



Date: Monday, November 8, 2021

Subject: **Request for Proposals (RFP) – Architect/Engineering (A/E) Team Selection
Master Plan Study for East Campus Chilled Water Plant (ECCP) and Chilled Water (CHW)
Thermal Energy Storage (TES)**
The Pennsylvania State University – University Park Campus
PSU Project No: 00-07057.00

To: Affiliated Engineers, Inc
Ballinger
Burns & McDonnell
HDR Architects and Engineers
HGA
KFI Engineers
Lutz, Daily & Brain, LLC Consulting Engineers
Leers Weinzapfel Associates
Rogers Partners
Trefz Engineering, Inc
R.G. Vanderweil Engineers, LLP

REQUEST FOR PROPOSALS – PART 1 PROJECT INFORMATION & OWNER REQUIREMENTS

The Pennsylvania State University (PSU) is excited to continue the Architecture/Engineering (A/E) team selection process for the master plan development for the East Campus Chilled Water Plant (ECCP) and Chilled Water (CHW) Thermal Energy Storage (TES) project. This master plan development will guide a future capital project for the University that will be procured separately. (Please note that the selection of your A/E Team for this study phase of the project neither precludes nor guarantees that your firms could be considered for the future design and construction phases of this project.) PSU is utilizing our standard qualifications-based A/E team selection process for this project. The University is seeking a cohesive A/E team that is strong in both architecture and engineering for this study to be a success.

The University would like to sincerely thank the 27 A/E teams that submitted Letters of Interest for this important project. After careful review of the submitted Letters of Interest, PSU would like to congratulate the above 11 teams who were selected to continue to the next step in the process and extend an invitation to respond to this Request for Proposal (RFP).

The A/E Selection process is as follows. Proposal responses are due in my office by 4:00 PM ET on Thursday, December 2, 2021. A pre-proposal conference will be held via Zoom at 10:00 AM ET on Tuesday, November 23, 2021. Call-in information will be provided to interested firms, and questions are encouraged to be submitted in advance. The Screening Committee will review the Proposal responses to determine the Short-List of three (3) teams to continue to the next (interviews) stage in the process. The Short-List/Interview Notice will be posted to the OPP website by close of business on Friday, December 17, 2021. Virtual interviews will occur in mid-January 2022 via Zoom. Non-Binding Fees for your entire A/E Team will be requested of the three (3) Short-Listed teams, which will be due just prior to the interviews. The results of the A/E Team selection process will be posted to the OPP website.

Participation in this RFP and selection process is voluntary and at no cost or obligation to PSU. The University reserves the right to waive any informality in any or all proposals, and to reject or accept any proposal or portion thereof. PSU reserves the right to modify dates as/if/when it deems necessary with adequate notice provided to all A/E Teams. PSU does not obligate itself to make the selection for these professional services based on lowest cost. Our intent is to identify the team that provides the best fit with our perceived need. The team will balance quality, cost, and service.

If it becomes necessary to revise any part of this RFP, an amendment will be issued to all firms who acknowledged receipt of the original RFP.

Confidentiality and Non-Disclosure: News releases pertaining to this project will not be made without prior approval from the University, and then only in coordination with PSU. The contents of all A/E team selection process correspondence are to remain confidential, and as such, not be made public.

A. PROJECT OVERVIEW

The new ECCP and CHW TES facilities are planned as new freestanding facilities and interconnected to the existing campus chilled water distribution system (please see separate PDF file). The intent of this project is to develop an overall facility master plan along with anticipated total project costs, projected site development, and a phased design and construction schedule.

The University currently operates three campus chilled water (CCHW) plants and numerous individual building chillers. Centralization began in the late 1990s and has continued to grow to meet campus demand and replace individual building chillers. PSU has seen significant energy and maintenance savings by utilizing a centralized system which operates 24/7/365 and serves about 150 buildings. The three central CCHW plants are located on campus as shown in Figure 1 – Existing Campus Chiller Plants, with a total operating capacity of 25,131 tons and rated firm capacity of 22,131 tons.

