

DESIGN-BUILD DONE RIGHT

Universally Applicable

- » any project type
- » any sector
- » any size

BEST DESIGN-BUILD PRACTICES



DBIA
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DESIGN-BUILD DONE RIGHT

BEST DESIGN-BUILD PRACTICES

A DESIGN-BUILD INSTITUTE OF AMERICA PUBLICATION

The practices identified in this document have two basic characteristics:

1 | They are written to be universal in applicability, spanning any type of design-build project:

- public or private
- vertical or horizontal
- large or small

2 | They are important enough to directly affect project performance.

Stated differently, implementing these practices on any type of design-build project increases the probability of a successful project that meets the expectations of all stakeholders. If these practices are not implemented, there is an increased probability that the project's performance will be compromised and that some or all of the stakeholders will be disappointed.

For ease of reference, this document is organized into three primary sections:

(I) Procuring Design-Build Services

(II) Contracting for Design-Build Services

(III) Executing the Delivery of Design-Build Projects

Each section contains overarching principles that represent the “best practice.” Each best practice is supplemented by several techniques that provide guidance on specific ways to implement the best practice – essentially “mini-best practices.” The combination of best practices and implementing techniques are the basis for “design-build done right.”

DBIA recognizes that there are real-world differences among design-build market sectors (e.g., water/wastewater, transportation, federal projects), and that specific implementation techniques might differ slightly from one market sector to another. DBIA also recognizes that some owners and practitioners may want further explanation to fully appreciate the thought behind the principles in this document. Additionally, DBIA expects that many users of design-build would benefit from having more detailed guidance on how to put these best practices and implementing techniques into use in different design-build market sectors. Given this, DBIA intends to continually update its portfolio of publications, tools and other resources so that design-build stakeholders will have access to leading-edge information that will allow them to do design-build “right” in accordance with the concepts expressed in this document.

COVER PHOTO CREDITS

Top Row, Left to Right:

J. Paul Leonard Library and Sutro Library, San Francisco State University, Owner: California State University, *2012 National Design-Build Award Winner*; **San Antonio Public Safety Headquarters**, Owner: City of San Antonio, *2013 National Design-Build Award Winner*; **Colonel James Nesmith Readiness Center**, Owner: Oregon Military Department, *2013 National Design-Build Award Winner*

Bottom Row, Left to Right:

Phase 4 Development of the President George Bush Turnpike - Western Extension Design-Build, Owners: North Texas Tollway Authority and HDR Engineering, Inc., *2013 National Design-Build Merit Award Winner*; **Los Angeles Mission College East Campus Complex**, Owner: Los Angeles Community College District, *2013 National Design-Build Award Winner*; **Progressive Design-Build Project for the North Lee County Water Treatment Plant Expansion to 10MGD**, *2013 National Design-Build Award Winner*, Owner: Lee County Utilities

I. PROCURING DESIGN-BUILD SERVICES

An owner's choices of project delivery system and procurement approach strongly influence project results. These choices are among the first decisions an owner makes on a project, and they form the foundation for how the project will be developed, procured and executed, and how the key project stakeholders communicate and relate to each other. In making these choices, it is critical for an owner to consider the particulars and circumstances of each project, including the procurement options available to the owner. After thoroughly considering these issues, an owner should make a strategic decision as to how to take full advantage of the many benefits that are inherent in the design-build process.

DBIA considers the following as three (3) best practices for owners as they make their project delivery and procurement decisions.

1. An owner should conduct a proactive and objective assessment of the unique characteristics of its program/project and its organization before deciding to use design-build.

