

**DESIGN BUILD PROJECT DELIVERY &
THE PRACTICE OF ARCHITECTURE AND ENGINEERING**

**ARCHITECTS & ENGINEERS LEGISLATIVE COUNCIL (AELC) WASHINGTON
COMMITTEE ON ALTERNATIVE PROJECT DELIVERY**

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AELC COMMITTEE ON ALTERNATIVE PROJECT DELIVERY

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INTRODUCTION

At the September 2014 meeting of the Capital Projects Advisory Review Board (CPARB), the Architects' Representative to the Board, Walter Schacht, indicated his interest in reaching out to the architectural and engineering (A/E) community to obtain feedback on the impact of alternative project delivery on professional practice. The Board indicated its interest in hearing a report.

Subsequently, Mr. Schacht asked the Washington components of the American Institute of Architects (AIA) and the Architects and Engineers Legislative Council (AELC) to participate. A committee to discuss the impact of alternative delivery on A/E was formed in September of 2014. Jeffrey Hamlett, Executive Director of the American Institute of Architects (AIA) Washington Council and Van Collins, CEO of the American Council of Engineering Companies (ACEC) Washington served as co-chairs. Sixteen architects and engineers from across the state participated.

The committee's discussions focused on Design Build procurement for vertical construction in Washington State. To broaden the perspective, national trends in Design Build were researched. This report, prepared by Mr. Schacht, compiles the input of the AELC committee and the research. The goal is to identify current trends and indicate opportunities for improvement that contribute to the continuing evolution of this procurement method.

The report identifies some of the impacts of Design Build on the role of the A/E. The licensed design professional's primary contractual relationship shifts from the owner to the Design Builder, who is typically a general contractor. The scope of A/E services is reduced, limiting the ability of the A/E to provide its full range of expertise, protect the owner's best interests and administer the contract for construction. There is a reduced level of engagement with the end user. Many design professionals believe that they deliver the best value when they maintain a primary relationship with the owner.

The report also identifies challenges faced by owners, architects, engineers and contractors in the Design Builder selection process. A fair process depends upon a clear definition of the program, scope and budget – particularly when a design competition is part of the RFP. The A/E community expresses concern that public owners are not always aware of the effort, time and costs required for an agency to prepare.

The cost of competing for a Design Build project is a significant concern to architects and engineers. The risk is high relative to the potential reward especially when there is a design competition. Stipends typically do not cover the cost of the design services.

Design Build can reduce competition. Small businesses that are otherwise qualified to provide design services may not be able to compete due to the risks and costs. Previous experience is a typical criterion for Design Build selection but a limited number of architects, engineers and contractors have experience as individuals or as teams in this emerging procurement type.

The report identifies some of the issues in how risk is apportioned in Design Build and discusses the potential impact on the value of a completed project.

The report concludes that the Capital Projects Advisory Review Board (CPARB) should establish a Committee on Design Build Procurement to consider these issues further. Members of the AELC Committee on Alternative Project Delivery believe that a dialogue among public agencies, architects, engineers, contractors and other industry partners can improve the outcomes for everyone involved.

THE CHANGING ROLE OF ARCHITECTS AND ENGINEERS

Design Build project delivery transforms the relationship of the A/E team and the public agency. In other procurement methods the licensed design professional is contracted, and has a primary responsibility, to the public owner. In Design Build the A/E team is typically contracted, and has a primary responsibility, to a general contractor.

Design Build is embraced as an effective project delivery model by some design professionals. It puts the general contractor and the A/E on the same team. Often both entities have an established track record of working together. The same may be true of the subcontractors on the project.

Many design professionals believe that contracting directly with the agency enables them to exercise their abilities and protect the public owner's interests most effectively. Architects and engineers have the skills and experience to be the agency's strategic advisor, planner and programmer, design team leader and representative during construction administration.

Many architects identify GC/CM, which is sometimes called construction manager at-risk, as a preferable project delivery method if early identification of the general contractor is critical to the success of the project. GC/CM maintains the primary contractual relationship between the public owner and the A/E. The American Institute of Architects states, "architects should also seriously consider whether construction manager at-risk might be preferred over design-build... we recognize that the contractual structure of CM at-risk, when written properly, has attributes that can indeed potentially deliver a project consistent with the "faster, cheaper, better" mantra of design-build BUT without the problems."¹

In Design Build, the agency does not have the benefit of having an A/E act as their representative during the project. The design team's responsibility for design quality, technical resolution and requiring corrections to construction work may be diminished or eliminated.² A conflict may arise for the A/E if the Design Builder gives direction that the licensed design professional believes is not in the best interest of the project. When the public owner contracts separately with the A/E and the general contractor the agency can take advantage of their independent perspectives.