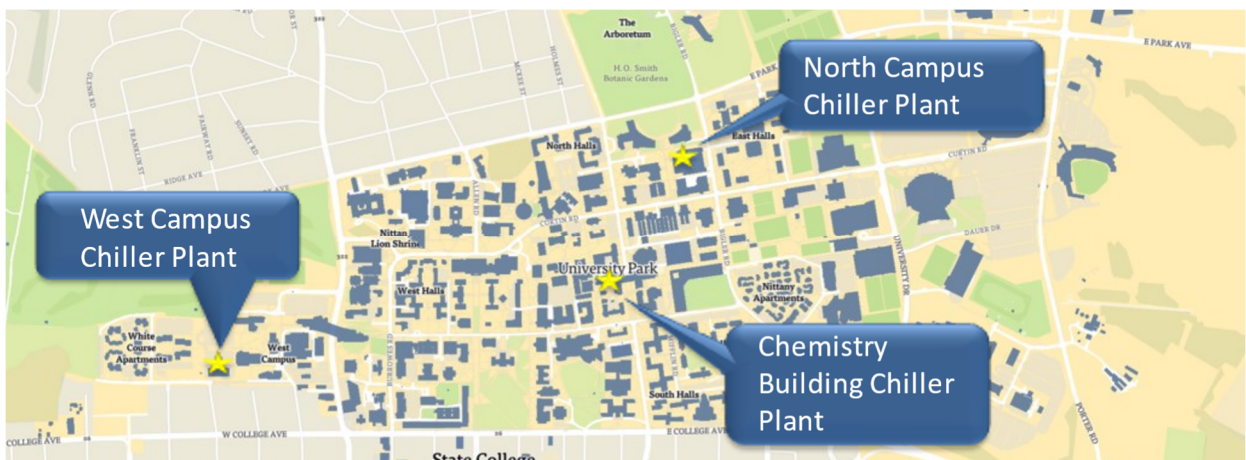


Figure 1 – Existing Campus Chiller Plants

The West Campus Chiller Plant (WCCP) was the first Plant built on campus circa 2000 and consists of five chillers ranging from 900 tons to 3,000 tons for a total capacity of 7,200 tons. The Chemistry Chiller Plant (CHCP) is the smallest Plant with three 1,217-ton chillers for a total of 3,651 tons and was built around 2004. The North Campus Chiller Plant (NCCP) was first brought on-line in 2004 and includes eight chillers ranging from 1,350 to 2,790 tons for a total of 14,280 tons.

The University will share the current overall CCHW Master Plan data with the awarded firm/team to provide guidance on design criteria such as firm capacity (N-1), reducing maintenance through system diversity, cooling redundancy, and building area impacts. In addition to the development of a plan for design and construction of a new CCHW Plant and CHW TES tank(s), the master plan must identify additional Utilities (electric, hot water, steam, domestic water, wastewater, and stormwater) impacts as well as Architectural requirements.

The master plan must quantify energy savings and load management strategy through rate analysis and should identify how new CCHW and CHW TES systems will influence the University’s sustainability goals through reduced greenhouse gas (GHG) emissions.

