Part I: Overview	
Project Title	Large-Scale Hydraulic Structures Prototype Model Proof of Concept and Design
Project Number	ERDCWERX24_OT01
Announcement Type	Request for White Paper (RFWP)
Release Date	24 May 2024
Closing Date/Time	12 June 2024, 1700 CST
Individual Awards	Multiple awards may be issued
Agreement Type	Firm Fixed Price Milestones
Period of Performance	12 months

Introduction

It is important to note that this notice in a Request for White Paper (RFWP) and not a Request for Prototype Proposal (RFPP). This notice shall not be construed as a commitment by the Government to issue a RFPP or ultimately award a project, nor does it restrict the Government to a particular acquisition approach. No entitlement or payment of direct or indirect costs or charges by the Government shall arise because of offeror submission of responses or the Government's use of such information.

This RFWP is a two-step project announcement.

Step 1: This notice is being issued to solicit **white papers ONLY**. The purpose of white paper submissions is to identify potential partners that may have promising solutions relative to the project objectives herein. An offeror that describes a promising prototype solution may be asked to virtually attend a solution pitch to provide additional information to the Government project team. However, the Government reserves the right to move straight to RFPP based on whitepaper submission only. Further, an offeror's inability to accept an invitation to provide a solution pitch does not preclude them from receiving an RFPP.

Step 2: The Government will issue an RFPP to the offeror(s) with the most promising solution(s) relative to the project objectives described herein. The Government may provide feedback to each vendor on their proposed solution. The Government reserves the right to make changes to the final project announcement before issuing RFPP(s). Upon receipt, the Government will evaluate the proposal(s) through a scientific review process in accordance with the evaluation criteria to determine which proposal(s) represent the best value to the Government and should be awarded.

Part II: ANNOUNCEMENT

A. PROJECT DESCRIPTION

Large-scale prototyping and experiments are needed to reduce risk for infrastructure innovations in new designs, materials, sensing, and repair methods prior to implementing on operating projects. A new physical model proof of concept and design is needed that will enable USACE to test new innovations in a realistic, but controlled environment which demonstrates

accurate structural, hydraulic, and material defect behaviors at a scale large enough to provide proof of readiness for deployment. Opportunities to mitigate risks for developing and validating new designs, materials, and methods are severely lacking, which creates impediments for USACE to responsibly innovate.

This effort supports the Army priority of upgrading the Nation's waterways to strengthen supply chains and economic growth, and White House priority to improve National security and economic resilience. This capability will impact multiple other innovation efforts for USACE by expediting implementation of composites, robotic repair and construction, sensing, additive manufacturing, and sustainable materials for repair by creating an opportunity to reduce risk to early adopters.

B. BACKGROUND

USACE operates and maintains a large portfolio of hydraulic structures unique to its water resources mission space. Many of these structures are reaching the end of their lifecycle and will either need to be replaced or repaired to delay impending failures. Furthermore, many of the structures in the inventory were designed and placed into service many decades ago using outdated methods, materials, and models. The condition of hydraulic structures must be evaluated to prioritize maintenance and replacement, and design methods and materials must be updated to reflect modern understanding and standards.

C. OBJECTIVES/TECHNICAL REQUIREMENTS

The objective of this prototype project is to develop a proof of concept and design for a large-scale hydraulic structures prototype model that will provide a controlled environment in which new condition assessments and novel designs and materials can be piloted and validated for hydraulic structures. This will be a unique physical modeling capability that combines hydraulic and structural loadings and does not exist readily in the United States. The resulting design capability will include a prototype model to be assembled, like a flume, that is sized to permit a pair of approximately 1:4 scale miter lock gates and similar sized structures. This will allow both hydrostatic and hydrodynamic loadings of the structures with water as well as structural loadings using laboratory equipment (e.g., actuators). The prototype model may consist of the structures, water system, loading components, laboratory grade data acquisitions and sensors (e.g., strain gauges, pressures cells, cameras, accelerometers, etc.), control systems, overhead covering, and overhead lift. In addition to lock gates, the model must be modular to accommodate other structural types (e.g., wicket gates, tainter spillway).

Desired attributes of the prototype model are as follows:

- Designed to induce realistic hydraulic and structural loadings on large-scale (approximately 1/4 scale) fully operational hydraulic structures to investigate real-world details (e.g., cracking around welds, corrosion, debris)
- Modular design to allow evaluation of various hydraulic structures (e.g., lock gates, valves, spillway gates)
- Designed to validate new, innovative structural components that cannot be currently physically assessed to inform numerical models.
- Must be designed for assembly at a location at the ERDC in Vicksburg, MS.

Offerors must be capable of proof of concept, project management, and assembly of all aspects of the prototype model (e.g., structural and hydraulic loading components, instrumentation,

control systems, etc.). Including, but not limited to, ability to conduct a site assessment to meet design requirements of power, water, overhead lift, etc.

D. ESTIMATED PROTOTYPE PERIOD OF PERFORMANCE

12 months after award

E. DATA RIGHTS

None

G. ESTIMATED TRAVEL and PURPOSE

None

H. PROTOTYPE DELIVERABLES

Design and document preparation, involving a cost, site, and functionality optimization, which will be used to determine final costs for assembly.

