.10	\$ 2,829	\$ 2,972	\$ 3,046	\$ 3,122	\$ 3,201	\$ 3,281	\$ 3,363	\$ 3,447	\$ 3,533
Productivity Loss	\$ 0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bussing	\$ 6.00	\$ 169,728	\$ 173,971	\$ 178,320	\$ 182,778	\$ 187,348	\$ 192,031	\$ 196,832	\$ 201,753	\$ 206,797
SUBTOTAL	200,844	205,866	211,012	216,287	221,695	227,237	232,918	238,741	244,709	250,827
Principal	623,233	623,233	623,233	623,233	623,233	623,233	623,233	623,233	623,233	623,233
Interest	296,036	280,455	264,874	249,293	233,713	218,132	202,551	186,970	171,389	155,808
Tax Income	49,200	50,430	51,691	52,983	54,308	55,665	57,057	58,483	59,945	61,444
SUBTOTAL	968,469	954,118	939,798	925,510	911,254	897,030	882,841	868,687	854,568	840,486
TOTAL	1,197,602	1,188,979	1,180,531	1,172,260	1,164,173	1,156,273	1,148,565	1,141,053	1,133,744	1,126,641
GRAND TOTAL \$	11,609,819									

Bond Amount:	\$ 12,464,668	Building Size:	27598	Total Project Cost:	\$ 19,315,000
Bond Term	20	Inflation Rate	2.5%	State Building Aid:	\$ 6,850,332 (limited by previous additions)
Bond Rate	2.5%	Value of Exist	\$ 2,000,000		

Table H
12/10/2019

Barker Architects, PLLC

OPTION 8

ADDITIONS / RENOVATIONS
TO TROY AS NEW
SOUTH ELEMENTARY

ADDITIONS / RENOVATIONS TO MT CAESAR AS NEW
NORTH ELEMENTARY

North Elementary at Mt Caesar

Bond Cost Worksheet

Student Capacity 525

1. Site Development Costs					\$400,000
Land Acquisition					
Playfields	1	Field			
Paving	100	Spaces		\$100,000	
Site Prep & Utilities				\$300,000	
2. General Construction - New					\$7,083,000
New Constuction	30,989	s.f.	\$ 200	per s.f.	\$6,198,000
Renovation					\$265,000
Construction Contingency	5.00%				\$310,000
Construction Manager Fee	5.00%				\$310,000
3. Design Fees					\$350,000
Civil Engineering	6.00%				\$20,000
A&E New Construction	5.00%				\$310,000
A&E Renovation	7.00%				\$20,000
4. Furniture, Equipment and Services					\$670,000
Loose Equipment	5.00%				\$350,000
Phone Service	1.00%				\$70,000
Computers	2.00%				\$140,000
Utility Charges	1.50%				\$110,000
5. Administrative Costs					\$120,000
Testing	0.25%				\$20,000
Survey, Borings	0.25%				\$20,000
Clerk of the Works	0.75%				\$60,000
Bonding/Legal	0.30%				\$20,000
6. Design Contingency					\$400,000

Total Project Cost

\$9,023,000

(Note: all numbers rounded to nearest \$10,000)

Table H

Barker Architects, Inc.

12/10/2019

South Elementary at Troy

Bond Cost Worksheet

Student Capacity 525

1. Site Development Costs				\$400,000
Land Acquisition				
Playfields	1	Field		\$100,000
Paving	100	Spaces		\$100,000
Site Prep & Utilities				\$200,000
2. General Construction - New				\$12,346,000
New Constuction	39,919	s.f.	\$ 200 per s.f.	\$7,984,000
Renovation				\$3,564,000
Construction Contingency	5.00%			\$399,000
Construction Manager Fee	5.00%			\$399,000
3. Design Fees				\$670,000
Civil Engineering	6.00%			\$20,000
A&E New Construction	5.00%			\$400,000
A&E Renovation	7.00%			\$250,000
4. Furniture, Equipment and Services				\$1,180,000
Loose Equipment	5.00%			\$620,000
Phone Service	1.00%			\$120,000
Computers	2.00%			\$250,000
Utility Charges	1.50%			\$190,000
5. Administrative Costs				\$200,000
Testing	0.25%			\$30,000
Survey, Borings	0.25%			\$30,000
Clerk of the Works	0.75%			\$100,000
Bonding/Legal	0.30%			\$40,000
6. Design Contingency				\$700,000
	5%			

Total Project Cost

\$15,496,000

(Note: all numbers rounded to nearest \$10,000)

Table G

Barker Architects, Inc.

