MEMORANDUM

TO: PORT OF SEATTLE

FROM: ROBYNNE THAXTON PARKINSON

SUBJECT: RISK ALLOCATION UNDER A PROGRESSIVE DESIGN-BUILD CONTRACT

DATE: 1/7/2015

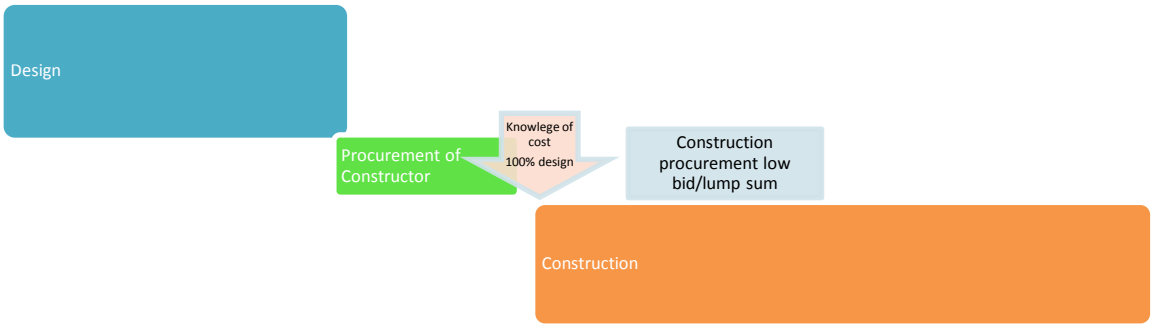
All construction projects carry risk, and those risks remain the same regardless of the delivery method used for the project. This memo discusses the allocation of risk in a progressive design-build project and explains how those risks have been addressed for the Port of Seattle IAF Contract. Please note that this memo reflects the status of the contract to date. The Port team has not finalized all of the provisions. In addition, the Port intends to leverage alternative procurement process available for design-build projects by vetting the commercial terms with the Finalists. The Finalists for the procurement will have the ability to propose alternative commercial terms, and the Port will collaborate with the Finalists during the procurement and with the selected Finalist to determine the final risk balance that best fits the needs of the project.

A. Progressive Design-Build

The goal of the progressive design-build delivery method is to place the risks of a construction project with the entity best able to manage, price or control the risk. One of the primary concerns expressed by owners with the progressive design-build delivery method is that the maximum construction cost for the project is not known at the time that the owner enters into the contract; however, as outlined in the following graphics, the owner actually knows the maximum cost of the project earlier in progressive design-build than in any other delivery method.

1. Design-Bid-Build

In the design-bid-build delivery method, the owner does not know the construction cost until the project is fully designed and publically bid on a lump sum basis. In addition, the owner warrants the sufficiency of the design to the contractor under the *Spearin* doctrine and largely assumes the risk of problems with the design[1]. With a lump sum bid, the contractor includes the cost of all contingency and risk in the lump sum, and the owner has no opportunity to audit the cost or manage the risk on the project. Further, there is a greater risk to the owner of cost growth with changes.



2. GC/CM

In the GC/CM delivery method in Washington State and pursuant to RCW 39.10.370, the owner does not know the Maximum Allowable Construction Cost until the design is 90% complete. The GC/CM is selected using a qualifications plus

[1] Although the Owner ultimately has the ability to make a claim against the designer for issues related to the design, for a variety of reasons, these claims are extremely difficult to recover.

