

May 28, 2024

Ms. Valeriya Remezova  
Division Administrator  
Attention: Mr. Jitesh Parikh  
Federal Highway Administration  
George H. Fallon Federal Building  
31 Hopkins Plaza, Suite 1520  
Baltimore MD 21201

Dear Ms. Remezova:

The Maryland State Highway Administration (SHA) is requesting your concurrence on the attached Special Experimental Project No. 14 (SEP-14) workplan for Contract No. KB-4903-0000, FAP No. AC-ER-115-1(26)N, Francis Scott Key Bridge Replacement on I-695 over the Patapsco River / Baltimore Harbor on behalf of the Maryland Transportation Authority (MDTA).

This is a Progressive Design-Build (PDB) procurement that is being advertised in advance of the National Environmental Policy Act determination. Under 23 CFR 636.302(a)(1), "you must evaluate price in every source selection where construction is a significant component of the scope of work." Since the total contract price will not be known upon selection of the PDB, SEP-14 approval is required. The SEP-14 workplan has been reviewed by Mr. Jitesh Parikh, Federal Highway Administration Acting Deputy Division Administrator. Verbal concurrence was received from Mr. Parikh on May 28, 2024. The SHA is requesting your final concurrence on this SEP-14 workplan.

If you have any questions or require clarification on this workplan, please contact Brian Wolfe, P.E., MDTA Director of Project Development. Mr. Wolfe can be reached at 443-915-0851 or via email at [bwolfe3@mdta.maryland.gov](mailto:bwolfe3@mdta.maryland.gov).

Sincerely,



William Pines, P.E.  
Administrator

**ATTACHMENTS:**

KB-4903-0000 Progressive Design-Build SEP-14 Workplan

cc: Jeffrey Folden, P.E., DBIA, Director of Program and Alternative Delivery, SHA  
Mr. Bruce Gartner, Executive Director, MDTA  
James Harkness, P.E., PTOE, Chief Engineer, MDTA  
Brian Wolfe, P.E., Director of Project Development, MDTA

**MARYLAND TRANSPORTATION AUTHORITY**  
**Baltimore, Maryland**

Special Experimental Project No. 14 (SEP-14)  
Application for Approval



Maryland  
Transportation  
Authority

Issue Date: May 3, 2024

**Francis Scott Key (FSK) Bridge Replacement**  
**I-695/MD 695 over the Patapsco River/Baltimore Harbor**

**Anne Arundel County, Baltimore City and Baltimore County**

## Introduction

This workplan constitutes an application to the Federal Highway Administration (FHWA) by the Maryland Transportation Authority (MDTA), an agency of the State of Maryland (State), for review and approval of this workplan to deliver the Francis Scott Key (FSK) Bridge Replacement I-695/MD 695 over the Patapsco River/Baltimore Harbor (the Project).

MDTA plans to deliver the Project using a progressive design-build (“PDB”) delivery method. Under 23 CFR 636.302(a)(1), the Project owner “must evaluate price in every source selection where construction is a significant component of the scope of work.” Since this Project will be delivered using the PDB delivery method, the total contract price will not be known upon contract award to the Design-Builder and before the National Environmental Policy Act (NEPA) process has concluded. However, the NEPA process is anticipated to be concluded prior to contract award to the design-builder. Therefore, MDTA is requesting SEP-14 approval for deviating from the 23 CFR 636.302(a)(1) requirement.

The MDTA finances, operates, and maintains a system of toll facilities and other transportation services for public use and convenience including, the Francis Scott Key (FSK) Bridge. The replacement of the FSK Bridge is of critical importance to the State of Maryland as well as the national and regional economy.

The FSK Bridge was struck by a cargo ship in March 2024 and collapsed immediately. The challenges arising from the four-lane bridge collapse are enormous, creating a tremendous urgency to restore traffic along the I-695 southeast corridor and reopen the main channel crossing for in-bound and out-bound vessels from the Port of Baltimore. In light of this urgency, MDTA seeks to procure a Design-Builder to complete the Project as efficiently as possible.

Considering these challenges, MDTA has determined a progressive design-build (PDB) delivery method provides the greatest benefit, best management of risk, and increases the likelihood of a successful outcome in anticipation of traffic opening on the new bridge by late 2028. Specific reasons for MDTA selecting this procurement method include mitigating project completion risk, streamlining the design process, improving decision-making with better information, and developing a project that explores the full range of opportunities to best meet Project goals. The early involvement of the Design-Builder will facilitate collaborative development of the design, properly address high risk work approaches, and provide a quality, cost-effective project in an uncertain construction pricing environment.

