PennState
Physical Plant

Office of Physical Plant
Physical Plant Building
University Park, PA 16802-1118

DATE: April 5, 2023

SUBJECT: **Request for Letters of Interest (R/LOI) - Architect/ Engineer (A/E) Team Selection**
PlantWorks Project Feasibility Study
PSU Project #0008601
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 PlantWorks Project Feasibility Study. PSU is utilizing our standard qualification-based A/E Team selection process for this study.

The scientific challenge to plant production from increasing climate instability requires technological innovations to ensure stable global food availability, effective management of agricultural and forest ecosystems, and design of cheaper, lower input plant cultivation systems. Ensuring meaningful strides toward these goals at Penn State requires significant improvements in the plant science research infrastructure on the Penn State campus, starting with fully re-imagined greenhouse and headhouse facilities, and including new shared research facilities for plant phenotyping, plant transformation, biological containment, controlled-environment plant growth, and high-resolution sample analysis.

PROJECT OVERVIEW, PROJECT PROGRAM AND GOALS

To elevate our plant research capacity to its full potential requires new ways of integrating and deciphering data together with more powerful and precise ways to engineer plants. The challenges presented by climate change to food security and forest sustainability make improvements to the Penn State plant research infrastructure imperative. Current plant growth facilities on the University Park campus include 80-year-old, individual-unit glasshouses with inadequate environmental controls and containment, ineffective pest exclusion/containment, and inadequate space for growth chambers that are scattered across the campus. The goals of the PlantWorks project are to develop:

- New and better designed, USDA APHIS-compliant greenhouse facilities that allow for control and remote-monitoring of daylength, light quality and temperature, and a subgroup of chambers equipped for additional controls including CO_2 levels, relative humidity, and automated plant monitoring.
- A multi-story facility with first-floor design for headhouse facilities to accommodate plant tissue and seed preparation, storage, sampling, and analysis.
- Consolidated controlled-environment, walk-in and reach-in plant growth chamber facilities with proper air handling and temperature, relative humidity, lighting, and CO_2 control features and remote monitoring capabilities.
- Multi-investigator laboratory facilities for research in plant transformation, regeneration and CRISPR technologies.
- Dry-lab facilities designed for computational and data science, small group instruction and proper ventilation for high performance computer equipment.

- Biological containment facilities, both laboratory and greenhouse, for the proper, APHIS-compliant research of plant pathogens and pests. (Level of containment to be determine through the study) These facilities could be developed off-site.
- This facility may be home to fifteen or more researchers and supporting staff.
- The building would support dozens of faculty offices support staff, conference rooms, AV support and appropriate collaborations spaces. The new lab spaces should be flexible spaces that can be retrofitted easily in the future. The project team will assist the University in determining the program for this space.
- In addition to the greenhouse and laboratory areas, the new building will also include a receiving area and loading dock.
- Combined and/or separate wet lab and instructional spaces with seating up to 30 students.
- This building may support museum space including the Frost Insect Museum and the PSU Herbarium.
- Portions of the facility should be visible and allow public access for student/community outreach, engagement, and tours.
- Stakeholders include a cross section of campus research groups including Departments such as Biology, Ag Engineering, Forestry, Plant Science, and Computer Science. (The Colleges of Science, Agriculture, and the Huck Institutes of the Life Sciences)
- The project may need to be developed in phases to accommodate funding availability.
- The new facility should represent an innovative fit within the context of campus and solve the architectural challenges related to this type of facility in an active part of campus.

The University desires to hire an architectural and engineering consultant team to develop a feasibility study for this proposed new facility. The preliminary scope of work will include:

- Meet with the University's Building Committee to confirm scope and program (virtual when possible)
- Meet with users to develop a basic program document (virtual when possible)
- Assist with developing and then summarize the mission and vision of the project.
- Assess current greenhouse holdings (condition / utilization) and identify current facilities that could be demolished or replaced.
- Site analysis of multiple locations (Identify and investigate potential siting options) – identify adjacencies. Provide an assessment of the proposed sites.
- Establish optional program scopes at three distinct scales.
- Establish a preliminary budget. Review the budget and provide a high-level breakdown of costs and fees with the committee.
- Develop and summarize an implementation plan to maintain operations while developing/designing/constructing the new facilities. The phasing plan may need to be funding based.
- Provide high level documents such as concepts and 3D sketches to support fundraising and philanthropic initiatives within 3 months of award.
- Utilize e-Builder processes for this study.
- Determine a high-level schedule that includes design and construction durations.

