



Understanding the Construction Terms
"Value Engineering", "Life Cycle Costs", and "Cost Reductions".

Many people get confused about these three construction terms: Value Engineering; Life Cycle Costs; Cost Reductions. Here is a brief description of each:

Value Engineering:

"Value" means something different to everyone and has many definitions. Basically, Value Engineering is the answer to the question "How can we be assured of getting the best value when it comes to our church building project?" The objective of value engineering is to arrive at the best value while minimizing costs. Though all buildings get architectural planning and design, few receive true value engineering. Why? Because it takes a lot of creative thinking with several different team members involved. This takes time and money.

Value Engineering is best applied at the conclusion of the schematic drawings (early design stage). Here changes can be considered early on before they become expensive changes for the church. The value engineering team examines the planned systems and products based upon several factors. These include, but are not limited to, the costs of the products or systems, the impact on the construction schedule, the safety of the product or systems, aesthetics, quality, durability, maintenance... all evaluated by competing criteria, such as cost vs. aesthetics, life cycle costs ideally should be a part of value engineering.

The Value Engineering team works on typical questions such as these to figure out the potential benefits or cost savings for the church:

- Will a combination of structural systems reduce time and cost, and provide a more flexible and accommodating structure?
- Will a different site orientation of the facilities increase the benefits of the sun or decrease drifting snow or weather related problems caused by the area wind patterns?

- Will an upfront one-time cost for more or better energy features, such as insulation, create a long-term operating cost reduction for the church?
- Will a combination of mechanical systems provide more flexibility of use, better zone control, or lower operating costs for the church?
- Can there be major cost changes by making minimal changes in the design of the structure?
- Is there a potential for major improvements or flexibility in the use of the facilities by making minimal changes to the design?

Life Cycle Costs:

Life cycle costs refer to the total costs to a church of owning and operating a facility for 40 or more years. The initial cost of construction is only 11% of the total life cycle costs of a building over a forty-year period. The other 89% of the total life cycle costs of a facility is comprised of total costs to the church for energy costs, maintenance and repair costs, insurance and operating expenses, costs of alterations, and the interest costs of the mortgage.

Everyone can quickly see that spending time on using products and systems that reduce the total life cycle costs of new church facilities can have a long-range economic impact on the church's budget. It is extremely important for the leadership of a church to remember the importance and benefits of life cycle costing when selecting architectural and construction firms to design and build their church. Selecting these firms on the basis of low square footage construction costs can come back to bite you later....and later....and later.

Cost Reductions:

Value engineering and life cycle costing are used when the objective is to develop a quality project that meets the church's construction budget and saves the church money now and in the future. Value Engineering and life cycle costing deal with systems and products that can often be substituted and are less expensive but perform as well as the original design. In contrast, cost reductions occur when it is necessary to eliminate components or when it is necessary to reduce quality that results in the project or systems performing less favorably than the original designed product or system.