## 1. Purpose

### 1.1. Request

MDTA is seeking FHWA’s approval that the procurement, evaluation, and selection process for the Project is acceptable through the proposed SEP-14 described in this workplan. MDTA intends to procure a Progressive Design-Build Contract (Contract) as defined in the Code of Maryland Regulations (COMAR) 21.05.11 and Title 23, Code of Federal Regulations (CFR) Part 636 to select a qualified Design-Builder to complete design and construction of the Project. Work in the PDB process will advance in two phases: Phase 1 – Project Development services and Phase 2 – Project Delivery services, for which a Guaranteed Maximum Price (GMP) will be negotiated. MDTA’s intent is to select a Design-Builder for both Phases based on a best value approach where price, other than professional services and construction markup, is not a factor in the initial selection. The proposed action is being processed through a FHWA

Categorical Exclusion since the activities will occur within existing right-of-way along the current centerline of the bridge and its approaches. We anticipate FHWA approval of Categorical Exclusion in July 2024.

Under 23 CFR 636.302(a)(1), evaluation of price is required in the selection of a Design-Builder, where construction is a significant component of the scope of work, after the NEPA process is complete. Because construction price will not be considered until Phase 2 services are negotiated pursuant to the PDB process, MDTA is submitting this SEP-14 workplan and requesting that FHWA grant approval for a competitive, qualifications-based selection. This request pertains solely to this Project.

## 1.2. Progressive Design-Build Process

The proposed PDB method is an innovative process increasingly utilized by transportation agencies for the delivery of critical transportation projects. PDB delivery places the responsibility for design and construction with a single entity similar to design-build procurement. The difference is that PDB occurs in two phases. Phase 1 consists of planning, design, and preconstruction services and Phase 2 consists of the final design and construction work. The phased approach in PDB allows for early innovation and early contractor involvement to align the Design-Builder's and owner's understanding and approach to project objectives. The phased approach also allows the owner and the Design-Builder the opportunity to mitigate risks during Phase 1 with the goal of reducing risk contingency and increasing cost and schedule certainty for Phase 2.

During Phase 1, the Design-Builder will collaborate with MDTA, its representatives, and stakeholders to develop all the work necessary to complete the documents required for the NEPA process, complete necessary field explorations, surveys, and subsurface investigations, and establish parameters for the Phase 2 work package and possible early work packages. Phase 1 deliverables are expected to include preliminary plans, design reports, performance requirements for Final Design, specifications for construction, an Opinion of Probable Construction Cost and other cost estimates. This will ultimately allow MDTA and the Design-Builder to prepare and reconcile a Phase 2 GMP on an open book basis for the work identified and developed during Phase 1. The Phase 2 work will include Final Design and Construction.

The following is a further breakdown of the work that occurs in each step of the PDB process. MDTA intends to break down the Phase 1 work into two steps to provide additional opportunities to align expectations, understand risks, and reach a mutual agreement on the overall scope of work.

### **1) Phase 1 – Project Development services**

- a. All services completed under Phase 1 of the Contract will assist MDTA to define the general project location and design concepts and establish the parameters for the Phase 2 services.
- b. The Phase 1 work shall be performed by the Design-Builder through Work Orders. The general scope of the Phase 1 work will include:
  - i. Phase 1A – Proof of Concept  
The Proof of Concept phase requires the Design-Builder to: (a) establish the overall Project scope, Project limits, design criteria, and preliminary schedule; (b) develop the Opinion of Probable Construction Cost for the Project; and (c) develop Work Orders to proceed with Phase 1B.

ii. Phase 1B – Work Package Development

The Work Package Development phase requires the Design-Builder to advance the Proof of Concept work to a level that will enable the Design-Builder and MDTA to develop a GMP proposal for Phase 2.

MDTA and the Design-Builder plan to collaboratively identify Work Orders for Phases 1A and 1B. Any Work Order during Phase 1 issued prior to the completion of the NEPA process will be based on allowable preliminary design and preconstruction services specified in the Contract and in compliance with 23 CFR 636.109.

**2) *Negotiating the Phase 2 GMP or Exercising the Off Ramp***

If the Design-Builder is awarded the Phase 2 package through a Contract amendment, their role will be to complete the work for Phase 2 within the GMP. If the Project cannot be delivered within the budget established, MDTA retains the right to cancel the Project, reduce the scope, or deliver it by other means. Delivering the Project by other means constitutes exercising the “off ramp” (i.e.: a contract termination clause) whereby a different Design-Builder will be procured.