Design Build may limit the design team's ability to engage users in a dialogue about their goals and needs. As the owner relinquishes direct involvement in the design development process, stakeholder participation tends to be limited. The A/E's ability to customize the design to the project's specific circumstances may be reduced.³

The specificity of the A/E's documents is frequently limited in Design Build. The Design Builder must have some flexibility to modify the design during construction in order to control costs and schedule. As a result, many aspects of the contract documents for a Design Build project provide a performance specification rather than a detailed design. Bid documents may not be as complete as they would be for a comparable Design Bid Build or GC/CM project. This can increase liability and reduce the certainty of outcomes for the public owner, the Design Builder and the A/E.⁴

Architects and engineers express concern that public owners have the perception that design is less expensive or even free when procured through the Design Builder. Architecture and engineering are procured as a commodity, rather than as a service. When design scope and fees are reduced as a result of a selection process that includes cost there may be a resulting impact on design quality and completeness.

RISKS AND CHALLENGES

RECOGNIZING THE NEED FOR AGENCY PREPAREDNESS

Design Build can be more complex for the public owner to administer than other procurement methods. An increased level of agency skills and experience are necessary both to comply with RCW 39.10 and to manage the process. Significant time and effort are required to prepare since the agency's involvement in programming, design, specifications and construction administration is typically limited after the Design Build contract has been awarded.

Third party owner representatives can help the agency prepare but cannot assume the fundamental responsibility of the public owner. Issues may arise if a public agency assumes that Design Build reduces their overall effort and responsibility.

A FAIR SELECTION PROCESS

Architects and engineers believe that a fair selection process for the Design Builder depends on the thoroughness of the predesign and/or bridging documents. Agencies should allow for the time and costs associated with preparing them.

In an RFQ/RFP selection process with a design competition, the predesign and/or bridging documents provide prospective Design Builders with the information necessary to assemble the right team for the RFQ phase. The scope and budget allows proposers to determine if the project is feasible. Incomplete information can cause Design Build teams to invest unfairly in a proposal effort. A complete program helps agencies avoid changes that create risks and/or unfair competition for shortlisted Design Build teams during the RFP phase. Thorough preparatory documents reduce the chance of subsequent change orders.

The predesign and/or bridging documents should be prepared by a qualified A/E team and completed prior to starting the selection for the Design Build team process.⁵ The final document should be available to anyone considering submitting for the RFQ phase. Agencies should avoid overlapping the predesign study and/or development of bridging documents with the RFQ/RFP process.

Public owners should allow adequate time for the predesign team to prepare a clearly defined program, scope and budget. The agency should take advantage of the fact that this phase of the project allows for stakeholder involvement. Establishing the feasibility of the project is critical to its success.

The agency should consider whether the A/E team that prepares the predesign and/or bridging documents should be eligible to participate in the RFQ/RFP process. That has the potential to create a conflict of interest, which is exacerbated if the predesign study runs concurrently with the selection process. Separating the two contracts enables the A/E team that developed the pre-selection documents to serve as the agency's representative after project award, which provides continuity to ensure that the implementation aligns with the public owner's program goals.

An alternate approach is to utilize a process such as Progressive Design Build that provides for the selection of the Design Builder prior to setting the program and budget for the project. In this case there is no design competition. The RFQ/RFP selection process is based on qualifications and a limited number of cost parameters such as the contractor's fee. The Design Build team works with the agency's stakeholders to prepare the predesign, balancing scope and budget. The Design Build contract is executed after the final program and budget are approved by the owner.

THE COST OF COMPETING

The cost of competing for a Design Build project is high relative to the potential reward, especially when the RFP phase includes a design competition. Stipends typically do not cover the cost of A/E services.¹ A significant effort is required to provide the general contractor with adequate detail for an accurate cost estimate that results in a successful bid. Winning the design competition often requires making a significant investment in renderings, fly-throughs and models. AIA national data indicates that firms spend an average of \$260,000 to participate in Design Build competitions. Some firms have spent over \$1 million to compete for Federal projects.