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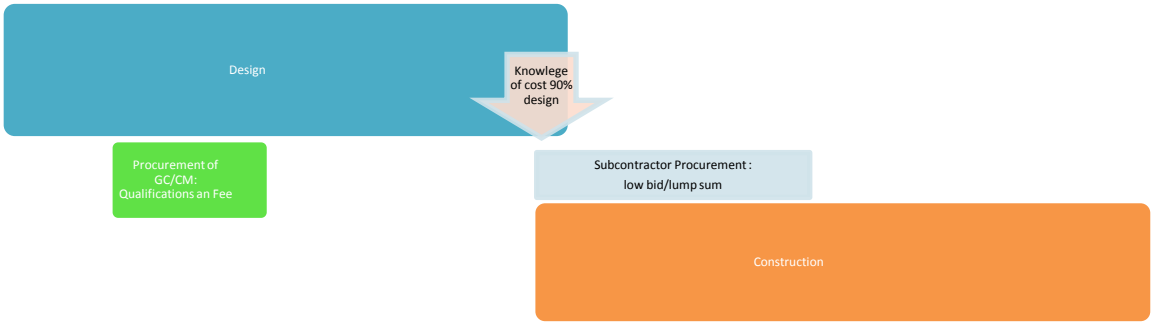
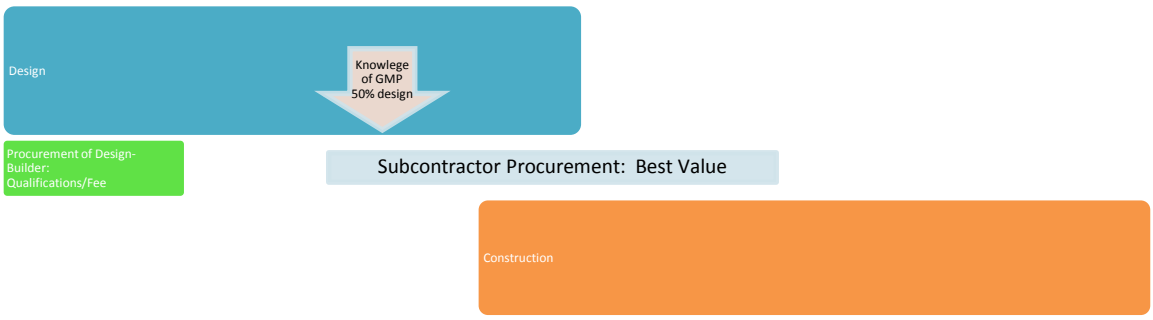
fee approach early in the project. Subcontractors perform at least 70% of the construction (RCW 39.10.390). With the exception of the mechanical and electrical subcontractors, other subcontractors are selected through public bid on a lump sum basis. Although the GC/CM is subject to a MACC, the owner still warrants the sufficiency of the design to the GC/CM, and with any publically bid, lump sum contract, there is greater risk of cost growth with change orders.



3. Progressive Design-Build

In progressive design-build, the design-builder is selected prior to the start of the design process, thus integrating the design and the construction activities, and more importantly responsibilities, at the earliest possible time. This integration allows the parties to address potential problems with the design during the design process, thus greatly reducing the risk of changes during construction when the changes are more expensive. Further, in progressive design-build, the design-builder is fully responsible for the design of the project, thus eliminating owner responsibility for cost growth over the established GMP for design errors.

The owner and design-builder agree on a guaranteed maximum price ("GMP") at approximately fifty to sixty percent design, thus shifting the responsibility early in the project to the design-builder to design the project within the maximum cost. In addition, the design-builder is selected based on qualifications and fee, and the owner remains heavily involved in a collaborative process in the management of the design and the selection of key subcontractors. The use of the guaranteed maximum price instead of a lump sum allows the parties to include contingencies in an open book format in the GMP; however, if those contingencies do not arise, the owner does not pay the cost, although there is usually a savings incentive paid to the design-builder to manage the contingencies such that they are substantially below the GMP. As more fully explained below, the Port will have even earlier knowledge of costs, as the parties will establish a Target Budget to which the design-builder will be required to design after the Validation Period.