**3) *Phase 2***

Work for Phase 2 shall commence upon execution of a Contract amendment and issuance of a Phase 2 Notice to Proceed by MDTA to include Final Design and construction of the rebuilt bridge. Work on Phase 2 will not begin until a GMP has been accepted. To expedite project delivery, MDTA will consider additional early work packages for discrete construction items or long lead materials but intends for the Project to be delivered primarily under a single construction GMP. Early work or long lead items will be separately negotiated using the process as below and will begin upon execution of a Contract amendment and issuance of an early work NTP.

**4) *Cost negotiations***

For the Phase 2 work, the Design-Builder will submit a sealed price to perform the work identified in that package. Prior to opening of the sealed price proposal, MDTA will secure an independent cost estimate for the work. Upon opening the Design-Builder’s price, MDTA will determine the acceptability of the price by comparing it to state averages, similar projects, and the estimate developed by the Project’s independent cost estimator (ICE). For each item, MDTA will evaluate if the GMP, and the ICE were within acceptable tolerance. If the prices are acceptable, MDTA will prepare a Contract amendment. If the prices are not acceptable, MDTA will enter a process of risk identification that isolates price differences between the Design-Builder and the Independent Cost Estimate. Following the resolution of these risk issues, the work package will be re-priced up to two more times. MDTA has the option to accept the revised price or to procure the Phase 2 package by an alternative method.

## 2. Project Scope and Background

This project will replace the portion of I-695 that crosses the Patapsco River while providing a facility that meets current geometric and construction standards while incorporating elements to improve resilience.

The previous FSK Bridge was a 1.7-mile-long bridge on I-695 (officially MD 695) spanning the navigable Patapsco River, providing a critical connection to the Port of Baltimore. I-695 is a fully access controlled

highway, forming the southeastern section of the beltway loop around Baltimore City. Tolls are collected in both directions of travel. The bridge had a divided four-lane typical section with two lanes in each direction and is on the National Highway System.

On March 26, 2024, the FSK bridge was struck by a cargo ship. Upon impact, pier 17 of the FSK bridge collapsed into the Patapsco River along with three truss spans. Pier 17 was one of the four supports of the continuous through truss spans of the FSK bridge. The collapsed spans include the 1,200-foot main span over the navigation channel and the two adjacent truss spans each of 720 feet in length. The length of the collapsed truss spans is about 2,644 feet. In addition, a few girder spans also collapsed. The collapse rendered the highway and ship channel impassable.

Given the significance of the bridge to vehicular traffic, the local economy around the port, and global shipping interests, taking all practical measures to expedite the procurement of a design-build team to design and construct a replacement is necessary. The new structure will meet the purpose of expeditiously rebuilding the crossing and restoring capacity along area roadways that are experiencing an increase in traffic volume due to shifting travel routes.

### 3. Schedule

This section provides an approximate schedule for the delivery of the Project.

- NEPA Certification: Expected to be completed in July 2024
- RFP Advertisement: May 2024
- Selection of Design-Builder for Phase 1: Project Development Services (Estimated Time: 2 to 3 months): August 2024
- Phase 1 Project Development Services (Estimated Time: 16 months): September 2024 to January 2026\*
- Phase 2: Project Delivery Services (Estimated Time: 33 months): January 2026 to October 2028\*

\*Overlap between Phase 1 and Phase 2 timelines is anticipated through the introduction of Early Work Packages and Long Lead Time Procurements

#### Early Work Packages

The collaboration between the Design-Builder and MDTA during Phase 1 may identify “Early Work Packages” that will benefit overall completion of the Project. These Early Work Packages would be negotiated separately from the Phase 2 work and would progress through final design and construction separately from Phase 2 work. Prior to engaging Early Work Packages, the MDTA and the Design-Builder shall ensure the work included in them is sufficiently independent so that the off-ramp option is not precluded. No Early Work Packages, including the procurement of long lead time items, shall occur until after the NEPA process concludes.

### 4. Measures and reporting

The following describes MDTA’s approach to the Project, procurement selection method justification, and reporting structure for providing information to FHWA about the process.

## 4.1. Procurement

Given the critical importance and urgency of the Project, MDTA chose the PDB process due to its potential for time savings and risk mitigation relative to traditional delivery methods. PDB provides the opportunity for all interested and qualified offers the opportunity to respond to the RFP with technical qualifications and proposals. MDTA intends to base the selection in large part on the team's qualifications and work history, which are a strong indicator of future success. PDB also allows for the progression of Phase 2 (specifically, the potential Early Work Packages) while finalizing the design and integration of Phase 1 services, creating efficiencies in refining the scope, schedule, and price for the Project. MDTA will monitor the duration of the procurement and report on any time savings and innovations resulting from the choice of the PDB delivery method. MDTA also anticipates the early engagement with the Design-Builder to result in significant risk mitigation where collaboration will identify and rectify risks early on during Phase 1.