In furtherance of this practice, the following implementing techniques apply:

- a. Owners should understand the potential benefits, limitations, and attributes of design-build and make an informed decision as to whether the use of design-build will benefit their program/project.
- b. Owners should create an organization that supports the successful procurement and execution of a design-build project, with key personnel (including those advising/representing the owner) educated and trained in, among other things: (a) the procurement, contracting and execution of design-build projects; and (b) the importance of setting expectations and fostering a collaborative relationship among all members of the project team.
- c. Owners should identify and involve key project stakeholders at the early stages of project planning, as stakeholder goals, expectations, challenges, constraints, and priorities should guide all project planning and procurement activities, including the determination and implementation of design excellence and sustainability goals.
- d. Owners should involve senior leadership that is committed to the success of the design-build process, as this will foster a healthy and trusting relationship among the entire project team.
- e. Owners should carefully research and assess current market conditions as they plan their design-build programs, as this will identify potential risks and opportunities. Among the issues to be researched and assessed include: (a) procurement actions that could limit or expand competition; (b) projected labor, material and equipment availability; (c) lessons learned from similar projects; and (d) realism of budget and schedule estimates.



Left to Right:

Mason Conservation Studies Program Residence Hall and Dining Facility, Owner: George Mason University, 2013 Design-Build Honor Award

Nova Southeastern University Ocean Center of Excellence for Coral Reef, Owner: Nova Southeastern University, 2013 National Design-Build Award

I. PROCURING DESIGN-BUILD SERVICES (CONT.)

- f. Owners should use a rigorous and equitably-balanced project risk assessment process early in the procurement process and update/refine the risk assessment as the project proceeds from procurement through project execution.
- g. Owners should understand all procurement constraints imposed or flexibilities afforded by their legislative, regulatory, or internal requirements.
- h. Owners should make an early determination of their programmatic position on conflicts-of-interest policy for design-build procurements and promptly disclose this policy to the marketplace that will likely pursue these design-build procurements.
- i. Owners should make an early determination about their expectations for the design-builder's role in the start-up, commissioning and operations of the project and reflect expectations in their procurement approach.

2. An owner should implement a procurement plan that enhances collaboration and other benefits of design-build and is in harmony with the reasons that the owner chose the design-build delivery system.

In furtherance of this practice, the following implementing techniques apply:

- a. Owners should use a procurement process that: (a) focuses heavily on the qualifications of the design-builder and its key team members rather than price; and (b) rewards design-build teams that have a demonstrated history of successfully collaborating on design-build projects.
- b. Owners should use a procurement process that encourages the early participation of key trade contractors.
- c. Owners should develop their design-build procurement with the goal of minimizing the use of prescriptive requirements and maximizing the use of performance-based requirements, which will allow the design-build team to meet or exceed the owner's needs through innovation and creativity.
- d. Owners should develop realistic project budgets, and provide clarity in their procurement documents about their budgets, including, as applicable: (a) identifying "hard" contract cost/budget ceilings; (b) stating whether target budgets can be exceeded if proposed solutions enhance overall value; and (c) stating whether the owner expects proposers to develop technical proposals that will encompass the entire target budget.
- e. Owners should consider the level of effort required by proposers to develop responsive proposals, and should limit the deliverables sought from proposers to only those needed to differentiate among proposers during the selection process.
- f. Owners who require project-specific technical submittals (e.g., preliminary designs) for evaluating and selecting the design-builder should: (a) use a two-phase procurement process; and (b) limit the requirement for such submittals to the second phase, where the list of proposers has been reduced.

3. An owner using a competitive design-build procurement that seeks price and technical proposals should: (a) establish clear evaluation and selection processes; (b) ensure that the process is fair, open and transparent; and (c) value both technical concepts and price in the selection process. In furtherance of this practice:

- a. Owners should perform appropriate front-end tasks (e.g., geotechnical/environmental investigations and permit acquisitions) to enable the owner to: (a) develop a realistic understanding of the project's scope and budget; and (b) furnish proposers with information that they can reasonably rely upon in establishing their price and other commercial decisions.
- b. Owners should appropriately shortlist the number of proposers invited to submit proposals, as this will, among other things, provide the best opportunity for obtaining high quality competition.

