

SECTION 38 ALTERNATIVE DELIVERY

38.1 GENERAL REQUIREMENTS

38.1.1 Delivery Method Evaluation

Currently, several types of project delivery systems are available for publicly funded transportation projects. The most common systems are Design-Bid-Build, Construction Manager/General Contractor (CM/GC), and Design-Build. No single project delivery method is appropriate for every project. Each project must be examined individually to determine how it aligns with the attributes of each available delivery method. CDOT has developed a Project Delivery Selection Matrix to evaluate all methods for a project and ultimately to select the delivery method.

The latest version of the Project Delivery Selection Matrix can be found at <https://www.codot.gov/business/designsupport/adp-db-cmgc/pdsm>.

For CM/GC and Design-Build methods, the Designer is encouraged to review the latest CDOT manuals for each method. Both manuals can be found here at <https://www.codot.gov/business/designsupport/adp-db-cmgc>.

Public-Private Partnership is another alternative delivery method where funding is provided through a partnership with a private entity. For the purposes of bridge design, the Designer shall follow the same guidelines as set forth for Design-Build.

38.2 DESIGN-BID-BUILD

CDOT most commonly uses the Design-Bid-Build delivery format to develop plans and specifications. With this format, the design is completed with a complete set of plans and specifications before project advertisement. The plans and specifications are competitively bid on, and a Contractor is selected. The Designer shall follow the Structures Process Diagram presented in Policies and Procedures, Section E of this BDM when preparing designs, plans, and specifications. The design plans and specifications for advertisement/bid may name proprietary products but shall generally include two to three product options to promote competition unless it is an innovative application.

38.3 CONSTRUCTION MANAGER/GENERAL CONTRACTOR

Construction Manager/General Contractor or CM/GC is a method of delivery that allows CDOT to select a Contractor to provide feedback during the design phase. When consultants are used for design, the design consultant and the Contractor have independent contracts with CDOT. This method allows the Contractor to work with the Designer and CDOT to identify, minimize, and appropriately share risks; provide cost projections; and refine the project schedule. Once design is complete, CDOT and the Contractor negotiate the bid price and schedule of the construction contract. If CDOT agrees with the Contractor's bid and schedule, the contract is awarded and construction

begins. If CDOT and the Contractor cannot agree on the bid and schedule, the project is put out to bid in a manner like that of a Design-Bid-Build project.

On CM/GC projects, the Designer's role is similar to that on a Design-Bid-Build project. As part of the project development process, the Designer shall vet and incorporate Contractor comments and follow the Structures Process Diagram presented in Policies and Procedures, Section E of this BDM when preparing designs, plans, and specifications, except as noted herein. As part of the structure selection process, the Contractor's feedback may result in CDOT electing to eliminate certain structure types or span configurations due to cost, complexity, or risk. The Designer may incorporate Contractor preferred construction methods in the plans if other local contractors have the means to perform the work. The design plans and specifications for the Release for Construction submittal may name proprietary products but shall generally include 2 to 3 product options to promote competition unless it is an innovative application.

38.4 DESIGN-BUILD AND STREAMLINED DESIGN-BUILD

CDOT uses two types of Design-Build delivery systems:

- Streamlined Design-Build – A streamlined design-build delivery is a single step procurement. CDOT does not shortlist teams through a statement of qualifications (SOQ) submittal but relies on pre-qualified Contractors and Designers to bid and perform the work. The streamlined delivery system is primarily used for smaller structural projects that may have various site challenges, rapid schedules, or other complexities that allow innovative design and construction.
- Standard Design-Build – A standard design-build project is typically a large scope project with complexities like those of the streamlined design-build but on a much larger scale. On these projects, CDOT will first shortlist teams through a SOQ process. Then CDOT will select the winning team using a best value approach. A best value approach ties project goals to best value parameters, such as cost, time, scope, technical design considerations, and construction operational considerations. These parameters are evaluated using specific scoring criteria and entered into an evaluation formula to identify the apparent successful proposer.
- In either Design-Build delivery format, the Contractor is under contract with CDOT, whereas the Engineer-of-Record Designer is under contract with the Contractor.
- Designers may be called on for a variety of roles on a Design-Build project. A Designer may work as part of the owner representation team, which includes CDOT and consultant staff, or the Contractor's team, which includes the Contractor and consultant designers.

38.4.1 Owner Representation – Preliminary Design

Before advertisement of a Design-Build project, CDOT may require a Designer to develop conceptual level plans and to draft the technical requirements. This provides both a starting point for Design-Build teams in their pursuit of the project and serves as the technical requirements that the Contractor's team must follow through the final design for CDOT to accept the design.

Concept plans shall include information on minimum structure requirements. This is typically provided as a typical section and/or a general layout for each major structure. A joint agreement between CDOT Region and Staff Bridge shall determine the level of detail. Generally, design is progressed to a 10% to 20% level, depending on the complexity of the site and the project constraints.

The Designer preparing the technical requirements is encouraged to obtain CDOT's most recent Design-Build project's final structural technical requirements and to modify them to fit the current project. The Designer is encouraged to work directly with Staff Bridge to vet draft versions of the document before advertisement of the Draft Request for Proposals (RFP). After the Draft RFP is advertised, the Designer will modify the technical requirements as necessary until the Final RFP is published. When necessary, Addendums to the Final RFP may be required to provide final technical requirements to the Contractor team before receipt of proposals, proposal evaluations, and announcement of the apparent successful proposer.

38.4.2 Owner Representation – Delivery

After the contract is awarded on a Design-Build project, the Designer may be called on to review Contractor design submittals. This effort requires that the Designer review the plans, specifications, and calculations for conformance to the final technical requirements and associated design criteria. These design criteria include, but are not limited to, the CDOT BDM, the latest edition of the *AASHTO LRFD Bridge Design Specifications*, and project aesthetic requirements. The reviewer shall document all instances where the design does not meet the technical requirements or design criteria and provide comments to the CDOT Project Manager. Like other owner representation tasks, the Designer is encouraged to maintain communication with Staff Bridge and keep the unit informed of areas of concern.

38.4.3 Contractor's Designer

The Contractor's Designer shall provide designs, plans, and specifications as directed by the contract outlined for the Design-Build project through the Instructions to Proposers, Book 1 (where used), and Book 2 (Technical Requirements). The Designer may specify specific and proprietary items on the plans. These items should be selected from CDOT's Approved Product List, when applicable. The Contractor's specific means and methods may be incorporated into the design as long as the methodology of construction does not conflict with the technical requirements or limit future maintenance. Technical requirements will outline project deliverables.

38.5 ALTERNATIVE BRIDGE DESIGN SPECIFICATION

CDOT has the option to include an Alternative Bridge Design Specification project special provision for any bridge designed using the Design-Bid-Build delivery method. This special provision allows the Contractors who bid on the project to develop and price an alternative structure in lieu of bidding the default structure in the advertised plans. Acceptable alternative structure types and any other applicable design constraints for alternative structures will be delineated in the special provision.

Should a Contractor become the successful bidder with an alternative structure in the bid, the alternative structure will be designed and constructed using the Design-Build format of delivery for just that portion of the project. The alternative structure shall meet the design criteria and design deliverables as outlined in the special provision. Designer specification of proprietary items shall be as delineated for Design-Build projects. The Contractor's specific means and methods may be incorporated into the design as delineated for Design-Build projects.