MDTA plans to make a single award to a Design-Builder through a one-step procurement process comprising a Request for Proposal (RFP) that is scheduled for release in May 2024. Prior to the release of the RFP, MDTA held an industry forum to encourage project participation including among disadvantaged and minority business on May 7, 2024. The forum was attended by approximately 1800 interested individuals and businesses. Based on this strong turnout, MDTA anticipates the PDB procurement will result in the formation of highly qualified teams that will submit competitive proposals in response to the RFP. Proposers will submit both a Technical and Price Proposal in response to the RFP.

Proposals received by the due date noted in the RFP will be evaluated in accordance with *COMAR 21.05.03.03* by a committee established for that purpose. Technical proposals will be evaluated first according to the following evaluation criteria:

- a. Capability of the Offeror
- b. Project Approach
- c. Approach to Cost Estimating
- d. Cover Letter signed by the Offeror's authorized representative
- e. Legal and Financial Information

The price proposals will be evaluated after the technical proposals are evaluated. The phased nature of the PDB process makes it impractical to solicit a construction price during the procurement. As such, MDTA is seeking other inputs to evaluate the price component such as a percentage mark up for Phase 1 and Phase 2 services. At Phase 1, the mark up is intended to cover profit, actual allowed direct expenses with documented costs, general and administrative costs, regional and home office overhead, other indirect costs, and any other costs not specifically included in actual paid direct labor rates based on certified payrolls for the personnel performing the Phase 1 services. Phase 1 comprises only professional services. At Phase 2, the mark up is intended to cover general and administrative costs, regional and home office overhead, and other indirect costs for key personnel and all profit for the Design-Builder. Direct costs of the local Project Management Office shall also be considered as part of the Price Proposal.

In accordance with *COMAR 21.05.03.03(F)*, MDTA will award the contract to the responsible Offeror whose proposal is determined to be the most advantageous to the State, considering the evaluation factors set forth in the Request for Proposals and the price proposal. MDTA has determined that the

proposal most advantageous to the State will be the Proposal with the best combination of the technical and price evaluations, which MDTA determines will provide the most successful project.

When determining which Contractor's submittal is the most advantageous to MDTA, the relative importance of the Technical Proposal is substantially greater than the Price Proposal. An award may be made to the Offeror with a higher technical rating even if its price is not the lowest.

While PDB results in a single firm providing a price to perform the construction work, there are several methods of price control that MDTA and the Design Builder will implement, including:

- Risk mitigation during Phase 1 to reduce risk contingencies in the construction price;
- The availability of allowances and other pricing tools to reduce contingency for unforeseen circumstances or unquantifiable risks;
- The price components that will be scored as part of the evaluation process;
- Requirements to receive competitive price proposals for subcontractors;
- The availability of the off-ramp if the Design-Builder does not present a reasonable price; and
- Use of an independent cost estimator as a benchmark to determine if the Design-Builder's price and schedule are reasonable and aligned with the market.

## 4.2. Reporting

MDTA will submit reports to FHWA of its observations of the process at the initial, interim, and final stages of the Project.

The initial report will be submitted after the award of the contract for Phase 1 services. The initial report will include industry reaction to the PDB process and procurement, a discussion of the types of respondents (including the number of proposers), a discussion of the contract negotiation process, and a copy of the final procurement officer's determination.

An interim report will be submitted at the approximate time of award of the contract amendment for the Phase 2 work of the Project. This summary will describe MDTA's experience with the construction contract award process, including with respect to competitive contracting and open-book negotiation procedures, MDTA's approach to determining price reasonableness, and reactions in the subcontractor community, as well as any identifiable effects of the PDB approach on the final pricing. The report will include interim recommendations to help improve potential future contract amendments.

A second interim report will be submitted at approximately the midpoint of construction. This report will provide relevant updates from the initial interim report, a summary of the effectiveness of the interim recommendations, suggest additional interim recommendations to further improve project processes, and discuss the risk sharing and resolution process, including the disposition any risk sharing pools incorporated into the contract amendments.



## SEP-14 Work Plan for Francis Scott Key (FSK) Bridge Replacement I-695/MD 695 over the Patapsco River/Baltimore Harbor

A final report will be provided upon completion of the Contract for the Project and final acceptance of the work. The final summary will contain an overall evaluation of the Project and the PDB delivery method, along with lessons learned and any suggestions and recommendations for improving the process including:

- Recommendations for improvements in future projects that utilize the PDB delivery method such as sharing of risks to reduce contingencies.
- Any innovations noted during the Project through collaboration between MDTA and the Design-Builder that can be applied to similar projects that utilize the PDB delivery method.