

## Construction ESTIMATING

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## 1.0 INTRODUCTION TO ESTIMATING BASICS

- Improve your awareness of the process of creating an estimate and its important role in project success
- Learn the different types of estimates
- Develop understanding of the importance of consistency and documentation in preparing estimates
- Gain knowledge of the cost information cycle
- Learn about the continuous loop of the cost information cycle
- Understand the purpose of the estimate in the cost information cycle
- Understand the purpose of the budget in the cost information cycle
- Learn the purpose of recording actual costs in the cost information cycle
- Understand how and why information flows between the field and the office

## 2.0 IMPORTANT CHARACTERISTICS OF AN ESTIMATE

- Understand the importance of cost coding accuracy
- Gain an understanding of what an estimate is and what it is used for
- Increase your awareness of important uses
- Understand key characteristics of good estimates
- Learn how different delivery systems use different contracting strategies
- Understand important documentation that should accompany an estimate
- Learn some of the common mistakes made in estimates

## 3.0 TO BID OR NOT TO BID

- Learn to understand and establish bid criteria
- The importance of a site visit
- Learn to analyze a project
- Understand the bidding processes and strategy
- Understand price escalation and how it relates to the estimate
- Learn the difference between project planning and scheduling
- Understand how planning affects scheduling
- Recognize why planning and scheduling must be done early in the project
- Understand factors that affect project staffing decisions
- Review MasterFormat

## 4.0 ESTIMATING COSTS

- Understand the process of generating a quantity takeoff
- Identify the parts of a quantity takeoff
- Learn the differences in vendor quotations for material prices
- Identify the importance of obtaining quotes on material prices while preparing an estimate
- Learn how to incorporate productivity rates into an estimate
- Learn the factors that can impact productivity
- Identify items that have a negative impact on field productivity
- Learn why estimating field productivity is difficult
- Identify the major components within a bid
- Recognize the difference between a balanced and unbalanced bid
- Learn what makes a bid “responsive” vs. “unresponsive”
- Identify the conditions under which a bid may be withdrawn
- Learn the process of preparing a bid, including the importance of the pre-bid meeting
- Understand the importance of subcontractor bids
- Gain an understanding of the challenges and issues accompanying equipment selection
- Learn the different alternatives available in equipment selection
- Understand the importance of equipment costing
- Learn the difference between leasing, purchasing, and owning equipment as it impacts a construction company financially and in terms of risk
- Understand depreciation of equipment and their production rates
- Understand general overhead and its effects on a construction company
- Identify various general and project overhead costs
- Identify various project overhead costs
- Gain basic understanding of how overhead costs are determined and incorporated into estimates
- Learn the connection between risk and profit
- Learn the factors that you should consider in assigning an expected profit on a project

## 5.0 RISK MANAGEMENT

- Learn the importance of general conditions
- Analyze factors in Considering profit margin
- Understand mark-up and profit
- Learn to assess and identify risk

## 6.0 CODE OF ETHICS

- Learn standard ethical practices
- Learn to identify what is an ethical commitment
- Understand how ethics apply to estimating and the estimator
- Understand your legal obligations
- Learn to recognize unethical practices
- Review examples of a company's Code of Ethics

## 7.0 PUTTING ESTIMATES INTO ACTION, REDESIGN AND REVISIONS

- Gain an understanding of job costing and why it is important
- Learn what job costing will be used for in the construction company
- Gain a basic understanding of the preliminary design process for a project
- Understand the difference between "wants" and "needs": as they apply to project design
- Understand the concept of project scope
- Learn how early scope definition sets project cost expectations
- Learn the factors that should be considered in the project definition and early phase pricing
- Improve your awareness of how early scope definition sets project cost expectations
- Recognize the project parameters from the owner's perspective
- Learn how feasibility studies are conducted, and how final project cost can negatively impact project economics
- Understand how economic feasibility of projects is determined in the public sector vs. the private sector
- Understand the term "scope creep"
- Define project contingency as it applies to a budget
- Understand WBS and SWOT analysis
- Understand value engineering
- Learn some of the reasons why change occurs during a construction project
- Learn how changes need to be dealt with in economic terms
- Identify the difference between a constructive change, a cardinal change, and a minor change
- Understand how contract changes can impact the contract amount for the project, the project duration, or both
- Understand acceleration
- Identify ways that acceleration can affect project cost and/or schedule

## 8.0 PROJECT CONTRIBUTION TO CORPORATE PROFITS AND MODULE SUMMARY

- Understand equivalence with regard to time and money
- Mathematically calculate how money varies with time
- Determine the future value of a present sum
- Determine the present value of a future sum
- Understand why a construction company selects different projects to bid
- Learn why project diversity is a good thing for a construction company
- Identify factors that affect the desirability of projects
- Understand the importance of cash flow on construction projects