B. Procurement

1. Selection Criteria

The best way for an owner to manage the risks in any design-build project is to select the most qualified and experienced design-builder with a history of success. The IAF Procurement is designed to select a design-builder with substantial experience both in progressive design-build and successful delivery of projects of a "Similar Size and Complexity." The definition of "Similar Size and Complexity" is as follows:

a. Projects Using an Integrated Delivery Method, which are projects that required extensive coordination and integration of the design and construction team and early involvement of the constructor during design. Special consideration and possible additional points will be given to projects that utilize the Design-Build delivery method and, more specifically, Progressive Design-Build;

b. Projects with "Multiple and Diverse Stakeholders" that may have included tenants, facility user groups, the public, regulatory agencies, and/or owners with multiple divisions or departments who have diverse and conflicting interests;

c. Projects in excess of $250 million;

d. Projects for public owners;

e. Projects in which a bridge is a primary component;

f. "Complex Projects", which are those that include additional considerations beyond the design and construction of the project. Although the Port provides examples of Complex Projects below, these examples are intended to be illustrative only. Proposers may include other types of projects that are similarly complex in nature.

   i. Airport construction on an active Air Carrier Airport (certified Class I or II), with work activities either in terminals or adjacent to aircraft gates and ramps;

   ii. Projects with unique security requirements such as prisons, military facilities or US State Department facilities, or

   iii. Hospitals with extensive accreditation or regulatory compliance requirements.

The Proposers will also provide extensive information about their management approach for the IAF Project, interact with IAF team members, and provide competitively bid price factors that will have significance throughout the project.

2. Price Factors

The price factors currently anticipated include the following:

a. Fee Percentage: The Fee Percentage will be used as a mark up for the cost of the work during the Validation Period; however, one of the deliverables of the Validation Period is a Fixed Fee that will be calculated using the competitively bid Fee Percentage multiplied by the cost of the Work in the Target Budget. The current thinking is that the Fixed Fee will not be altered unless the Project Scope changes by more than twenty percent. The Port is controlling the risk of paying more than what the project is worth through substantiating the cost of the Work with invoices that are subject to a robust third party verification process.

b. Insurance and Bonding Multiplier: The Insurance and Bonding Multiplier will cover all of the design-builder's insurance and bonding for the project.

c. Personnel Multiplier: This is a multiplier on the actual cost of employee wages for the design-builder and certain Key Team Members.

d. Hourly Rates: For certain Key Team Members, the RFP currently requires that the design-builder identify hourly rates.

C. Project Phases

The Project is divided into phases. For each phase, the Port is afforded protections that allow it the maximum flexibility to pursue the Project in the best interests of the Port. In addition, if the Port cannot agree to the commercial terms at the conclusion of each Phase, the Port may terminate the contract and continue the project using a more traditional delivery method.

1. Validation Period.

a. Purpose. The Validation Period is the phase when the design-builder verifies or validates information provided by the Port, including the Port's budget and schedule. The purpose of this phase is the following:

i) Allow the design-builder sufficient time after the award of the contract to thoroughly review the information provided by the Port. The design-builder will validate a wide variety of information such as as-built drawings, geotechnical data, performance criteria, and Port estimates and assumptions on budget, scope and schedule. With the exception of a limited amount of information such as traffic and usage studies that are time consuming and expensive to reproduce, the design-builder will be verifying all of the Port provided information.

ii) Obtain the design-builder's agreement as to the Initial Basis of Design Documents, the Target Budget and the Target Schedule.

iii) Shift the risk to the design-builder for differing site conditions related to Port provided information.

b. Deliverables. At the conclusion of the Validation Period, the design-builder will provide the Port a number of deliverables that provide protections to the Port with respect to cost and scope control. The Port will review all of the deliverables through a robust third party verification process, and the design-builder may not move forward with the project until the parties have incorporated these deliverables into the Validation Period Amendment. The three most critical deliverables are contained in the Validation Period Amendment and include the following:

i) Target Budget. The design-builder will provide a Target Budget for review and approval by the Port. Although the Target Budget is not a guaranteed maximum price, the design-builder is obligated to submit designs that are consistent with the Target Budget or provide notice to the Port that the designs will exceed the Target Budget. The Port is in control of all decisions that will change the Target Budget.