Part III. AWARD INFORMATION:

1. FUNDING: The government anticipates incremental funding beginning in FY24. Additional funding is anticipated in FY25.

2. FOLLOW ON ACTIVITES/ PRODUCTION: The USACE, ERDC is using competitive procedures to select participants in a prototype transaction under 33 U.S.C 2313. If the prototype proof of concept and design is determined successful, agencies may exercise authority under 33 USC 2313(c)(2) to provide for, and award, a follow- on production transaction or FAR based contract without additional competitive procedures to assemble the prototype model.

Part IV. ELIGIBILITY INFORMATION:

To qualify for award, an offeror must satisfy at least one of the following:

1) The prototype project includes significant participation by at least one nonprofit research institution or nontraditional defense contractor (NDC),
2) All significant participants in the transaction other than the Federal Government are small business concerns, or
3) At least one-third of the total cost of the prototype project is to be paid out of funds provided by parties other than the Federal Government

An NDC is defined as an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section (see 10 U.S.C. 2302(9)).

Additionally, prior to award, an offeror must be registered at www.sam.gov. Please note, project timelines may not allow for registration after whitepaper selection, therefore, offerors are highly encouraged to register as soon as possible.

Part VI. WHITE PAPER REQUIREMENTS AND EVALUATION

DO NOT INCLUDE PROPRIETARY INFORMATION

White papers shall be submitted through ERDCWERX no later than 12 June 2024, 1700 CST.

1. **GENERAL FORMATTING REQUIREMENTS:** White papers shall be submitted electronically. All submissions must be clear, legible, and conform to the following general formatting guidelines:
   - Paper: Pages shall be 8.5 x 11 inches, single sided, with each page numbered "X of Y pages."
   - Margins: Minimum of 1 inch on all sides.
   - Type Font: 12 point Times New Roman, single spaced.
   - Acronyms: Spell out all acronyms the first time they are used. One page of the proposal body is allocated to spell out acronyms, abbreviations and symbols.
   - Language: English.
   - Electronic file format: PDF, compatible with current Adobe Acrobat Reader. File size less than 20 MB.
2. **CONTENT:** White papers consist of a detailed solution brief that is up to three pages and a pitch deck up to five pages. The complete white paper shall be no longer than eight pages. The solution brief and pitch deck will be reviewed holistically. It is recommended (but not required) that more detailed information be included in the solution brief and higher-level information be included in the pitch deck.
   a. **Technical Requirements.**
      - Background and benefits of proposed solution
      - General technical approach to stated objectives
      - Experience with prototype model design, project management, and assembly
      - Potential Delivery schedule
      - Anticipated Data Rights Assertions, if applicable.
   b. **Rough Order of Magnitude:** Estimated price for proof of concept and design.
3. **ENTITY QUALIFICATIONS:** Each offeror must complete Attachment 1 – Entity Qualifications. This does not count towards white paper page limits.
4. **WHITE PAPER REVIEW:** White papers will be reviewed based on an integrated assessment of the following:

- The degree to which the solution meets the requirements of the desired objectives.
- Offeror(s) stated capabilities to develop a proof of concept and design, provide project management, and assemble all aspects of the prototype model. Including, but not limited to, ability to conduct a site assessment.
- The degree to which the potential delivery schedule meets the governments stated period of performance.
- The evaluation of potential impacts of the data rights assertions.
- The evaluation of whether the white paper sufficiently demonstrates 1) significant participation by NDCs or significant participation by non-profit research institutions, 2) all significant participants in the transaction other than the Federal Government are small businesses, or 3) at least one-third of the total cost of the prototype project is to be paid out of funds provided by parties other than the Federal Government.

5. **REQUEST FOR PROTOTYPE PROPOSAL:** The government reserves the right to request a prototype proposal based upon white paper submission only or, if further information is necessary, request a solution pitch. Offerors will not be scored or ranked. The solution pitch is an extension of the white paper submission, therefore will be evaluated within the same criteria listed above. Offerors determined to be the most advantageous to the government will receive an RFPP.

Part VII. PROTOTYPE PROPOSAL REQUIREMENTS AND EVALUATION

Once a solution is selected by the government, an RFPP will be issued to the offeror(s), including submission requirements. Once the RFPP is issued, the offeror and the Government will collaborate to develop the scope of work to be submitted as part of the offeror's proposal. Issuance of an RFPP does not guarantee award.

