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Recommended Best Practices for the Use of Construction Management/General Contractor on Highway and Transportation Projects in the Public Sector

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Purpose: While the traditional Design-Bid-Build delivery system is expected to continue to be the most prevalent contracting method used for the delivery of public transportation construction projects, state transportation agencies are, nevertheless, making greater use of alternative contracting methods. AGC of America recognizes that public owners will select the delivery systems that best fits their particular needs. Construction Management/General Contractor (CM/GC) has been used widely for delivery of vertical construction projects and is now starting to be used on highway, bridge, transit and other horizontal construction projects.

The purpose of this guide is to suggest to public owners "best practices" for the use of CM/GC on public transportation projects. AGC believes that these "best practices" will lead to a selection process that is open, fair, and free of political influence and will ultimately provide the owner with a project that meets its expectations.

Definition: CM/GC is a project delivery system where the design professional and the CM/GC are retained under separate contracts to the owner. The CM/GC is typically retained at the start of the design phase to provide preconstruction services including: estimating, budgeting, scheduling, constructability reviews and other construction input. The CM/GC is then typically retained to construct the project as designed based on a Guaranteed Maximum Price (GMP). The best practice, suggested for highway and transportation projects, is that the CM/GC self-perform a specified percent of the project (see below). This suggested practice for public transportation projects may differ from the typical CM at-Risk model where the CM is not required to self-perform any of the work or only a small percent.

Recommended Best Practices:

AGC recommends the following procedures to public transportation agencies when using CM/GC

Selection: Generally the CM/GC should be selected through a competitive Best Value Selection process that uses qualifications and a price component ("Price" is typically fees for preconstruction services and a corporate overhead and profit factor that will be applied to construction services) as the determining factors. Flexibility in evaluation of qualifications should not be limited to experience with CM/GC but should include projects of similar size and

complexity, project management approach, bonding capacity, and experience of management staff.

Designer Selection: The success of the CM/GC model is dependent on the collaboration between the designer and the CM/GC as early in the design phase of the project as possible. While the more commonly used method is for the designer to be selected before the CM/GC, a successful alternative that should be considered is to select the CM/GC first and for the owner to seek its input into the selection of the designer. Allowing the CM/GC input into the selection of the designer can increase communications and collaboration early in the process and provide the owner with the constructors' assistance in selecting the optimal partner.

Selection Procedures: The procedures used to select one contractor/proposer over another should be of the highest integrity. In order to encourage the greatest level of competition from the largest numbers of proposers, the selection process should be fair and equitable in both perception and practice, consistent, open, competitive and free of political influence. Transparency in the selection and clarity in how qualifications and proposals will be evaluated is essential.

The following procedures are recommended:

- Owner's Selection Committee members should:
  - be knowledgeable in construction/engineering of similar transportation projects.
  - be knowledgeable about local market conditions.
  - not have conflicting interests.
- Owner's Selection Committee deliberation meeting notes should be supplied to all eligible proposers, before a final decision is made and an opportunity for proposers to respond should be provided.
- The selection process should allow for a question and answer interview period prior to the selection to allow the contractor an opportunity to provide additional information about its approach to the project.
- The selection process should include a system that eliminates significant anomalies in the scores between different evaluators, with unusually high or low scores being eliminated.
- The deliberation process should allow each evaluator to independently score the proposal.
- Exit interviews and debriefings should be made available to the unsuccessful firms.
- Full disclosure of the scoring documents and methodology used should be provided soon after the successful proposer is selected.

Evaluation Criteria: Very specific, objective evaluation criteria should be described in the solicitation. All criteria should be listed in the order of importance to selection. Only evaluation criteria listed in the solicitation should be considered in ranking proposals. The weight that is given to the price score versus the technical score should be clearly defined. There are different

methodologies that have been successfully used to include price as a selection factor. Here are two examples:

Two Envelope Process - The CM/GC's proposal is submitted in two separate envelopes. Envelope one contains the response to the qualification and technical criteria spelled out in the solicitation. The second envelope contains the fee for construction services (either as a percentage or a lump sum based upon the owner's estimate). The costs for preconstruction services are not included but negotiated with the successful CM/GC after selection.

- Technical Evaluation - Envelope one is opened first and the merit of each firm is judged based upon how well its submittal addresses the evaluation criteria in the solicitation. Each proposer is awarded a score based on the average of the scores awarded by each of the selection committee members. To help with consistency, panel members should use a scoring matrix to show evaluation score compared to evaluation criteria. The technical evaluation should be done prior to and independently of the review of the CM/GC's price proposal.