- c. Owners should provide shortlisted proposers with a draft design-build contract at the outset of the second phase of procurement, which: (a) provides proposers with an opportunity to suggest modifications during the proposal process; and (b) enables proposers to base their proposals on the final version of the contract.
- d. Owners should conduct confidential meetings with shortlisted proposers prior to the submission of technical and price proposals, as this encourages the open and candid exchange of concepts, concerns, and ideas.
- e. Owners should protect the intellectual property of all proposers and should not disclose such information during the proposal process.
- f. Owners should offer a reasonable stipend to unsuccessful shortlisted proposers when the proposal preparation requires a significant level of effort.
- g. Owners should ensure that their technical and cost proposal evaluation team members are: (a) trained on the particulars of the procurement process; (b) unbiased; and (c) undertake their reviews and evaluations in a manner consistent with the philosophy and methodology described in the procurement documents.
- h. Owners should ensure that technical review teams do not have access to financial/price proposals until after completion of the scoring of the technical proposals.
- i. Owners should provide unsuccessful proposers with an opportunity to participate in an informative debriefing session.



Counter-Clockwise from Top:
Cargill Grain Transfer Facility, Owner: Cargill, Inc., *2013 Design-Build Honor Award*



I-15 Corridor Expansion I-15 CORE, Owner: Utah Department of Transportation, *2013 National Design-Build Award*



Federal Center South Building 1202 Redevelopment, Owner: U.S. General Services Administration, Acquisition Solutions Branch, *2013 National Design-Build Award*



Pierce College Maintenance and Operations Facility and Net-Zero Plant, Owner: Los Angeles Community College District (LACCD) and Pierce College, *2012 Design-Build Merit Award*

II. CONTRACTING FOR DESIGN-BUILD SERVICES

The use of fair and clear contracts is fundamental to any delivery process. Because there are some important differences between design-build contracts and those for other delivery systems, it is particularly important for the individuals who administer the design-build procurement and execution to understand the contract's language and its practical application. DBIA also recognizes that the construction industry currently tends to focus on the contract between the owner and design-builder. For design-build to succeed, however, the principles must also be incorporated into the contracts of those subconsultants, subcontractors and major suppliers working within the design-build team.

DBIA considers the following as three (3) best practices in design-build contracting.

1. Contracts used on design-build projects should be fair, balanced and clear, and should promote the collaborative aspects inherent in the design-build process.

In furtherance of this practice, the following implementing techniques apply:

- a. Contracting parties should proactively and cooperatively identify significant project-specific risks and clearly identify in the contract how such risks will be handled.
- b. Contracts should reasonably allocate risks to the party that is best capable of addressing and mitigating the risk.
- c. Contracts should use language that is understandable to those personnel who are administering the project.
- d. Contracts should encourage, rather than hinder, communications among project stakeholders.
- e. Contracts should contain a fair process that facilitates and expedites the review and resolution of potential changes to the contract and adjustments in the contract price and time.
- f. Contracts should contain a dispute resolution process that promotes the prompt identification and resolution of disputes at the lowest possible level of hierarchy within the parties' organizations.



Left to Right:
Colonel James Nesmith Readiness Center, Owner: Oregon Military Department, 2013 National Design-Build Award

Stockton Delta Water Supply Project, Owner: City of Stockton, 2013 Design-Build Merit Award

II. CONTRACTING FOR DESIGN-BUILD SERVICES (CONT.)

2. The contract between the owner and design-builder should address the unique aspects of the design-build process, including expected standards of care for design services.

In furtherance of this practice, the following implementing techniques apply:

- a. Owners should, consistent with their overall procurement strategy, evaluate and use appropriate contractual incentives that facilitate the alignment of the performance of their design-build teams with the owner's project goals.
- b. If the design-builder is expected to meet performance guarantees, the contract should clearly identify such guarantees, and the guarantees should be capable of being measured and reasonably achievable by a design-builder performing its work in a commercially reasonable fashion.
- c. The contract should clearly specify the owner's role during project execution, particularly relative to: (a) the process for the design-builder reporting to and communicating/meeting with the owner; (b) the owner's role in acting upon design and other required submittals; and (c) the owner's role, if any, in QA/QC.
- d. The contract should clearly define the role of the designer(s)-of-record and how it/they will communicate with the owner.
- e. The contract should clearly define the commissioning and project closeout processes, including documentation associated with such processes.
- f. The contract should clearly define requirements for achieving project milestones, inclusive of substantial completion, final completion and final payment.