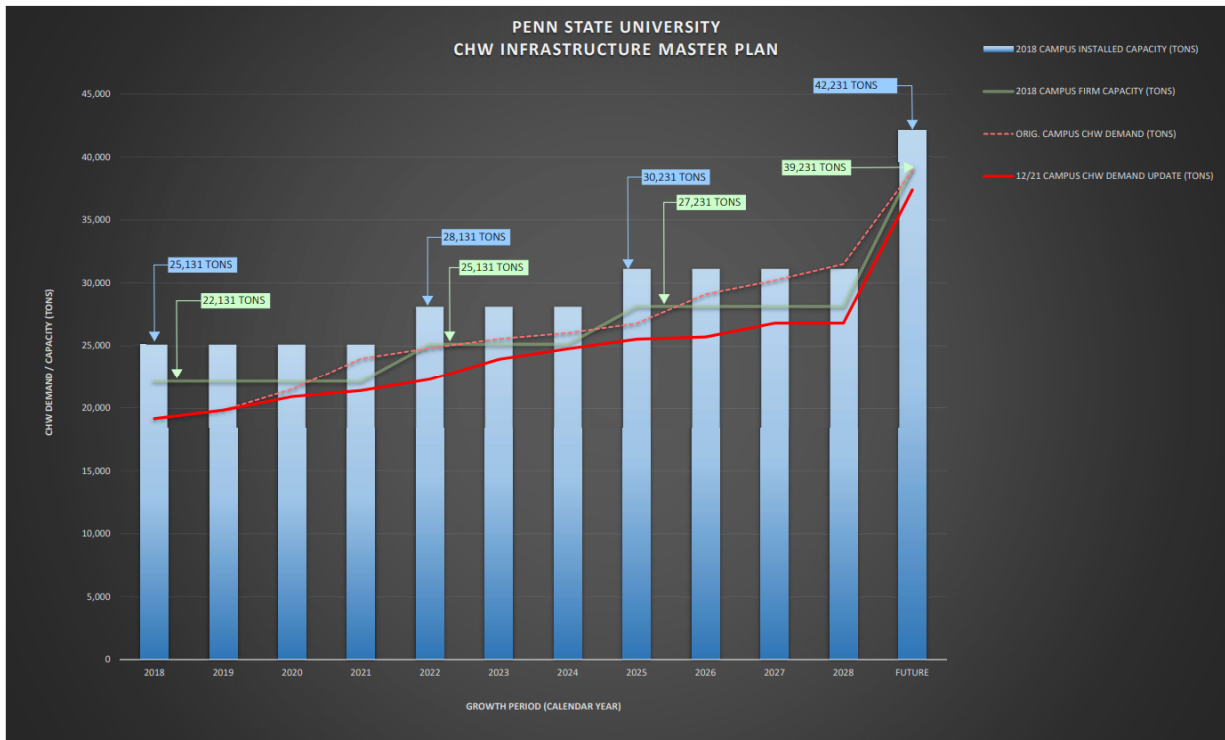


Figure 2 – Penn State University CCHW Infrastructure Master Plan

B. PROJECT GOALS

A critical role of the selected A/E Team will be to work with PSU and project stakeholders to finalize the project goals and then work to deliver a new facility that meets these goals. The primary goals of this project include the following:

- Develop a master plan that will allow the University to commence a separate future project for the full design and construction of a new CCHW Plant and to incorporate a CHW TES system upon completion of this study phase. It is anticipated that the future project will be procured either as design/build or design with the Form of Agreement 1-P and a separate Construction Manager at Risk (CMaR).
- Create a master plan that addresses future projections and planning tools and timelines for system upgrades and replacements while investigating newer technologies for the new CCHW Plant and CHW TES system. Current University efforts are shown in Figure 2 – Penn State University CCHW Infrastructure Master Plan.

- Especially given the prominent east sub-campus and campus edge site location, the entire facility should be a positive contributor to the campus and broader master plan, both short- and long-term.
- In keeping with Penn State’s commitment to environmental sustainability, this facility will be a high-performance building and will, at a minimum, attain LEED Certification. The project may consider additional sustainability or high-performance innovations.

C. A/E TEAM SELECTION PROCESS & PROJECT SCHEDULE MILESTONES

The University anticipates that this project will need to be completed in phases, but the exact timing, schedule, and what all needs to be included in each phase will be discussed and determined by the A/E Team post-award in conjunction with the University.