ii) Target Schedule. The design-builder will provide a Target Schedule for review and approval by the Port. Like the Target Budget, the Target Schedule is not guarantee, but the design-builder must provide designs that are consistent with the Target Schedule or provide notice to the Port. The Port is in control of all decisions that will change the Target Schedule.

iii) Initial Basis of Design Documents. The Initial Basis of Design Documents is the agreed upon scope of work for the Project. This set of documents will define the parameters and initial performance requirements for the Project. The Port is in control of all decisions that will alter the Initial Basis of Design Documents.

c. Subcontractors. The design-builder will also provide to the Port a Subcontract Plan for approval by the Port, which will establish how the design-builder intends to pre-qualify and procure its subcontractors, including all subconsultants, design-build subcontractors, trade subcontractors and suppliers. We anticipate that the design-builder will request that it procure subcontractors prior to the conclusion of the Validation Period. The contract requires the design-builder to obtain the approval of the Port prior to subcontracting with any entity prior to the approval of the Subcontract Plan.

d. Self-Performance. "Self-Performance" occurs when the same entity controls both the design and the construction of a specific scope of the Work. Self-Performance may occur by the design-builder or by a specialty contractor such as fire suppression, electrical, or mechanical. Under the IAF contract, the design-builder must identify those scopes of the Work that it intends to self-perform or to subcontract to a self-performing specialty contractor. The Port must approve all self-performance, and that approval may not be unreasonably withheld.

2. GMP Development Period.

a. Purpose. The GMP (or Guaranteed Maximum Price) Development Period is the phase when the parties further develop the scope, consistent with the Initial Basis of Design Documents, Target Budget and Target Schedule. It is during this period when the majority of the design decisions are made, and the Port maintains control of the design decisions during this period. The goal is to conclude the GMP Development Period as quickly as possible. When the Port determines that the Project is sufficiently defined to establish a reliable GMP, the Port requests that the design-builder submit a GMP Proposal. The GMP Proposal is negotiated between the parties, and contains the design-builder's proposed Final Basis of Design Documents, Contract Schedule and Guaranteed Maximum Price. As with the Validation Period Amendment, the information provided in the GMP Proposal will be subjected to a robust third party verification process, and the design-builder may not go forward with the project until the parties have entered into the GMP Amendment.

b. Deliverables. The primary deliverables of the GMP Development Period will be incorporated into the GMP Amendment and are as follows:

i) Guaranteed Maximum Price. The GMP is the amount beyond which the design-builder cannot charge. The GMP may not be changed except through Change Order.

ii) Contract Schedule. The Contract Schedule contains the Substantial Completion Date and other Milestone Dates the design-builder must meet with applicable liquidated damages if dates are not met, unless modified via Change Order.

iii) Final Basis of Design Documents. The Final BoDD is the final scope on which the GMP and Contract Schedule are based. Any changes to the BoDD must be made by Change Order.

c. Subcontracting. The design-builder will select subcontractors pursuant to the Subcontract Plan approved by the Port. The design-builder must propose three subcontractors for the Port's approval, and the design-builder may select from the list of three Port-approved subcontractors through a best value competitive selection process. The majority of the subcontractors during this period are developing the design; however, the Port anticipates that it will be necessary for the design-builder to perform some construction work during this period. The Port must approve all early construction packages, and prior to providing a Notice to Proceed on any early construction package, the Port and the design-builder will agree upon either a Lump Sum or Not to Exceed amount for this work. Except in emergencies, the team does not anticipate that the design-builder will be allowed to perform any construction work without these important cost controls in place.