3. The contracts between the design-builder and its team members should address the unique aspects of the design-build process.

In furtherance of this practice, the following implementing techniques apply:

- a. During the proposal phase, the design-builder should use written teaming agreements with each team member to develop and capture an understanding of their relationship and key commercial aspects of their relationship.
- b. The design-builder and its designer(s) should develop an understanding, at the outset of their relationship, of the key commercial aspects of their relationship, including: (a) the designer's compensation, if any, during the proposal period; (b) the designer's role in reviewing/approving the proposal; (c) the contractual liability of the designer for problems, including delays, during execution; and (d) the designer's right to use project contingency for its execution-related problems, and capture these understandings in the written teaming agreement.
- c. The contract should reflect that designer(s)-of-record are regularly and actively involved throughout the project's execution.
- d. The contract should establish the role and primary responsibilities that each party has relative to the design process.
- e. The contract should ensure that there is a clear understanding as to how the team members will communicate with each other and with the owner, including meetings that each party is expected to attend.
- f. The contract should have a clear and commercially-appropriate "flow-down" of obligations from the prime design-build contract.

III. EXECUTING THE DELIVERY OF DESIGN-BUILD PROJECTS

DBIA recognizes that the best practices associated with the execution of a design-build project are similar to those projects delivered under other systems. It is not the intent of this document to focus on identifying general best practices associated with design, construction or project management. Rather, this document's best practices for project execution focus on unique features of the design-build process, where successful execution is based upon relationships built upon trust, transparency and team integration. Individuals not only need to be competent in their specific areas of responsibility, but they also must understand the design-build process and that success is directly dependent upon the ability of the entire team to work together collaboratively.

DBIA considers the following as four (4) best practices in the execution of a design-build project.

1. All design-build team members should be educated and trained in the design-build process, and be knowledgeable of the differences between design-build and other delivery systems.

In furtherance of this practice, the following implementing techniques apply:

- a. All members of the design-build team must understand that the project's success is dependent on the ability of the team members to work collaboratively and to trust that each member is committed to working in the best interests of the project.
- b. Projects should be staffed with individuals that are educated and experienced in the implementation of design-build best practices, and whose personalities are well-suited to the collaborative nature of the design-build process.
- c. All project teams should have senior leadership committed to the success of their projects and actively supportive of design-build best practices.
- d. The design-builder should recognize the benefit of including experienced design-build trade contractors on its team.

2. The project team should establish logistics and infrastructure to support integrated project delivery.

In furtherance of this practice, the following implementing techniques apply:

- a. Owners and the appropriate members of the design-builder's team should co-locate when justified by project characteristics (e.g., project's complexity and volume of design submittals).
- b. Design-builders should strive to have their design and construction teams working in the same place as often as possible, including co-location if practical.
- c. Owners and design-builders should ensure that the administrative processes established for project execution are appropriate, well-understood and expeditious.

3. The project team, at the outset of the project, should establish processes to facilitate timely and effective communication, collaboration, and issue resolution.

In furtherance of this practice, the following implementing techniques apply:

- a. The owner and design-builder should develop and use a structured partnering process, scaled appropriately to reflect the project's size and complexity.

III. EXECUTING THE DELIVERY OF DESIGN-BUILD PROJECTS (CONT.)

- b. The owner and design-builder should create an executive leadership group, including individuals from key members of the design-builder's team (e.g. designer(s)-of-record and key subcontractors) to meet regularly, monitor the project's execution, and facilitate the understanding and achievement of the parties' mutual goals.
- c. The owner and design-builder should develop processes that enable key stakeholders (e.g., government agencies and third-party operators) to interface directly with the design-builder and its design professionals on significant elements of the work.
- d. The owner and design-builder should, at the outset of the project, endorse and liberally use techniques that effectively integrate design and construction activities and take steps to continue these processes throughout the duration of the project.
- e. The owner should be fully engaged and prepared to make the timely decisions necessary to facilitate the design-builder's performance, including being represented by staff that has the authority to make decisions and perform its project functions.
- f. The design-builder should clearly, thoroughly and expeditiously advise the owner about any issues that might impact the contract price or schedule, as this will, among other things, enable the owner to make an informed decision as to how to address such issues.