○ RFP Issued to Long-Listed Teams:	November 8, 2021
○ Pre-Proposal Conference:	10:00 AM ET on November 23, 2021
○ Submission of A/E Proposals Due:	4:00 PM ET on December 2, 2021
○ Post Short-List results & Interview notice:	December 17, 2021
○ A/E Team Interviews:	mid-January 2022 (via Zoom)
○ Phase 1 – Study	February 2022 to August 2022
○ Phase 2 – Design	September 2022 to February 2023
○ Phase 3 – Construction	May 2023 to September 2024
○ Phase 4 – Initial Plant Build-Out	October 2024 to March 2025
○ Phase 5 – Future Plant Build-Outs	TBD

D. PROJECT PROGRAM

The selected A/E Team will be tasked with working with the University stakeholders to fully develop this scope, program, and conceptual design as part of this study phase of the project. This project is a key component of the University’s continued efforts to sustainably expand our utility infrastructure. PSU will work with the selected A/E to determine the level of programming required for this study phase of the project.

The selected A/E Team will begin the project with evaluations of the potential site(s) and the development of the program for these new CHW facilities on campus. The Team will work to develop the initial program to include tabular/space program, space adjacency diagrams, site impact diagrams, and preliminary room data sheets that provide room-by-room info. It is envisioned that the Plant configuration could be laid out and organized as listed below. However, the selected Team will validate and present other potential options for consideration by the University stakeholders.

1. Initial Program Requirements

- Evaluate one or more potential location(s) for the new ECCP and CHW TES complex.
- Develop the program for a multi-level CCHW Plant facility that includes sufficient space the identified program areas, at a minimum:
 - CCHW mechanical equipment and associated electrical equipment
 - Lower level for pumps and pipe gallery, walk-out to grade
 - Middle level for chillers, walk-out to grade
 - Cooling towers above on the roof level

- Electrical equipment located where best fit
- CHW TES tank(s)
 - Evaluate and develop the quantity, size, shape, materials, and elevation
- Staff and support spaces
 - Operator's Control Room with 2-3 workstations on the middle level, window to see chillers
 - Conference Room/Training Room to seat 25-30 people at tables, ideally on the middle level, window to see chillers
 - Storage Room, walk-in, adjacent for tables and chairs
 - Break Room and Kitchenette with sink, full size refrigerator, microwave, countertop, base cabinets, wall cabinets, tables, chairs, large screen TV/monitor(s), computer(s)
 - Supervisor Office, middle level, window to see chillers
 - Lead Technician Office, middle level, window to see chillers
 - Utility Engineer Office, middle level, window to see chillers
 - Men's and Women's Restrooms, each with a shower and small lockers
 - Water treatment work room
 - Chemical storage room, bulk tanks, small containers, direct access to outside
 - Variable speed drive electrical room, conditioned (heated and cooled)
 - Shop work space for equipment repairs, with overhead trolley beam hoist system for lifting and moving pumps, motors, and large heavy items, direct access to outside
 - General storage room, direct access to outside
 - Refrigerant storage room, direct access to outside

2. Architectural Requirements

- Site development options for evaluation and consideration by the University
- Develop overall program for the building complex
- Create conceptual layouts for various options of overall design of the complex including, but not limited to, the following:
 - Develop block and stacking diagrams describing space adjacencies utilizing floor plans, sections, bubble diagrams, etc.
 - Develop massing study to understand impact to campus environment of new building, tank(s), etc.
- Evaluate options to address visual impact of the facility/complex to the surrounding campus. Develop perspective views from multiple key viewpoints on campus.
- Provide conceptual exterior finishes options along with current unit costs (\$/sq ft) considering siting.
- Perform geotechnical boring analysis of proposed site(s).

3. Mechanical Requirements

It is anticipated that the following mechanical requirements listed below will be discussed and reevaluated as part of this study by the A/E Team in conjunction with the University.

