



# Value Engineering Checklist

## Project Definition & Goals

Ensuring a clear understanding of project objectives, constraints, and key performance indicators (KPIs) is paramount for effective value engineering.

### Project Goals & Objectives (Detailed)

Write something...

### Initial Budget Estimate

Enter a number...

### Projected ROI (Return on Investment)

Enter a number...

### Key Stakeholder Expectations & Priorities

Write something...

### **Project Delivery Method (e.g., Design-Bid-Build, Design-Build, CM at Risk)**

- ☐ Design-Bid-Build
- ☐ Design-Build
- ☐ CM at Risk
- ☐ Integrated Project Delivery (IPD)

### **Original Project Completion Date**

Enter date...

### **Primary Performance Indicators (KPIs) for Success**

Write something...

### **Constraints & Limitations (e.g., Site Restrictions, Regulatory Requirements)**

Write something...

## **Design & Planning**

Reviewing design decisions, specifications, and planning processes to identify potential areas for optimization and simplification.

### **Describe the initial design concept and its key assumptions.**

Write something...

**Were BIM (Building Information Modeling) techniques utilized in the design phase?**

- ☐ Yes
- ☐ No
- ☐ Partially

**Estimate of initial design hours spent.**

Enter a number...

**Which design alternatives were considered (if any)?**

- ☐ Alternative Foundation Designs
- ☐ Alternative Structural Systems
- ☐ Different Material Choices
- ☐ Modified Architectural Layout
- ☐ Pre-engineered components
- ☐ None

**Summarize the rationale for the chosen design approach compared to alternatives.**

Write something...

**Were standard or repetitive design elements leveraged?**

- ☐ Yes
- ☐ No

**Document any areas where design simplification was initially resisted, and why.**

Write something...

**Date of latest design review**

Enter date...

## Materials & Components

Analyzing material selections, considering alternatives, and assessing their cost, performance, and sustainability impact.

**Standard Concrete Mix Design?**

- ☐ Yes - Meets Requirements
- ☐ No - Potential for Optimization

**Current Steel Grade (e.g., ASTM A36)**

Enter a number...

**Alternative Steel Grades Considered?**

- ☐ No
- ☐ Yes - Investigated for Cost Savings


## Description of Alternative Material Options

Write something...

## Estimated Cost Savings (Alternative Materials)

Enter a number...

## Material Specification Sheets (Alternatives)

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## Which materials could be substituted for cost or performance improvements?

- ☐ Concrete
- ☐ Steel
- ☐ Wood
- ☐ Insulation
- ☐ Roofing

# Construction Methods

Evaluating construction sequencing, techniques, and equipment to identify opportunities for efficiency and reduced labor costs.

## Construction Sequencing Review

- ☐ Current Sequencing Reviewed
- ☐ Alternative Sequencing Considered
- ☐ No Changes Required

### **Describe Potential Prefabrication Opportunities**

Write something...

### **Estimated Labor Hours Savings (if applicable)**

Enter a number...

### **Construction Techniques Evaluated**

- ☐ Lean Construction Principles
- ☐ Building Information Modeling (BIM)
- ☐ Modular Construction
- ☐ 3D Printing
- ☐ Improved Site Logistics
- ☐ None

### **Equipment Utilization Review**

- ☐ Optimal Equipment Utilization
- ☐ Equipment Rental Cost Analysis
- ☐ Alternative Equipment Considered
- ☐ Equipment Efficiency Improvements Implemented

### **Document any changes in Construction Methodology**

Write something...

## **Subcontractor Selection & Management**

Reviewing subcontractor bids, contracts, and performance to ensure value and mitigate risks.

### Bidding Process Adequacy?

- ☐ Fully Competitive Bidding
- ☐ Limited Bidding
- ☐ Sole Source Justification Required

### Number of Bids Received

Enter a number...

### Justification for Sole Source Selection (if applicable)

Write something...

### Subcontractor Pre-Qualification Status?

- ☐ Fully Pre-Qualified
- ☐ Requires Further Review
- ☐ Not Pre-Qualified

### Subcontractor Insurance Certificates

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### Summary of Subcontractor's Past Performance

Write something...

### Subcontractor's Bid Price

Enter a number...

### Contract Type?

- ☐ Fixed Price
- ☐ Cost-Plus
- ☐ Time and Materials

## Systems Integration

Examining the interaction of different building systems (HVAC, electrical, plumbing, etc.) for potential synergies and cost savings.

### Describe current coordination practices between HVAC, Electrical, and Plumbing systems.

Write something...

