

DATE: January 17, 2020 (update 1/31/2020, shown in RED)

SUBJECT: **Request for Letters of Interest (R/LOI) - Architect/ Engineer (A/E) Team Selection Applied Research Laboratory (ARL) Garfield Water Tunnel Renewal project**  
University Park, PA

TO: Architectural Firms

The Pennsylvania State University (PSU) is excited to begin the Architecture/Engineering (A/E) Team selection process for the Garfield Water Tunnel Renewal capital project for the Applied Research Laboratory (ARL). PSU is utilizing our standard qualification-based A/E Team selection process for this project.

The Applied Research Laboratory (ARL) at Penn State is an integral part of the University and was established in 1945 at the request of the U.S. Navy. ARL research expenditures in University Fiscal Year 2019 were \$269M, contributing significantly to the nearly \$1B of research conducted by Penn State.

Originally focused on undersea weapons technology development, ARL now includes a broad research portfolio addressing the needs of various sponsors. ARL supports national security, economic competitiveness, and quality of life through education, scientific discovery, technological demonstration, and successful transition to application. As a Department of Defense (DoD) designated University Affiliated Research Center (UARC), ARL conducts essential research, development, and systems engineering in support of our nation's priorities free from conflict of interest or competition with industry. ARL is wholly reliant on sponsored research programs for operation of the Laboratory and therefore must maintain relevance to our sponsor base, as well as an operational agility to meet ever-changing requirements.

Penn State ARL employs approximately 1,400 full time personnel, including approximately 200 PSU students, within the four research offices and the supporting enterprise groups. ARL's 4.7% 11-year growth rate in revenue and 5-year growth rate of 9.1% are creating overcrowding of on-campus facilities.

The ARL physical plant is 754,000 GSF in 25 buildings spread across seven unique geographic locations. The majority of this space is located in State College, PA and on the Penn State University Park Campus. ARL is excited to be celebrating 75 years of research in 2020, but aging facilities pose significant risk to the ongoing operations. Operations and facilities comply with National Industrial Security Program Operating Manual (NISPOM) Intelligence Community Directive ICD705. Inflexible infrastructure is limiting agility in responding to research opportunities.

### **PROJECT OVERVIEW, PROJECT PROGRAM AND GOALS**

The Garfield Thomas Water Tunnel, located on the Penn State University Park campus, is the U.S. Navy's principal experimental hydrodynamic research facility and is operated by the Penn State Applied Research Laboratory. The facility was completed and entered operation in 1949. The facility is named after Lieutenant W. Garfield Thomas Jr., a Penn State journalism graduate who was killed in World War II. For a long time, the Garfield Thomas Water Tunnel was the largest circulating water tunnel in the world. It has been declared a historic mechanical engineering landmark by the American Society of Mechanical Engineers. The existing 47,444 gross square foot facility was renovated in 1980 and 1992 and has reached end of life.

The Garfield Water Tunnel Renewal Project is a renovation and system renewal of the existing facility **with an anticipated Total Project Cost of \$20.6M**. The project will also consider a relatively small addition to the

building, to potentially increase office and laboratory spaces, **which would increase the Total Project Cost to \$37.7M**. The project scope includes renovation to the building interior and renovation and/or replacement of all building systems as required to bring the entire building up to code compliance and reliability of operations for the next 20 years.

The water tunnel is a unique, secure test facility. The successful longevity and importance of the research conducted at this facility has made renewal of this building a logical investment for renewal. The building is home to the ARL Fluid Dynamics and Acoustics Office (FDAO) and houses specialized experimental facilities, advanced instrumentation techniques, and state-of-the-art computational resources.