- 12,000-15,000 tons total cooling production capacity to tie into the existing variable-primary flow campus chilled water system
- The University desires to limit the size of the chillers to not exceed 3,000-tons each. The team will evaluate the size and quantity of chillers that best fits the needs of the University.

For example, six (6) 2,000-ton electric centrifugal chillers, single compressor, with variable speed drives, marine water boxes, hinged end plates, and 4,160 Volt motors could be considered.

- Heat recovery chiller(s) should be considered for some or all of the machines.
- The University anticipates that an Automated Logic Corporation (ALC) controls system will be required to interface with the other existing CHW plants on campus.
- Seven (7) horizontal split case centrifugal chilled water pumps, with variable speed drives, uninsulated with drip pans, up to six operational with one on stand-by
- Seven (7) horizontal split case centrifugal condenser water pumps, with variable speed drives, up to six operational with one on stand-by
- Seven (7) induced draft, counterflow, fiberglass, field erected, FM approved cooling towers, with variable speed drives, up to six operational with one on stand-by
- Trolley beam hoist system(s) for lifting pumps, motors, and large heavy major chiller components for repair and replacement
- Condenser water filtration system
- Chilled water side-stream filtration system
- Stainless steel condenser water system piping
- Electric actuators on control valves (Rotork is currently the only acceptable manufacturer)
- Building heating system, connected to campus steam system or hot water
- Extend no less than 36-inch underground CHW supply and return piping with interconnection(s) to the existing central campus system.
- Thermal energy storage tank(s) adjacent to the Plant. Exact size and configuration will be evaluated by the team during the study phase. The University currently anticipates the following as a starting point for evaluation and discussion:
 - 6-6.5 million gallons of chilled water storage capacity
 - 40,000-42,000-ton-hour storage capacity
 - 8,000-9,000-ton peak discharge rate
 - Chilled water pumps to discharge and refill storage tank(s) should be incorporated into the overall Plant

4. Electrical Requirements

- Variable speed drives for all mechanical equipment with electric motors including, but not limited to, chillers, cooling tower fans, pumps, fans, etc.
- Two separate incoming electrical power sources
- Coordinate with existing West Penn Power utility infrastructure

5. Other Utility Requirements

- Perform design-phase PA One Call for utilities mapping of proposed project site(s).
- Develop conceptual level design of all underground utilities infrastructure to/from the proposed site(s) including, but not limited to, chilled water, electrical, steam, hot water, domestic water, wastewater, reuse water, and stormwater.
- Evaluate systems and technologies that minimize water consumption and wastewater discharges from the CCHW Plant. Give consideration to systems and technologies that could utilize non-potable water supplies in lieu of potable water supplies. (Please note: The University is currently developing a Class A reclaimed water system that could potentially

provide non-potable water service to the CCHW Plant if the reclaimed water quality is suitable for the proposed technologies.)

- Develop estimates of water consumption, wastewater generation, and wastewater characteristics for the proposed facility. Coordinate with applicable PSU Utility Engineers to determine if the existing water/wastewater systems are able to support the anticipated water/wastewater demands.

E. OWNER REQUIREMENTS

- It is critically important that the Architectural/Engineering team shows cohesion have experience with:
 - Complex central chilled water systems or similar distributed systems.
 - Thermal Energy Storage systems
 - Complex utility rate structures
 - Architectural design incorporated into the surrounding campus landscape
- Meet with the University's project team to confirm scope and program (virtual when possible).
- Meet with users to develop a basic program document (virtual when possible).
- Finalize and execute the mission and vision of the project.
- Provide an assessment of the proposed site(s).
- Establish multiple budget and scope paths and provide high-level breakdown of costs and fees for each.
- Utilize e-Builder processes for this study.
- Determine a high-level schedule that includes design and construction durations.
- Review progress of the scope, program and other data with specific OPP stakeholders prior to submitting the first draft.
- Prepare and submit a draft report and a final report for review and comment by PSU.
- Assist the project leader with preparation of graphics and metrics for future presentations to the University's PDRB meetings including Gate 1 Programming. (This is the process used for projects to gain programming and concept design approval from University executive leadership. Approval includes review of program, project size, cost, project goals, and objectives.)
- The study will be used as the initial basis of design and for procurement of the design (or design/build) professional.