In addition, ownership of all materials submitted in the selection process, including the design proposal, is typically forfeited to the public agency. Designs and/or elements thereof are often not protected from being adopted by the agency for use by others on the project.⁶

LIMITED COMPETITION

Currently, Design Build procurement reduces the ability of qualified contractors, architects and engineers to compete for public work. As a new procurement method, a limited number of architects, engineers and contractors got into the market early due to the limited number of project opportunities and companies able to take the risk. The early adopters should be recognized for the willingness to implement a new procurement method.

There is a large body of qualified architects, engineers and contractors who have experience delivering public works through Design Bid Build procurement. Small businesses play a significant role in that sector, as well as women and minority-owned firms. It also provides opportunities for new firms that have not done public work previously.

Nonetheless, it is a challenge for those firms to compete for Design Build because previous experience as an individual or a member of the team is frequently a selection criterion. Lack of Design Build experience has been a barrier to selection. The broader A/E/C industry should be given the opportunity to compete successfully for the work. Reduced competition often increases costs to public agencies.

The cost of competing can be prohibitive for small businesses. Design Build competitions are a huge drain on limited resources in terms of time and effort. Many of these firms have a track record of service, creativity and innovation serving the needs of Washington State's public agencies.

CHOOSING DESIGN BUILD AS A PROCUREMENT METHOD

Design Build stands alongside Design Bid Build and GC/CM as an effective project delivery method for major projects. Public owners should undertake a thorough, unbiased evaluation of the pros and cons of all three relative to their project's specific circumstances before selecting a method. Each of the three project delivery methods has strengths and weaknesses. None of them is likely to be applicable to all situations.

DESIGN CONTROL

In Design Build, the agency selects a team and a design at the beginning of the project. The owner relinquishes direct involvement in the design development process that follows. This limits the agency's input on programmatic and technical decisions. Public agencies are not typically able to exercise the level of control associated with Design Bid Build or GC/CM.

Design Build typically divides A/E services between one team, contracted to the owner, that provides programming and planning and another, contracted to the Design Builder, that provides design and construction. For programmatically-complex projects, continuity of the A/E team from predesign through design and construction may be critical to the success of the project. It creates a common base of understanding between the owner and the design team that starts with the general and continues with increasing focus on details and performance through the completion and occupancy of the project.⁷ Emerging forms of Design Build procurement, such as Progressive Design Build, allow the Design Build team to be selected early in the process, increasing the continuity.⁸

APPORTIONING RISKS AND VALUE

Risk is inherent in all design and construction. Each of the three project delivery methods apportions risk and its associated costs differently between the owner, the contractor and the A/E. There is a related impact on the value of the work incorporated into the construction contract.

The Design Builder's overhead and profit percentages are typically higher than the general contractor's OH&P for Design Bid Build or GC/CM to cover the increased risk of competing for and implementing the delivery method. There is a corresponding reduction in the percentage of the total contract that is allocated to the construction work itself.

The Design Builder has an incentive to complete projects faster and less expensively. They also have flexibility to modify design details in order to keep the project on budget and schedule.⁹ These factors may impact the quality or performance of the completed project.

Design Bid Build and GC/CM offer alternative pathways to obtaining the best value for the public owner's investment. They allow the agency to participate in decision-making during value engineering and detailed design, which has significant potential to yield cost-effective solutions.

Additional costs for project management and stipends for the design competition may reduce funds available for the construction contract.

RECOMMENDATION

We recommend that the Capital Projects Advisory Review Board appoint a committee to further evaluate the issues identified in this report and consider the opportunities for improving Design Build project delivery. The following should be considered in establishing the scope of the committee's efforts:

- Public owners are learning from their experiences and modifying their procurement methods to improve outcomes. Invite agencies to share their lessons learned and provide insight on Design Build project delivery.
- Design Build procurement continues to evolve. Identify and evaluate the impact of new methodologies such as Progressive Design Build, adding a Verification Phase and Performance Contracting.
- Identify best practices to assist public agencies in considering and choosing between Design Bid Build, GC/CM and Design Build project delivery.
- Identify best practices to assist public agencies in effective utilization of Design Build including preparing for the project and selecting a Design Builder.
- Evaluate constraints and recommend opportunities for architects, engineers and contractors to compete effectively with a focus on the needs of small businesses.

ENDNOTES

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- ⁹ “Design-Build: An Alternative Construction System.” State of California. Legislative Analyst's Office, 3 Feb. 2005.