Work Plan
for
Special Experimental Project No. 14
Construction Manager/General Contractor
Project Delivery Method

MaineDOT

State of Maine
Department of Transportation

Sarah Mildred Long Bridge Replacement

Federal Project No. BH-1671-(000)
State of Maine Project No. 016710.00

Submitted for FHWA HQ Review – August 13, 2012

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1. INTRODUCTION

The Maine Department of Transportation (Department) submits this work plan for review and approval as a Construction Manager/General Contractor (CM/GC) project under the provisions of Special Experimental Project No. 14 for the use of innovative contracting practices. The Department has traditionally used the design-bid-build or the design-build method for constructing highways and bridges. The Department has used the CM/GC project delivery method for two emergency projects in the past, including the Penobscot Narrows Bridge which received SEP-14 approval in 2003 under the procurement method moniker "Owner Facilitated Design-Build. Most recently, MaineDOT used CM/GC for the 81 day emergency replacement of two bridges in Carrabassett Valley. The Department has received Governor approval to use CM/GC for the replacement of the Sarah Mildred Long Bridge.

The Sarah Mildred Long Bridge is a steel vertical lift bridge with deck truss, roadway, rail and approaches having a total span length of about 2,800 feet. Completed in 1940, it carries the US Route 1 Bypass and provides a critical link across the Piscataqua River between Kittery, Maine and Portsmouth New Hampshire. The bridge serves as a vital back-up route in the event of a disruption of service on Interstate 95, services heavy truck transit to and from the commercial service stations along the US 1 Bypass, and includes a rail line used to transport heavy freight to the Portsmouth Naval Shipyard, which employs approximately 4,200 workers. The bridge has experienced structural deterioration reducing its life expectancy to four to six years for vehicle traffic. It is currently posted for 20 tons, and therefore cannot service 100,000 pound vehicles using I-95.

MaineDOT is the project development lead for this cooperative project between the MaineDOT, NHDOT, FHWA Maine Division, and the FHWA New Hampshire Division.

2. SCOPE

The scope of work for this project will include the design and construction of the Sarah Mildred Long Bridge. The Department, together with a design consultant, will be responsible for the design, environmental documentation, and permitting for the project. The CMGC Contractor will be responsible for assisting the Department during design and will have the first option to negotiate the construction contract for the project. An Independent Cost Estimator (ICE) with experience estimating for contractors will be hired to assist with the development of the project and aid the Department as it attempts to negotiate a construction contract. The Department will provide construction engineering during construction.

The design, right-of-way, construction, and construction engineering costs are estimated to be approximately $172,000,000.

3. PURPOSE

The Department proposes to utilize CM/GC to realize the many benefits promoted through the FHWA Every Day Counts initiative. The many challenges and significant cost expected with the Sarah Mildred Long Bridge replacement project make it a prime candidate for taking

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advantage of the input and talents of the private sector early in the design process, leading to faster and more cost effective project delivery.

Although accelerated project delivery is one of the expected benefits of this contracting method, it is the cost reduction, cost containment and cost certainty advantages that make CM/CG the most attractive procurement option for this project.

As a result of early contractor involvement in design, the major elements of cost reduction with CM/GC are:

- reduction of bidding risk, including material cost speculation and design/specification interpretations
- innovation incorporated based on the builders experience (up front value engineering)
- design details and project sequencing tailored to the contractors means and methods strengths
- incorporation of the most cost effective materials and components as dictated by market prices and evolving technologies
- elimination of traditional claims related to design documents or specification language
- reduction in contingencies through collaboration and negotiation
- less design cost due to reduction in detail

Following typical CM/GC contracting procedures, the Department will separately enter into contracts with a design consultant, an Independent Cost Estimator (ICE), and a contractor to create a four entity team to collaborate on the most cost effective and high quality design for the project. The design consultant and the Independent Cost Estimator will be hired using traditional engineering services procurement methods. The contractor will be hired utilizing the following process:

3a. CM/GC PROCESS

MaineDOT's CM/GC process will consist of two stages, the preconstruction services stage (Stage 1) and the construction stage (Stage 2).