F. PROJECT DELIVERY METHOD & PROJECT DELIVERY REQUIREMENTS

Penn State University and the Office of the Physical Plant (OPP) require a high level of collaboration and LEAN principles to ensure project success. The final selected A/E design team must establish a process for the design, documentation, and execution of the study phase of this project. The A/E Team will work in conjunction with their selected Construction Manager (CM) throughout the study phase of the project for cost estimating, constructability, and scheduling feedback and development. The CM will lead the effort to develop an overall project budget which will include several options and breakdowns in various potential bid packages. These options and breakdowns will be developed in conjunction with the University.

Given the importance of this project, Penn State will require at least two (2) distinct design options be developed for PSU's review and approval. These options will be developed at least to a Concept

Design level. We ask that you describe your approach to developing options in Proposal Section 3 – Project Approach & Schedule.

G. RFP ATTACHMENTS & PENN STATE STANDARDS

- PSU UG CCHW GIS Map 2021-10-26. This PDF file is provided as a separate attachment in the email provided to contacts from each of the Long-Listed firms.
- The selected team will be provided access to any applicable campus master plans for reference. These could include, but are not limited to, the campus chilled water (CCHW) master plan, College of Engineering master plan, and Intercollegiate Athletics master plan.
- Form of Agreement. Included at the link below is the University's Form of Agreement 1-S. 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. Additionally, please do not include any terms or conditions in your proposal.
<https://wikispaces.psu.edu/display/OPPDCS/Division+00+-+Procurement+and+Contracting+Requirements>.
- Design Phase Deliverables. Reference this document under the heading *00 51 00 MISCELLANEOUS FORMS* at the following link:
<https://wikispaces.psu.edu/display/OPPDCS/Division+00+-+Procurement+and+Contracting+Requirements>
- Office of the Physical Plan (OPP) Design and Construction Standards. The web sites below provide information regarding specific design submission requirements and standards, of the University. Please review to ensure that your team is able to deliver a compliant building.
<https://www.opp.psu.edu>
<https://wikispaces.psu.edu/display/OPPDCS/Design+and+Construction+Standards>
- OPP High Performance Standards. The University has a commitment to environmental stewardship with a focus on university and campus-wide carbon reduction and total-cost-of-ownership. Our projects require maximum consideration of potential sustainable and energy-efficient designs and specifications for architectural, site, utility, structural, mechanical, electrical, and plumbing disciplines. Refer to the following link for the University's high performance standards that exceed building code minimum requirements:
<https://wikispaces.psu.edu/display/OPPDCS/01+80+00+PERFORMANCE+REQUIREMENTS>
A part 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. The project will consider additional sustainability or high-performance measures and innovations.

H. SITE TOURS & PRE-PROPOSAL SUBMISSION CONTACT

Firms are welcome to visit campus during this selection process. However, guided campus/site tours are not provided at this step in the selection process. If deemed necessary by the University, arrangements for scheduled visits with the short-listed teams will be communicated in the future. Contact Project Manager Nate Patrick (ntp111@psu.edu) with any questions regarding the project, project program, or general questions on the A/E Team selection process.

REQUEST FOR PROPOSALS – PART 2

PROPOSAL REQUIREMENTS

Hard copies of your proposal are not required. Please email a single PDF file (20MB maximum) of the submission electronically to Nate Patrick at ntp111@psu.edu by the submission deadline of December 2, 2021 at 4:00 PM ET. Proposals received after this date and time may be automatically rejected. Include the subject line that states, "PSU 00-07057.00 ECCP & CHW TES Master Plan Proposal from <Insert Firm Name Here>". Proposals shall be provided in an 8.5" x 11" format. Limit submission to twenty-four (24) single-sided pages with size 11-point type minimum font.