3. Post GMP Period.

a. Purpose. During the Post GMP Period, the design is fleshed out to create construction documents and pursue the majority of the construction on the project. Provided that the design is consistent with the Basis of Design Documents and the previous design decisions, the design-builder has the discretion to complete the design. This period provides the Port with the following essential protections:

i) Guaranteed Maximum Price. In progressive design-build, the Port establishes the GMP earlier than in any other delivery method, anticipated at approximately 60% design. The design-builder is required to develop designs consistent with the established GMP. The contract provides the

Port's usual protections for notice of changes. The design-builder may not exceed the GMP without for a Port issued Change Order.

ii) Contract Schedule. The design-builder must meet the Substantial Completion and Milestone Dates, unless these are changed via Change Order.

iii) Basis of Design Documents. The design-builder must meet the performance and other criteria set forth in the Basis of Design Documents. The design-builder is allowed the discretion to finish the design and develop the Construction Documents consistent with the Basis of Design Documents and is responsible for completing the construction.

b. Deliverables. The ultimate deliverable from this period is a functioning project.

c. Subcontracting. The design-builder continues to comply with the approved Subcontract Plan. The design-builder may proceed with construction as it gets permitting approval and a Notice To Proceed from the Port.

D. Payments to the design-builder

The payments to the design-builder depend on the phase of the project. Each phase is set forth below with the payment structure. The design-builder may be paid through a number of different methods, defined as follows:

1. Definitions:

a. Cost of the Work. These costs are actual costs incurred by the design-builder as defined in the Agreement. The Cost of the Work excludes certain costs such as negligence, home office overhead, and certain travel costs. The Cost of the Work is substantiated through open book and auditable payment applications with back up documentation of the costs.

b. Fee. The Fee is a competitively bid percentage of the Cost of the Work. The Fee includes all of the design-builder's home office overhead and other non-specified non-reimbursed costs as well as profit.

c. Fixed Fee. At the conclusion of the Validation Period, the parties will agree on a Fixed Fee that is based on the competitively bid fee percentage multiplied by the estimated Cost of the Work in the Target Budget. The Fixed Fee does not change unless a) the contract is terminated, b) the scope increases or decreases twenty percent or c) upon agreement by the parties. The twenty percent figure is the current status of the contract which may change.

d. Insurance and Bonding Multiplier. The competitively bid multiplier for the design-builder's insurance and bonding costs.

e. Personnel Multiplier. The competitively bid fully burdened rate for personnel.

f. Not to Exceed ("NTE") Sum. A sum agreed upon by the parties that acts as a "mini GMP" for a specified scope or scopes of work. The design-builder is compensated for the Cost of the Work plus Fee, but the design-builder may not charge more for that scope of the Work than the NTE. If the actual cost is lower than the NTE, the Port will realize the savings. Once established, the NTE may not be changed except through written Port permission.

g. Lump Sum. A sum agreed upon by the parties that caps the amount the design-builder may be compensated for a specific scope of the Work. The design-builder is compensated based on the percentage complete for the scope of the Work. Once established, the Lump Sum may not be changed except through written Port permission.

h. Hourly Rates. The competitively bid rates for the Key Personnel set forth in the design-builder's proposal.

i. Performance Incentive Plan Payments. The amount the design-builder earns through Port evaluation of its performance and savings under the established GMP. The specific incentives have not been finalized; however, incentives that have been discussed include a savings clause, provided that the design-builder

achieves the performance requirements, and an incentive based on achieving various collaboration objectives. The overall goal of an incentive program is to encourage collaborative and other positive behaviors, which have a high correlation with extremely successful projects.