12/10/2019

Mt Caesar Elementary

Student Capacity 525

Life-Cycle Cost Analysis

Task	Year	1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS											
Division 0		-	-	-	-	-	-	-	-	-	-
Division 1		-	-	-	-	-	-	-	-	-	-
Division 2		-	-	-	-	-	-	-	-	-	-
Division 3		-	-	-	-	-	-	-	-	-	-
Division 4		-	-	-	-	-	-	-	-	-	-
Division 5		-	-	-	-	-	-	-	-	-	-
Division 6		-	-	-	-	-	-	-	-	-	-
Division 7		-	-	-	-	-	-	-	-	-	-
Division 8		-	-	-	-	-	-	-	-	-	-
Division 9		-	-	-	-	-	-	-	-	-	-
Division 10		-	-	-	-	-	-	-	-	-	-
Division 11		-	-	-	-	-	-	-	-	-	-
Division 12		-	-	-	-	-	-	-	-	-	-
Division 13		-	-	-	-	-	-	-	-	-	-
Division 14		-	-	-	-	-	-	-	-	-	-
Division 15		-	-	-	-	-	-	-	-	-	-
Division 16		-	-	-	-	-	-	-	-	-	-
SUBTOTAL		-	-	-	-	-	-	-	-	-	-
Water	\$	7,890	8,087	8,289	8,497	8,709	8,927	9,150	9,379	9,613	9,854
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Grid	\$	29,588	30,327	31,086	31,863	32,659	33,476	34,313	35,170	36,050	36,951
On-Site	\$	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$	-	-	-	-	-	-	-	-	-	-
Heating Fuel	\$	-	-	-	-	-	-	-	-	-	-
Oil	\$	-	-	-	-	-	-	-	-	-	-
Propane	\$	15,386	15,770	16,164	16,569	16,983	17,407	17,843	18,289	18,746	19,214
Wood	\$	-	-	-	-	-	-	-	-	-	-
Electricity	\$	-	-	-	-	-	-	-	-	-	-
Other	\$	-	-	-	-	-	-	-	-	-	-
SUBTOTAL		52,863	54,185	55,539	56,928	58,351	59,810	61,305	62,838	64,409	66,019
Cleaning	\$	59,175	60,655	62,171	63,725	65,318	66,951	68,625	70,341	72,099	73,902
Repairs	\$	5,918	6,065	6,217	6,373	6,532	6,695	6,863	7,034	7,210	7,390
Productivity Loss	\$	14,794	15,164	15,543	15,931	16,330	16,738	17,156	17,585	18,025	18,475
Bussing	\$	197,251	202,182	207,237	212,418	217,728	223,171	228,751	234,469	240,331	246,339
SUBTOTAL		277,138	284,066	291,168	298,447	305,908	313,556	321,395	329,430	337,665	346,107
Principal		386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517	386,517
Interest		183,596	173,933	164,270	154,607	144,944	135,281	125,618	115,955	106,292	96,629
Tax Income		36,900	37,823	38,768	39,737	40,731	41,749	42,793	43,863	44,959	46,083
SUBTOTAL		607,013	588,273	589,555	580,862	572,192	563,547	554,928	546,335	537,769	529,230
TOTAL		937,014	936,524	936,263	936,237	936,451	936,913	937,628	938,603	939,843	941,356
GRAND TOTAL	\$	9,376,831									

Bond Amount:	\$	7,730,348	Building Size:	38488	Total Project Cost:	\$	9,023,000
Bond Term:	20		Inflation Rate	2.5%	State Building Aid:	\$	1,292,652 (limited by previous additions)
Bond Rate:	2.5%		Value of Exist	\$	1,500,000		