A cover letter shall be provided from the proposed leader of the prime (contract holding) A/E firm. The cover letter should be two-page maximum. The cover letter should include, at least, the following:

- A. Legal name and primary office location of the prime A/E firm.
- B. Contact information for the A/E team's main point of contact (name, address, phone number(s), and email).
- C. A concise summary as to why your team is best suited for this project.
- D. Statement of certification that all information provided in your proposal is accurate.
- E. Statement that you concur, without exception, to the terms, conditions, and provisions as contained in the latest version of Penn State's Form of Agreement 1-S.

Proposals shall follow the below format, in the order stated to ensure that all pertinent information necessary for evaluation is included and easily comparable by Selection Committee. The cover letter, cover page, table of contents, and any divider pages will count towards the RFP page limitation. We encourage you to be as brief as possible without sacrificing accuracy and completeness.

PROPOSAL SECTION 1 – TEAM STRUCTURE

- A. Identify your entire proposed design team including: Prime (Contract Holding) firm, Lead Design firm (if different), architectural partners (as applicable), building system engineering firms, and proposed specialty consultant firms. Provide insights into the firm's unique qualifications/ characteristics, firm personality, design ethos/philosophy, client notations of previous project success, etc. For each firm, identify the firm differentiators, size of firm, each firm's qualifications and experience on similar projects, and clearly identify each firm's role on this project.

Identify past collaboration between prime firm and key architects/engineers/consultants, including number/value of projects, and the added benefit the key consultants provide to your team. It is encouraged to create A/E teams that demonstrate previous successful collaboration and execution of projects similar to this project. While we appreciate firms with experience at PSU, we do not have a preferred vendor list and encourage the selection of high-quality architects, engineers, and specialty consultants. If the proposed firms do not have any previous PSU experience, convey how your team has previously incorporated owner's design standards similar to the Penn State Design and Construction Standards.

- B. Provide team organizational chart. Include all firms and consultants and provide the name and role of key team members from each firm. Clearly identify which team members are designated for leadership positions on the team. Identify all partner firms and primary sub-consultants along with PSU's role with the project team. Please highlight any Diverse Business Enterprise Program (DBE) representation on your team. Refer to RFP Section 2.E. below for more details.
- C. Provide role descriptions and resumes of key team members identified in the organizational chart. Include registrations/certifications, educational background, years of experience, and relevant project experience. Resumes should be limited to no more two (2) paragraphs of information for each individual. Include at least one professional reference (name, company name, title, email, phone) for each key team member. Headshot pictures are optional.

Relevant project experience should include project size/cost, program type, project overview, and define what each team member's role was on each project listed on their resume. Emphasize each team member's most relevant experience and ideally highlight that the team member has had comparable roles on similar projects.

By submission of this proposal, your team commits to the University that the proposed individuals identified will be those who will be assigned to this project.

PROPOSAL SECTION 2 – TEAM QUALIFICATIONS

- A. Provide a summary of qualifications and expertise of the firms with specific emphasis on:
 - 1. Design Excellence, including national recognitions.
 - 2. Distinguishing factors of team differentiation.
 - 3. Experience delivering programs, studies, and projects of a similar scope, scale, and complexity.
 - 4. Expertise in the planning, design, and delivery of chilled water plants, infrastructure, distribution, and thermal energy storage tanks.
- B. Identify a maximum of ten (10) example projects within approximately the last ten (10) years, which best exemplify qualifications and expertise listed above for the proposed team. Include at least one owner contact (name, company name, title, email, phone) who is familiar with the performance of the team for each of these ten (10) projects. Provide highlights and details of at least five (5) of these identified projects of which three (3) must include chilled water thermal energy storage tank(s). Projects with a minimum chiller size of 1,000 tons or more will be most relevant. Include a brief description of each project, project gross square feet, project budget, final project cost, chilled water capacity, project completion date, and one (1) client reference. Show illustrative representation of the example projects – captions are encouraged.
- C. Project Relevancy Matrix. Develop a matrix that illustrates the similarities between the ten (10) example projects and this project. Please be as specific to our project, as possible.
- D. People-Projects Matrix. Develop a matrix to show the participation of key individuals from your proposed team on the ten (10) example projects. List individual's role on example projects.