**Expertise and Capabilities in the facility include:**

- Complete experimental support from initial concept and design to fabrication and performance evaluations
- Test model, electronics, and instrumentation designs and applications
- Test article and instrumentation fabrication and assembly
- High performance computing resources

**Specialized infrastructure in the facility includes:**

- **Closed Loop Water Tunnels**  
Controllable speed, pressure, and air content  
48-inch diameter  
12-inch diameter  
20 x 4.5-inch rectangular  
6-inch diameter  
1.5-inch diameter
- **Glycerin Tunnel**  
11.2-inch diameter
- **Flow-Through Anechoic Chamber**  
18 x 22 x 30 ft
- **Reverberant Water Tank**  
22 x 28 x 20 ft
- **Reconfigurable Quiet Pump Loop Facility**  
Isolated 200 hp test pump

**The goals of the ARL Garfield Water Tunnel Renewal project are, as follows:**

- Renovation and/or replacement of building systems to bring the entire building up to code and ADA accessibility compliance.
- Building systems upgrades to enhance reliability of operation for the next 20 years.
- Work with ARL staff to review specialized infrastructure reliability. Possibly analyze and provide selected renewal specialized infrastructure (tanks, tunnels, etc.).
- The selected A/E team will study the ideal location for an addition to the Water Tunnel to increase office and laboratory space. If the building addition does not occur within this building renewal, the final design of this phase is not to preclude a future building addition.
- Maintaining water tunnel research operations, as much as possible, during renovations. Minimize Impact to existing building occupants during renovations. To lessen the impact on research operations, the A/E Team must consider project phasing, potential addition locations, and/or the need for swing space in different overall building planning scenarios.

- Re-imagining the large glass curtainwall of the building facing Atherton Street that currently showcases the main water tunnel. Considerations for visual and physical security and the energy performance of the curtainwall are among factors that will be considered, along with the aesthetic implications.
- Address deferred maintenance backlog of the existing facility, including addressing the presence of existing hazardous materials.
- In keeping with PSU's commitment to environmental sustainability, the new facility will consider high-performance and energy efficiency measures. The project is not likely to pursue LEED Certification.

### **PROJECT SCHEDULE, DELIVERY METHOD, and OWNER REQUIREMENTS**

PSU anticipates executing the Architect-Engineer contract shortly after confirmation at the **May 2020 Board of Trustees meeting**. The design efforts of the ARL Garfield Water Tunnel Renewal project will be from **June 2020 to September 2021**. We anticipate construction to begin in **October 2021** with occupancy of the building by **July 2023**.

The selected A/E Team will begin the project with a review of the feasibility study and validation/completion of the building program. After the programming phase, the project will follow the standard design phases – SD, DD, CD and CA Phases in accordance with Penn State's standard 1-P agreement. PSU will share the building program at the Request for Proposal (RFP) stage.

#### **It is critically important that the Architectural/Engineering team have experience with:**

1. Complex research environments created by Department of Defense (DOD) affiliated research partners.
2. Design details related to sites and facilities compliant with National Industrial Security Program Operating Manual (NISPOM) Intelligence Community Directive ICD705.
3. Infrastructure integrated research and testing facilities, such as pressurized and open tankage, SCIF facilities, etc.
4. Creation of flexible research facilities that are cost effective, well thought-through design solutions.

It is required that a Pennsylvania registered architect stamp the final construction and bidding documents. Additionally, U.S. citizenship requirements will be a part of the final agreement. All team members must be willing to submit to a background check and clearances if deemed necessary for the project.

The successful A/E Team will work in conjunction with PSU's selected third-party Construction Manager at Risk throughout the design and construction phases. For each project, both the design and construction teams will perform parallel cost estimating.

The prime firm (contract holder) of the final selected A/E Team will be entering into agreement with Penn State utilizing the 1-P Form of agreement found at the following link. By submitting, firms agree to terms conditions herein:

<https://wikispaces.psu.edu/display/OPPDCS/Division+00+--+Procurement+and+Contracting+Requirements>

## **ARCHITECT/ENGINEER (A/E) TEAM SELECTION PROCESS AND SCHEDULE**

**The University will perform a three-step A/E team selection process each of these projects, with three assessments: Letter of Interest, Proposals, and in-person Interviews. The A/E selection process for each of these projects will be separate and distinct.**

This is the process to select the full A/E design team, including: the architectural team (including master planning, programming, building design through construction administration), engineering team, and specialty consultants. At the next step of the process, each of the invited architectural firms will create and define their entire proposed design team. At this initial step, it is at your discretion to what level you define your proposed A/E team.