The Department will begin the CM/GC process by advertising a Request for Proposals (RFP) package for the preconstruction services contract (Stage 1). The RFP will describe how the proposals will be evaluated based on qualifications and experience, in combination with a price component. The price component is anticipated to be an evaluation the Proposers CM/GC Fee, which is the combination of all profit, general and administrative (G&A) costs, and home office overhead. Following negotiations the Department will award a contract to the successful Contractor. As the project development proceeds, the Contractor will provide constructability reviews, cost estimates, and other services required by the Department. The Contractor will be compensated for Stage 1 efforts using negotiated commercial hourly rates and will not be subject to annual overhead audit reporting requirements typically required for architectural and engineering services contracts.

Stage 2 of the contract begins after the design is substantially complete. The Department, with assistance from the ICE, will negotiate final prices with the

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contractor and enter into a construction contract. If the Department and Contractor cannot agree on final prices, the Department will then competitively bid the contract using traditional low bid procedures open to all prequalified contractors (including the CM/GC contractor). In order to accelerate project delivery, the Department may execute multiple construction contracts following this procedure, or may bid long lead material or equipment items through its normal procedures.

Property Acquisition Flexibility: MaineDOT also proposes to maximize its ability to accelerate project delivery by employing flexibilities in the area of right-of-way acquisition. While the current schedule should allow standard procedures to be followed, circumstances may arise where employing these flexibilities will allow quicker delivery of the project; or actually allow the Department to be more accommodating to property owner desires.

Early Acquisition: The Department proposes the ability to acquire property prior to NEPA completion and have the costs associated with these acquisitions to be eligible for Federal-aid reimbursement. This flexibility will be allowed after enactment of MAP-21. The Department will ensure that the NEPA process is not influenced by these acquisitions and that these acquisitions will not cause any significant environmental impact as required in the MAP-21 language.

Post Award Acquisition: The Department proposes also to have the ability to acquire property post-award of the construction contract, but prior to the property being impacted by construction. This process is allowed under FHWA's Design-Build regulations. The Department has constructed many Design-Build projects using this process and has no incident of property owner complaints, or delay claims. This concept is also promoted under FHWA's Every Day Counts initiative in the area of ROW Flexibilities (conditional ROW certifications). As an example, having this option available may allow contractors to mobilize, or possibly begin in-river pier work while we are finalizing an acquisition or relocation on the opposite side of the river. All protections afforded property owners under the Design-Build regulations will be provided under this process.

4. SCHEDULE

The anticipated schedule for the CM/GC process is as follows:

Step 1: Preparation of the Request for Proposals (RFP): July-August 2012

Step 2: Advertisement and Selection of the CM/GC contractor: August-November 2012.

The RFP will be issued, proposals received and proposals evaluated. The Department will enter into negotiations with the highest ranking, responsive Contractor. If the negotiations are successful, the preconstruction services contract will be awarded.

Step 3: Preconstruction Services Stage: November 2012-September 2014

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Project development phase services will be initiated after award of the preconstruction services contract. The Department and the Contractor will hold a series of meetings focusing on constructability, phasing and scheduling, collaboration and innovation, and risk mitigation and allocation. Construction cost estimates and cost evaluations will be developed at various stages of the design. When the design is substantially complete, the Contractor will be asked to submit a final bid.

Step 4: Negotiation & Award: September-October 2014.

The Department and the Contractor will attempt to reach agreement on a firm contract price. If negotiations are successful a traditional construction contract will be executed. If negotiations are unsuccessful, plans and specifications will be finalized and a contract will be advertised using traditional open competitive bid procedures and a contract will be awarded to the lowest responsive bidder.

Step 5: Construction Stage: November 2014-November 2017.

5. MEASURES AND REPORTING

CM/GC is in the process of becoming an authorized procurement method through MAP-21. If FHWA desires a SEP 14 Final Report for this project, which would likely be in 2018, the Department will submit an SEP 14 Final Report after final acceptance of the construction project. The proposed measures to evaluate the CM/GC method in the final report are:

- Innovations incorporated into the project.
  - The final report will discuss the impacts to cost, schedule, and value that each innovation produced and discuss the potential for using the innovations on future projects.

- Project costs.
  - The Department will produce an initial cost estimate of the project based upon historical bid prices for comparable location, complexity, and economy of scale. The changes to project costs will be tracked based on the initial estimate. The final report will discuss the overall impact of the CM/GC method on project costs.

- Overall project schedule.
  - After award of the preconstruction services contract, the Contractor will produce a construction schedule. The final report will discuss the impacts of the CM/GC method on the overall project schedule.

- Change orders & claims.
  - The final report will include analysis and discussion of any change orders executed by the Department or claims submitted by the Contractor.

Lessons learned will also be included in the final report.

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