

David J. Hill, AIA, PC

Architect

No. 1 North Main Su. 209

Moultrie, Georgia

229-890-2350

www.djh-aia-architect.com

djharchitect@moultriega.net

Construction Methods

Building committees spend countless hours deliberating different design and construction-delivery methodologies. Should we hire an architect for design and then competitively hard bid the construction? What if we select a single-point design-build firm for both the architectural design and actual construction?

The pros and cons of these method, or some hybrid of one or the other, seem confusing. After all, this is a foreign language to the average building committee member.

Competitive Bid

The traditional Competitive-bid approach involves the owner contracting design services from an architect who develops the designs per the owner's needs and directions. The architect prepares the contract documents (plans and specifications) for bidding and construction. He or she also assists the owner in meeting the City's requirements for permitting, competitively bidding the project and administering the construction contract (shop drawing review, review of application for payments, jobsite observations and final project closeout services).

Pros

- The owner directly hires the architect, who allows for an unbiased/unencumbered service to assist the owner and represent the owner's best interest, from design through occupancy.
- The architect must be involved in the Construction Administration services to assure construction according to plans and specifications.
- The architect provides custom building and system designs tailored to the client's specific needs, site, City requirements and budget.
- Wide-open general contractors' competitive bidding of the entire construction contract provides the lowest cost for the design requirements specified.
- The architect, serving as the owner's primary advocate, acts as a third-party arbitrator on any disputes and/or discussions between the owner and general contractor.

Cons

- The architect might provide only moderately accurate pre-bid cost estimates based on square footage of similar, recently constructed buildings in the area.
- Due to lack of early contractor participation, the design professionals might over-design systems, which could inflate construction cost.
- A "closed-book" approach in which the owner doesn't have access to the general contractor's accounting. Any savings realized through the construction process will go to the general contractor.

- Bid shopping typically occurs, which results in a potentially lower level of craftsmanship or inflationary change order/substitution requests during construction.
- Multi-point responsibility of performance (design issue vs. construction issue).

Owners and contractors say the advantage of the Competitive-bid approach is that the lowest bid cost may be obtained due to a more wide-open, every-subcontractor-is-invited approach to bidding. This is certainly possible with lower-quality subs bidding. Subcontractors that are financially shaky — and possibly bidding at cost to maintain cash flow to stay in business — are typically problematic under this method.

Design-Build

Now let's discuss the delivery method that gains popularity every year: design-build. Under this method, the owner secures a single contract with a general contractor who, in turn, contracts for architectural, engineering and construction services. The selected general contractor might have in-house architectural and engineering services, or they have to subcontract these services with individual architectural and engineering firms. Either way, the general contractor is responsible for those contracts under their contract and provides the single-point contract to the owner.

Pros

- Single-point responsibility on initial performance of design and construction.
- Potential for the lowest construction cost.
- The general contractor and major subcontractors are involved early with the design team to provide input in design and engineering services.
- Lower architectural design and engineering costs due to abbreviated design services provided.
- Good pre-bid cost estimates (3 percent to 5 percent). In fact, sometimes a guaranteed maximum price, or (GMP), is provided at the early design phase.

Cons

- The architect is hired by the general contractor and controlled by the general contractor whose decisions are based on the general contractor's requirements vs. the owner's requirements.
- Abbreviated architectural design and engineering services often inadequately define how and what is to be provided at the end of construction.
- No checks and balances are in place for general contractor performance or other owner protection. It lacks third-party quality reviews during design and construction.
- No third-party arbitrator within the team, leaving legal recourse as the only means to resolve design and construction conflicts.
- Often employs the use of pre-engineered metal building construction, which dictates design that might not be sensitive to the owner's needs, site conditions or City requirements. This system fits the needs into the pre-designed structure rather than design the structure around the needs.
- Potential to under-design systems to satisfy low price, which could affect performance and longevity.
- Potential for higher long-term maintenance and operation costs due to low-price satisfaction.

Negotiated General Contractor

Under this method, the owner selects and contracts with an architect for design and engineering services. Immediately following, the owner begins to interview general contractors. The owner and general contractor usually won't have any contractual agreement for the design phase. However, some general contractors might have a contract with a small, stipulated-sum amount for pre-bid services. This amount is usually credited towards the final construction contract once final bidding is complete.

With these steps complete, the construction team is in place: owner, architect and contractor. The strength of this relationship is already founded on trust, experience and quality. A design team is assembled and a general contractor is now available to provide early preliminary cost estimates during schematic design and design development phases of drawings. The general contractor will use the AIA Owner-Contractor Agreement (A111). Under this agreement, the basis of payment is the Cost of the Work Plus a (Negotiated) Fee with a guaranteed maximum cost.

Pros

- The general contractor becomes a building team member. The contractor attends building committee meetings, assists in value engineering and provides cost estimates while the design drawings and final drawings are being prepared. Usually, project time is reduced due to a shorter final-bid and negotiation period.
- The general contractor provides preliminary and final-bid cost with at least three subcontractors competitively bid in each scope of work category. Sometimes a 50-percent-contract-documents phase estimate is provided as one final price check before final bidding. Additionally, a specific cost check can be provided for component or system evaluations as final drawings are prepared.
- This is an open-book approach in which all sub bids and fees are open to the owner and architect for review. Competitive bids from a minimum of three subcontractors in all work categories are provided. Since subcontractors typically perform 80 percent of the work, the owner still receives the benefits of competitive bidding.
- The contract should include a guaranteed maximum cost with 100-percent savings at the end of the project, which is retained by the owner.
- Higher-quality subcontractors are involved through general contractor pre-selection vs. wide-open subcontractor bidding in hard-bid, stipulated-sum contracts.
- Typically, there are few change orders that occur due to the greater involvement and improved communication of the architect, general contractor and subcontractors, especially during the bid period.
- This delivery method significantly reduces construction problems and poor workmanship. To protect the owner, it also provides quality services with checks and balances.

From this evaluation of construction delivery methods, it's possible to understand the construction delivery approaches. The old saying holds true today: "The reminder of poor quality remains long after the sweetness of low price is forgotten."