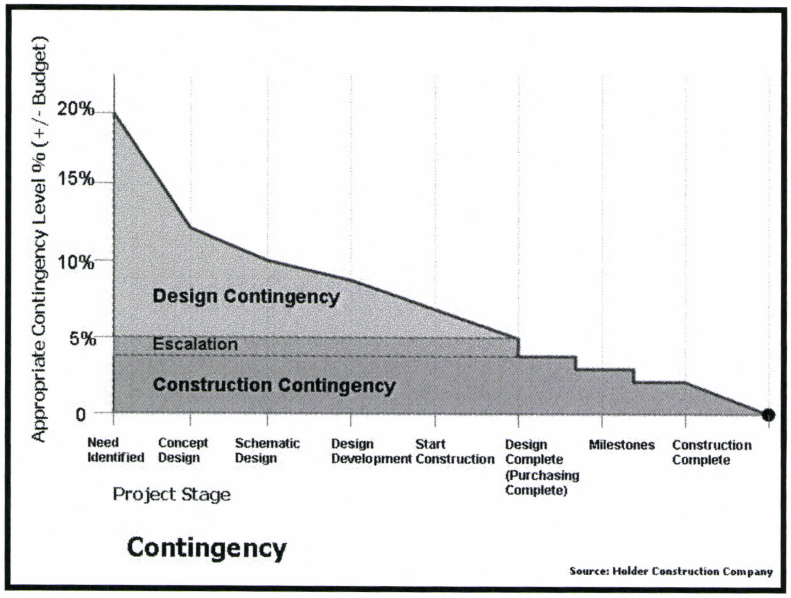
Following completion of the technical scoring, the second envelope with each proposers fee/price proposal is opened. This can be done publicly on "bid day" or privately by the selection committee. The price proposal is then combined with the technical score to determine the best value proposal.

Unit Price Process - Price is considered part of the technical score. The owner selects certain unit elements of the project that are considered to be integral to the project's success. The CM/GC proposal is judged based upon how well its submittal addresses the evaluation criteria in the solicitation and each criterion is given a score. The selected units are assigned a point value which can be 10 to 40 percent of the technical score. When all of the evaluation scores are added together the proposer with the highest score is selected.

A variation on weighting the unit prices can include assigning points based on being the closest to the median price for the units among all of the proposers. The owner may also allow the proposer to explain their approach to pricing the units – including what would make the prices fluctuate.

Debriefing: Within 30 days following selection, the owner should provide unsuccessful proposers with a debriefing giving them feedback as to why the successful proposer was selected and just as importantly why the unsuccessful proposers were not. This should be done in a timely fashion while all of the details of the project are still fresh in the minds of the selection committee and the proposers. Debriefs should show the unsuccessful proposers scores compared to all other proposers including the selected proposer. Unsuccessful proposers should be given access to the other proposals during the debrief. This is important to have a procedure that creates the necessary transparency around a highly subjective process and helps unsuccessful proposers to present a better submittal on the next solicitation. This benefits both the unsuccessful proposers and the owner as well.

Construction Phase Contingency: The CM/GC should submit a Guaranteed Maximum Price (GMP) to the owner at a predetermined stage in the design process (usually when plans are 95% complete). It is advisable to require GMP submittals at various stages of design completion (60%-70%) to allow the owner to keep the project within budget. In some instances it is in the best interest of the project and the owner for the CM/GC to begin construction as early as the 60% stage of the design.



A CM/GC contingency fee should be allowed to cover plan risk on the remaining percent of the design not completed at the time construction starts, and to cover quantity overruns, and minor design changes. The CM/GC contingency is available in order to deliver the documented scope within the GMP and within the schedule for completion. The CM/GC contingency is part of the GMP and is not available for owner-directed design or scope changes. The CM/GC contingency should be negotiated between the CM/GC and the owner and the amount should be identified in the contract. The CM/GC contingency will typically range from 5-10% depending upon the complexity and risk associated with the project. The allowable use of the CM/GC contingency should be defined in the contract documents. The contract documents should also clearly define that unused contingency belongs to the CM/GC as the contractor takes the risk if costs are higher than the agreed contingency amount.

An owner contingency should be included to cover scope changes, design errors and omissions, and unforeseen conditions. It is separate from the CM/GC contingency, is controlled by the owner and is transmitted to the CM/GC in the form of a change order, which typically increases the GMP.

Self-Perform: The GM/GC should be required to self-perform a minimum of 30% of the construction and there should be no limits placed on the amount of work that is self-performed. Including a self-performance requirement is in keeping with Federal-aid highway requirements and gives the CM/GC more control over schedule, budget and quality.

Subcontractors: The CM/GC should have control over the solicitation, selection and administration of subcontractors in much the same way as subcontractors are selected through traditional Design-Bid-Build procurements based on experience, qualifications, track record and

price. Since the CM/GC is at risk for the success of the project, the CM/GC should be given control of subcontractor selection and administration.

Value Engineering: Generally, the CM/GC procedure will lead to minimal value engineering change orders as cost saving ideas should be developed in the preconstruction services and incorporated into the GMP. However there may be circumstances where cost saving ideas are brought forward in the construction phase. If the CM/GC can offer a satisfactory explanation as to why an idea could not have been identified in the preconstruction services phase, then an equal sharing of the savings should be considered.

Additional Resources: CM/GC is a relatively new project delivery system in the transportation arena. It has been used to a far greater extent in the vertical segment of the construction industry and there have been many lessons learned there. It is strongly recommended that before a Department of Transportation moves forward in implementing CM/GC in its highway and bridge program that it work with the local AGC chapter to develop procedures that will ensure the greatest amount of competition.

As DOTs begin to explore the use of this contracting method it is suggested that they consider these recommended best practices as a starting point. AGC recommends developing procedures through collaboration with the industry for the use and implementation of CM/GC. Each state has its own laws and procedures that must be taken into account when considering use of CM/GC.

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