2. Payments by Phase

a. Validation Period:

Payment:
1) Cost of the Work
2) Fee
3) Insurance and Bonding

Max Cost: Not-To Exceed Sum for Validation Period

Controls:
1) Payment applications must be supported with invoices and other back up documentation
2) Port approves shortlist for all subcontractors
3) Hourly rates for Key Team Members, competitively bid
4) For personnel without agreed upon hourly rates, the design-builder and Subconsultants may not charge more than the actual cost of personnel plus a personnel multiplier that was competitively bid

b. GMP Development Period:

Payment:
1) Cost of the Work
2) Fixed Fee
3) Insurance and Bonding Multiplier
4) Incentives

Max Cost:
1) Not to Exceed Sum for Design Services
2) Not to Exceed Sum for General Conditions costs
3) Fixed Fee does not change unless the scope increases or decreases twenty percent
4) Not to Exceed and/or Lump Sums for early construction packages

Controls:
1) Payment applications must be supported with invoices.
2) Port approves shortlist for all subcontractors
3) Design Submissions must be within Target Budget/Target Schedule
4) Hourly rates for Key Team Members, competitively bid and subject to Not to Exceed amounts
5) For personnel without agreed upon hourly rates, the design-builder and Subconsultants may not charge more than the actual cost of personnel plus a personnel multiplier that was competitively bid, subject to Not to Exceed amounts.

c. Post GMP Period:

Payment:
1) Cost of the Work
2) Fixed Fee
3) Insurance and Bonding multiplier
4) Incentive Payments

Max Cost:
1) GMP, which includes the following:
a) Not to Exceed Sum for Design Services
b) Not to Exceed Sum for General Conditions costs
2) Fixed Fee

Controls:
1) Payment applications must be supported with invoices.
2) Port approves shortlist for all subcontractors

3) Hourly rates for Key Team Members, competitively bid and subject to Not to Exceed Amounts

4) For personnel without agreed upon hourly rates, the design-builder and Subconsultants may not charge more than the actual cost of personnel plus a personnel multiplier that was competitively bid and subject to Not to Exceed Amounts

E. Other Controls

1. Documentation.

a. Notice and Changes Provisions. As with all Port contracts, the design-builder must provide notice of all events that may alter the commercial terms of the contract, including the Target Budget, Target Schedule, the GMP, the Contract Schedule, and any established NTE or Lump Sum. The GMP, any established NTE or Lump Sum, and the Contract Schedule may only be changed through Written Authorizations and Change Orders, and the design-builder must follow the notice and documentation requirements normally required by the Port in all of its projects.

b. Trend Log. The design-builder must identify issues that may modify the Target Budget, Target Schedule or materially alter the Initial Basis of Design Documents. The parties track these Trends on a weekly basis, and the change does not change the Target Budget, Target Schedule or the Initial Basis of Design Documents without written permission from the Port.

c. Design Log. During the design process, the parties track reliable design decisions through a design log. The design log allows both parties to make early decisions from which the design is developed. Reliable design decisions are all consistent with the Initial or Final Basis of Design Documents. An example of a reliable design decision would be a space plan that allows the Port to purchase equipment or furniture based on the plan.

2. Other Protections

a. Submittal and Substitution Process. After the parties agree on the Basis of Design Documents, the design-builder must comply with the Port's Submittal and Substitution Processes.

b. Quality Assurance/Quality Control. The design-builder must follow the Port's QA/QC processes.

c. Building Information Modeling. Building Information Modeling ("BIM") is a computer system most often associated with the development of the design and the reduction of design errors. However, BIM is also an excellent tool to incorporate estimating and cost control reporting, as well as schedule and sequencing development. One of the RFP selection criteria will be the design-builder's successful implementation of BIM systems on similar projects as well as a well thought out plan for the use of BIM on the IAF Project.

d. Lean Construction Techniques. The Port will be requiring the design-builder to apply robust lean construction techniques. Lean construction techniques have been responsible for substantial increased efficiency in construction and include required collaboration, substantial communication, co-location of the Design-Build Team and efficient use of BIM.

e. Qualifications Focused Procurement. The Port has designed an RFQ/RFP process designed to select the most qualified design-builder who has a substantial track record of managing progressive design-build projects and bringing them in on time and on or under budget. Selecting the right design-builder is the best way for an owner to manage the risks inherent in this process.