4. The project team should focus on the design management and commissioning/turnover processes and ensure that there is alignment among the team as to how to execute these processes.

In furtherance of this practice, the following implementing techniques apply:

- a. The owner and design-builder should acknowledge the significant level of effort required to manage the development and review of the design and, consequently: (a) dedicate sufficient resources to foster a collaborative environment for this work; and (b) mutually develop a realistic design development plan that efficiently engages the owner and key members of the design-builder's team (e.g., designer(s)-of-record and key subcontractors) in purposeful meetings.
- b. The owner and design-builder should agree upon clear, realistic and expeditious submittal and review/approval processes that are in harmony with the parties' schedule and other project-specific goals.
- c. The design-builder should ensure that design advancement and changes to the contract documents are clearly, thoroughly, and contemporaneously documented, and that there is a clear understanding as to when the owner is integrated into the decision-making process for and notified of such advancement and changes.
- d. The design-builder and its team should: (a) establish a trend system early in the design development process to identify, track and evaluate any potential changes before they adversely impact the project's cost or schedule; (b) clearly, thoroughly, and contemporaneously communicate to the owner the information derived from the trend system; and (c) maintain the trend system throughout the construction process until it is no longer needed.

Left to Right:

George Mason University Northwest Housing VIII A, Owner: George Mason University, 2013 National Design-Build Award

2.0-MGD Nanofiltration Water Treatment Plant Addition, Owner: City of Dania Beach, 2013 National Design-Build Award



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Questions or Comments? Email BestPractices@dbia.org

The term “best practices” itself connotes an evolving process of continuous improvement. DBIA views this document to be the first of what will undoubtedly be many iterations of best practices and implementing techniques. As such, DBIA fully expects that the concepts expressed here will be refined and modified over time.

DBIA is the only organization that defines, teaches and promotes best practices in design-build project delivery. Owners choose design-build to achieve best value while meeting cost, schedule and quality goals.

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January 2014



MISSION:

DBIA promotes the value of design-build project delivery and teaches the effective integration of design and construction services to ensure success for owners and design and construction practitioners.

VISION:

DBIA will be the industry's preeminent resource for leadership, education, objective expertise and best practices for the successful integrated delivery of capital projects.

VALUES:

- Excellence in integrated design-build project delivery, producing high value outcomes.
- An environment of trust characterized by integrity and honest communication.
- Mutual respect for and appreciation of diverse perspectives and ideas.
- A commitment to innovation and creativity to drive quality, value and sustainability.
- Professionalism, fairness and the highest level of ethical behavior.

“DESIGN-BUILD DONE RIGHT” AND CERTIFICATION

Certification provides the only measurable standard by which to judge an individual’s understanding of “design-build done right.”

DBIA™ certification in design-build project delivery educates owners as well as designers and builders on team-centered approaches to design and construction. Owners want successfully executed design-build projects and are looking for a demonstration of both relevant continuing education and experience – both of which can be gained through DBIA certification.

DBIA offers two types of Certification.



Attaining the DBIA™ requires from two to six years of hands-on experience of pre and post-award design-build. Credential holders who display “DBIA” after their names come from traditional design and construction backgrounds; they are private or public sector architects, engineers and construction professionals. Some attorneys and academic practitioners who specialize in design and construction generally and design-build specifically may also fulfill the DBIA™ requirements.



Unlike the DBIA™ credential, obtaining the Assoc. DBIA™ does not require hands-on field experience. Instead, this credential is focused on three key types of individuals who possess a different type of experience: (1) pre-award professionals focusing on critical aspects of the design-build process such as business development and acquisition/procurement; (2) seasoned professionals who are new to design-build project delivery, but not new to the design and construction industry; and (3) emerging professionals such as recent college graduates with relevant educational background in the AEC industry. The requirements for obtaining each credential are listed below.

For more information, visit www.dbia.org/certification





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