1. **CONTENT**
   a. **Cover Page**
      - Prototype Project Title
      - Name of Primary Business submitting proposal. Including Commercial and Government Entity code (CAGE) and Unique Entity Identifier (UEI)
      - Date proposal was submitted

   b. **Statement of Work Requirements:** The Offeror shall submit a statement of work that formally captures and defines the work activities, deliverables, and timeline, for the prime contractor and any subcontractors, necessary to execute development of the prototype. Include the following:
      - Detailed Technical Requirements
      - Define successful completion
      - Reporting and Delivery Requirements
      - Period and Place of Performance
      - Government Furnished Property/Equipment/Materials/Data

- Access to any Government Sites or Systems, if necessary

c. **Milestone Payment Schedule:** The Milestone Payment Schedule shall include the firm fixed price payable events for the design effort. Each event shall include a description, target timeframe for completion, and proposed price.

d. **Pricing:** The Offeror shall provide sufficient detail to substantiate that the overall proposed price is realistic, reasonable, and complete for the work proposed. The Offeror shall also include a narrative explanation of the proposed prices. The Agreement Officer may request additional information to determine pricing is fair and reasonable.
   - Price proposals shall be submitted on a firm fixed price basis.
   - The depth and breadth of the price proposal shall be determined based on
   - the complexity of the requirement. At a minimum, include:
     - Labor Rates. Provide bases for which the estimated total labor hours were calculated.
     - Material/Equipment. Provide a list of the materials/equipment required to meet the technical solution proposed.
     - Indirect Costs. Provide estimate of the total indirect costs and supporting data on how this estimated was calculated (i.e. overhead, G&A, etc.)

     a. **Security Requirements.** Although not to be evaluated, the Offeror shall identify existing or describe capability of obtaining personnel/facilities security clearances if necessary. DoD security management and handling requirements outlined in regulations such as DoD 5200.1-R and DoD 5400.07 apply to prototype other transactions.

     b. **Data Rights -** All agreements that require data to be produced, furnished, acquired, or used in meeting performance requirements, must contain terms that delineate the respective rights and obligations of the Government and the contractor regarding the use, reproduction and disclosure of that data. The offeror shall identify any data rights assertions.

     c. **Key personnel qualifications.** The proposal shall include resumes of the Program Manager and other Key Personnel who will be assigned to and work on the proposed project. If the Offeror does not presently employ personnel in the positions identified as Key, the Offeror must present a description of the terms of the commitment(s). The Offeror shall describe the proposed labor hours and labor categories relating to the performance of the SOW of Key Personnel.

2. **PROPOSAL EVALUATION:** ERDC will conduct an evaluation of the submitted proposal in response to the RFPP to determine if the SOW reflects the requirements developed during the collaboration period between the Government and offeror and the price is fair and reasonable. If both factors are met and the Government's price is available, an award of the proposal may be made. The Government reserves the right to select all, part, or none of the proposal(s) received.

3. **AWARD:** The Government intends to award one or more other transaction(s) from this project announcement.

Attachment 1

Entity Qualifications Under
33 U.S.C 2313 USC
Other Transaction Agreement

For the purposes of assessing an organization's nontraditional status under the Other Transaction Authority, the definition of a nontraditional defense contractor below only applies if the organization is acting as the prime contractor.

1. Nontraditional Defense Contractor (NDC) Defined:

An entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section (see 10 U.S.C. 2302(9)).

Note: Per the statutory definition, NDCs are all entities that have not performed under a narrowly defined set of circumstances within one year of solicitation of the current OT opportunity. In order for an entity to not qualify for NDC status, it would need to meet all elements of the prescribed definition within that time period. This includes performance of a DoD contract or subcontract subject to full cost accounting standards (CAS) coverage within one year prior to solicitation of the Prototype OT opportunity. The effect of this narrow definition, is that a large number of entities will fall into the NDC category, including nearly all small business concerns, and even those firms that work exclusively with DoD. This is in part due to the exemptions to CAS coverage under 41 U.S.C. § 1502 and FAR Part 30, which exempt commercial contracts, Firm Fixed Price contracts based on adequate price competition, and any contract or subcontract with a small business concern, amongst other exemptions. Further, even where an entity is not outright exempt from CAS coverage, the entity may not have been subject to "full" CAS coverage. This is because full CAS coverage only applies to firms that receive a single CAS-covered contract award of $50 million or more; or received $50 million or more in net CAS-covered awards during its preceding cost accounting period.

2. Offerors Certification:

Company Name:

CAGE:

Based on the foregoing definition of a nontraditional defense contractor, I hereby certify that _____ is a (Check one)

nontraditional defense contractor or

traditional defense contractor**

_____

Signature/Printed Name/Position Date

** If the prime offeror is a traditional defense contractor, see page 2**

3. Significant Participation

If the prime offeror is a traditional defense contractor, to qualify for a prototype Other Transaction Agreement award in accordance with 10 U.S.C. 4022, there must be at least one NDC or non-profit research institution participating to a significant extent in the prototype project.

Note: Non-traditional Defense Contractors can be at the prime level, team members, subcontractors, lower- tier vendors, or "intra-company" business units; provided the business is participating to a significant extent (i.e., is a key participant). Examples of what might be considered significant may include, but are not limited to, supplying a new key technology or product(s), accomplishing a significant amount of the effort, or in some other way causing a material reduction in the cost or schedule or increase in performance. Significance is determined by the AO with input from technical advisors for each prototype project.

The following NDC(s) and/or nonprofit research institution(s) will be participating in this prototype project to a significant extent:

a. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

b. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

c. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

Based on the foregoing definition of a nontraditional defense contractor, I hereby certify that the above mentioned companies are NDCs participating to a significant extent.

Signature/Printed Name/Position Date