### Are BIM (Building Information Modeling) tools being utilized for systems coordination? If so, which ones?

- ☐ Yes, Revit
- ☐ Yes, ArchiCAD
- ☐ Yes, Navisworks
- ☐ Yes, Other (Specify in Long Text)
- ☐ No



**Estimated reduction in clashes/conflicts through improved systems coordination (percentage).**

Enter a number...

**Which potential integration challenges have been identified?**

- ☐ Space Constraints
- ☐ Equipment Accessibility
- ☐ Noise & Vibration
- ☐ Aesthetics
- ☐ Code Compliance
- ☐ Other (Specify in Long Text)

**Describe any proposed alternative routing or integration methods for utilities to minimize conflicts.**

Write something...

**Is a centralized systems coordination meeting schedule in place? If so, how often?**

- ☐ Weekly
- ☐ Bi-weekly
- ☐ Monthly
- ☐ No defined schedule

## Life Cycle Cost Analysis

Considering the total cost of ownership, including initial cost, maintenance, operations, and eventual decommissioning.

### **Estimated Initial Construction Cost**

Enter a number...

### **Estimated Annual Maintenance Cost (Year 1)**

Enter a number...

### **Estimated Annual Operating Cost (Energy, Water, etc. - Year 1)**

Enter a number...

### **Estimated Annual Insurance Cost**

Enter a number...

### **Estimated Annual Property Tax Cost**

Enter a number...

### **Estimated Discount Rate (for Present Value Calculation)**

Enter a number...

### **Projected Life Span (Years)**

Enter a number...

### Assumptions Used for Life Cycle Cost Estimates (e.g., Inflation Rates, Future Operating Costs)

Write something...

## Sustainability & Environmental Impact

Identifying opportunities to reduce environmental impact, improve energy efficiency, and enhance building performance.

### Are recycled content materials prioritized?

- ☐ Yes
- ☐ No
- ☐ Partial/Considered

### Target U-value for building envelope (W/m<sup>2</sup>·K)

Enter a number...

### Which sustainable strategies are being considered?

- ☐ Solar Panel Integration
- ☐ Rainwater Harvesting
- ☐ Green Roof Implementation
- ☐ Passive Ventilation Design
- ☐ Low-VOC Materials

### Description of efforts to minimize construction waste.

Write something...

**Is a LEED or other green building certification being pursued?**

- ☐ Yes
- ☐ No
- ☐ Considering

**Estimated reduction in energy consumption (percentage)**

Enter a number...

**Details regarding the sourcing of sustainable materials (e.g., local suppliers, certifications).**

Write something...

## Risk Assessment & Mitigation

Identifying potential risks that could impact cost, schedule, or quality, and developing strategies to mitigate them.

**Identify Potential Risks (Cost, Schedule, Quality, Safety)**

Write something...

**Estimated Cost Impact of Each Risk (€)**

Enter a number...

### Risk Category (Cost, Schedule, Quality, Safety, Environmental)

- ☐ Cost
- ☐ Schedule
- ☐ Quality
- ☐ Safety
- ☐ Environmental

### Potential Mitigation Strategies

- ☐ Contingency Planning
- ☐ Value Engineering
- ☐ Alternative Materials
- ☐ Improved Communication
- ☐ Phased Construction
- ☐ Early Procurement

### Risk Priority (High, Medium, Low)

- ☐ High
- ☐ Medium
- ☐ Low

### Target Mitigation Completion Date

Enter date...

### Detailed Description of Proposed Mitigation Action

Write something...

### Responsible Party for Mitigation

Write something...

### Risk Status (Open, In Progress, Closed)

- ☐ Open
- ☐ In Progress
- ☐ Closed

## Procurement & Contract Management

Evaluating procurement strategies, contract terms, and payment schedules to optimize value and minimize disputes.

### Procurement Strategy Selected?

- ☐ Competitive Bidding
- ☐ Negotiated Bid
- ☐ Design-Build
- ☐ Fast-Track

### Summary of Bidder Evaluation Criteria

Write something...

### Number of Bids Received

Enter a number...

### Contract Type

- ☐ Fixed Price
- ☐ Cost-Plus
- ☐ Time & Materials
- ☐ Unit Price

### Key Contractual Risks Identified & Mitigation Plans

Write something...

### Bid Due Date

Enter date...

### Upload Key Bid Documents (e.g., Bid Sheets, Qualification Statements)

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### Payment Schedule Type?

- ☐ Progress Payments
- ☐ Milestone-Based
- ☐ Lump Sum