### **A/E Team Selection Schedule**

- Interested Lead/Prime firms must submit **seven (7) hard copies and an electronic copy** of your Letter of Interest by Noon, Eastern Standard Time (EST) on **February 4, 2020**. See shipping address below.
- The Screening Committee will review the respondents to this Request for Letters of Interest and determine a Long-list of firms.
- The Long-listed firms will be invited to respond to a Request for Proposal, both of which will be posted to this website by the end-of-day on **February 28, 2020**.
- Proposal responses from the Long-listed teams are due in my office at **Noon EST on March 20, 2020**.
- Three short-listed firms will be chosen from the RFP respondents. The short-list results and interview notice will be posted to this website by the end-of-day on **April 1, 2020**.
- In-person interviews will most likely occur on **April 24, 2020** or **April 30, 2020** or **May 1, 2020** at **The Penn Stater Hotel and Conference Center in State College, PA**.
- The results of the A/E Team selection process will be announced at the Board of Trustees meeting on **May 8, 2020** and posted to this website.

## **LETTER OF INTEREST SUBMISSION REQUIREMENTS**

**If your firm/team is interested in pursuing this project, please submit a Letter of Interest that, at the least, includes the following:**

1. A brief statement detailing your firm's profile (firm size, characteristics, unique qualifications, etc.). There is no requirement to identify the full A/E team at this stage, but firms that wish to include an architectural partner should describe their partner's anticipated role on the project.
2. Outline your firm's experience in the planning/design/execution of facilities of a similar program, scope, size, complexity and campus setting. Convey your firm's experience programming, planning and delivering similar complex research environments. Highlight experience renovating, renewing, or providing additions to similar facilities. Highlight experience with infrastructure integrated research and testing facilities, including pressurized and open tankage, etc.
3. Your firm's vision of what, beyond purely functional issues, constitutes the essence of this type of facility. To indicate to the Screening Committee your understanding of the uniqueness of this project, discuss some of the key issues that are important in the design of a project of this type.
4. Within your Letter of Interest, include a sampling of your previous relevant experience and provide illustrative examples representative of your architectural designs.

**\* As applicable throughout your Letter of Interest, provide professional credit to architectural partners (including design architect, architect of record, and academic / lab planning partners) for all projects discussed within the proposal and for all project images shown.**

Please limit your submission to five (5) total, single sided, 8-1/2 x 11 pages. If a cover letter is included, it must be within the five (5) pages. **In addition to submitting the (7) seven hard copy sets by the submission deadline, send** a PDF of the submission electronically to [gak21@psu.edu](mailto:gak21@psu.edu) and [djs47@psu.edu](mailto:djs47@psu.edu) by the submission deadline. Include the name and email address of your team's main contact for the A/E selection process within your submission.

PSU encourages you to visit the public areas of the campus/site during this A/E Selection process. But, guided campus/ site tours are not provided at this step in the selection process. We will arrange for scheduled visits later in the selection process.

Participation in this A/E Team Selection process is voluntary and at no cost or obligation to The Pennsylvania State University. PSU reserves the right to waive any informality, in any or all submissions, and to reject any submission or portion thereof. PSU reserves the right to modify dates as/if it deems necessary. Confidentiality and Non-Disclosure. News releases pertaining to this project will not be made without prior approval from PSU, and then only in coordination with PSU. All information, documents, and correspondence shared within the A/E selection process are to remain confidential, and as such, are not be made public in any manner.

Please contact myself or Facility Project Manager Jeff Spackman (814-863-2496, 814-826-8461 or [djs47@psu.edu](mailto:djs47@psu.edu)) with any questions regarding the projects or the A/E Selection process.

Kindest Regards,

Greg Kufner, AIA, NCARB



University Architect  
The Pennsylvania State University  
Direct: (814) 865-8177 | Mobile: (614) 512-2287  
Email: [gak21@psu.edu](mailto:gak21@psu.edu)

**Shipping Address (Note that this address has changed):**  
**The Pennsylvania State University**  
**One Benedict House**  
**University Park, PA 16802**

CC: Screening Committee