Table H
12/10/2019

Barker Architects, PLLC

Troy Elementary

Student Capacity 525

Life-Cycle Cost Analysis

Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Division 0	-	-	-	-	-	-	-	-	-	-
Division 1	-	-	-	-	-	-	-	-	-	-
Division 2	-	-	-	-	-	-	-	-	-	-
Division 3	-	-	-	-	-	-	-	-	-	-
Division 4	-	-	-	-	-	-	-	-	-	-
Division 5	-	-	-	-	-	-	-	-	-	-
Division 6	-	-	-	-	-	-	-	-	-	-
Division 7	-	-	-	-	-	-	-	-	-	-
Division 8	-	-	-	-	-	-	-	-	-	-
Division 9	-	-	-	-	-	-	-	-	-	-
Division 10	-	-	-	-	-	-	-	-	-	-
Division 11	-	-	-	-	-	-	-	-	-	-
Division 12	-	-	-	-	-	-	-	-	-	-
Division 13	-	-	-	-	-	-	-	-	-	-
Division 14	-	-	-	-	-	-	-	-	-	-
Division 15	-	-	-	-	-	-	-	-	-	-
Division 16	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-	-	-	-	-
Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grid	\$ 0.75	\$ 21,216	\$ 21,746	\$ 22,290	\$ 23,418	\$ 24,004	\$ 24,604	\$ 25,219	\$ 25,850	\$ 26,496
On-Site	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heating Fuel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Oil	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Propane	\$ 0.40	\$ 11,315	\$ 11,598	\$ 12,185	\$ 12,490	\$ 12,802	\$ 13,122	\$ 13,450	\$ 13,786	\$ 14,131
Wood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electricity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	32,531	33,344	34,178	35,032	35,908	36,806	37,726	38,669	39,636	40,627
Cleaning	\$ 2.00	\$ 57,990	\$ 59,440	\$ 60,926	\$ 62,449	\$ 64,010	\$ 65,611	\$ 67,251	\$ 68,932	\$ 70,656
Repairs	\$ 0.20	\$ 5,658	\$ 5,799	\$ 5,944	\$ 6,093	\$ 6,245	\$ 6,401	\$ 6,561	\$ 6,893	\$ 7,066
Productivity Loss	\$ 1%	\$ 10,608	\$ 10,873	\$ 11,145	\$ 11,424	\$ 11,709	\$ 12,002	\$ 12,302	\$ 12,610	\$ 12,925
Bussing	\$ 5.00	\$ 141,440	\$ 144,976	\$ 148,600	\$ 152,315	\$ 156,123	\$ 160,026	\$ 164,027	\$ 168,127	\$ 172,331
SUBTOTAL	214,281	219,638	225,129	230,757	236,526	242,440	248,501	254,713	261,081	267,608
Principal	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420	\$ 457,420
Interest	\$ 217,274	\$ 205,839	\$ 194,403	\$ 182,968	\$ 171,532	\$ 160,097	\$ 148,661	\$ 137,226	\$ 125,790	\$ 114,355
Tax Income	\$ 24,600	\$ 25,215	\$ 25,845	\$ 26,492	\$ 27,154	\$ 27,833	\$ 28,528	\$ 29,242	\$ 29,973	\$ 30,722
SUBTOTAL	699,294	688,473	677,668	666,879	656,106	645,349	634,609	623,887	613,183	602,497
TOTAL	\$ 946,106	\$ 941,456	\$ 936,976	\$ 932,669	\$ 928,540	\$ 924,595	\$ 920,836	\$ 917,269	\$ 913,900	\$ 910,731
GRAND TOTAL	\$ 9,273,078									

Bond Amount: \$ 9,148,392 Building Size: 27598 Total Project Cost: \$ 15,496,000
 Bond Term 20 Inflation Rate 2.5% State Building Aid: \$ 8,367,840
 Bond Rate 2.5% Value of Exist \$ 1,000,000