- Review the progress of the scope, program, and related data with specific OPP stakeholders prior to submitting the first draft.
- Prepare and submit a draft report and final report for review and comment by the University.
- Assist the project leader with preparation of graphics and metrics for PDRB Gate 1 Programming

The study may be used as the initial basis of design and for procurement of the design professional. This study should not make any recommendations about advancing the project or make any recommendations about various programmatic options.

PROJECT SCHEDULE, DELIVERY METHOD, and OWNER REQUIREMENTS

PSU anticipates executing the Architect-Engineer contract shortly after team selection. The planning/study/programming efforts will start upon execution of the agreement. We anticipate the study to be completed by **March 2024**.

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

1. Complex research environments and laboratories
2. USDA APHIS-compliant Greenhouse facilities Infrastructure for greenhouse (including advanced control environment technologies), research, teaching and institutional facilities
3. Integration of this multi-use (greenhouse, headhouse, research) facility into a campus setting
4. Creation of flexible research facilities that are cost effective, well thought-through design solutions.

The following supplemental documents are relevant to this RFP:

- Form of Agreement. Included is the link to our Form of Agreement 1-S:

  https://oppwiki.atlassian.net/wiki/spaces/OPPDCS/pages/5409499/Division+00+-+Procurement+and+Contracting+Requirements#Division00-ProcurementandContractingRequirements-005200PROFESSIONALAGREEMENTS

  Please review this agreement to ensure that your firm accepts all terms and conditions as written. In submitting a proposal for this project, you acknowledge that you concur, without exception, with all terms, conditions and provisions of Form of Agreement 1-S.

- Office of the Physical Plan (OPP) Standards. The web sites www.opp.psu.edu and https://oppwiki.atlassian.net/wiki/spaces/OPPDCS/overview provide information regarding specific design submission requirements and standards, of the University.

- OPP High Performance Standards. The University has a commitment to environmental stewardship and requires the maximum possible use of sustainable and energy-efficient designs and specifications, for architectural, site, utility, structural, mechanical, electrical, and plumbing work. Refer to the following link for the University's high performance standards that exceed building code minimum requirements: https://oppwiki.atlassian.net/wiki/spaces/OPPDCS/pages/5409436/01+80+00+PERFORMANCE+REQUIREMENTS Apart of this is PSU's High-Performance Building Design Standards:

Building projects shall comply with ASHRAE Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings, 2010 version AND as superseded by more stringent requirements of ASHRAE Standard 189.1 Standard for the Design of High-Performance Green Buildings, 2011 version. The standard defines a minimum requirement of LEED Certified for this project.

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

The University will perform a three-step A/E team selection process, with three assessments: Letter of Interest, Proposals, and Interviews (if needed).

This is the process to select the full A/E team, including: the architectural team, engineering team, and specialty consultants (if needed). 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 an electronic copy of your Letter of Interest by Noon, Eastern Standard Time (EST) on **May 5, 2023**.
- 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 **May 15, 2023.**
- Proposal responses from the Long-listed teams are due in my office at **Noon EST on June 12, 2023**.
- 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 **June 27, 2023.**
- Interviews, if needed, will be scheduled for **July 28, 2023**.

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 greenhouse and plant science teaching and research environments. Highlight expertise in planning and space utilization analysis along with experience developing building programs. Highlight applicable experience to the space types described in this document.

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 a project of this type.

4. Within your Letter of Interest, include a sampling of your previous relevant experience and provide illustrative examples.

   * **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. Send a PDF of the submission electronically to gak21@psu.edu and 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.

You may 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. We may arrange for scheduled visits later in the selection process if possible.

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. 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 to be made public in any manner. Additionally, the University may hold all proposals for up to 45 days.

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

Kindest Regards,

Greg Kufner, AIA, NCARB

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CC: Screening Committee