E. Diverse Business Enterprise. The Pennsylvania State University encourages the participation of Minority Business Enterprises, Women Business Enterprises, Veteran Business Enterprises, Service-Disabled Veteran Business Enterprises, and LGBT Business Enterprises (collectively referred to as Diverse Business Enterprise (DBE) for Design Professionals). Below is a partial list of acceptable certifying agencies:

1. Department of General Services Bureau of Small Business Opportunities (DGS BSBO)*
2. Federal Department of Transportation
3. National Minority Development Council (NMSDC) or its affiliates
4. Southern PA Transportation Authority (SEPTA)
5. Women Business Enterprise National Council (WBENC)
6. Pennsylvania Unified Certification Program (PA UCP)
7. National Women Business Owners Corporation (NWBOC)
8. Minority Business Enterprise Council (MBEC)
9. National Gay and Lesbian Chamber of Commerce (NGLCC)
10. U. S. Department of Veteran Affairs (VOB/SDVOB)

*Or comparable state agencies or regulating bodies in other states or local jurisdictions.

PROPOSAL SECTION 3 – PROJECT APPROACH & SCHEDULE

A. Describe your team’s proposed design approach for this project. Given the importance of this project, the awarded A/E Team will be required to provide at least two (2) distinct design options be developed for the University’s review and approval. Options will be developed at least to a Concept Design level. Be as specific to our project as possible. Discuss, at a minimum, your approach to the following:

1. Project visioning and project mission/goal setting. Your approach to then establishing a design process that works to achieve the project vision and goals.
2. Develop the project program and gaining knowledge of the project brief. Additionally, describe any programming/building planning tools, benchmarking tools, and/or other firm-specific methodologies to assist in the design of our project.
3. How the initial project study phase leads into the Concept Design Phase of the project.
4. Develop building planning options and/or overall building design schemes. Approach to developing programmatic “blocking and stacking” options that explore gallery and/or programmatic adjacencies.
5. Work with the University staff to analyze, compare/contrast different design options.
6. Develop the preliminary interior/ exterior “look and feel” options of the new building(s).
7. Use of BIM, “predictive modeling”, analytical/ digital tools, and other technologies.

B. Approach to project delivery. At a minimum, describe your Team’s overall approach to:

1. Achieve the project schedule. Provide comments or suggestions on your Team’s ideal schedule compared to what is published above by the University.
2. Identify key risks to project schedule and strategy for mitigating such risks.
3. Plan, manage, and execute the project.
4. Consensus building and guiding stakeholders through decision-making process(es).
5. Create a collaborative environment between architects, building/site planners, engineers, sub-consultants, and PSU/OPP stakeholders.

6. Work with the Construction Manager (CM) for cost estimating, constructability, and scheduling feedback and development throughout the Study Phase.
 7. Identify potential innovative strategies that you consider using in the design, procurement, and construction of the project, while maintaining quality and uncompromised project goals.
- C. Develop project budget. Creating and developing an accurate project budget is critical for planning of the future phases on this project. Provide your approach to manage costs through all design and construction phases, especially considering currently escalating construction costs. Additionally, provide the following:
1. Highlight the process of cost estimating, scope/budget alignment and cost/quality control through the design and construction phases.
 2. Define critical factors with respect to the project budget.
 3. Identify key risks to project budget and strategy for mitigating.
- D. Approach to project siting. Provide a narrative approach to how a facility/complex with a CHW Plant and CHW TES tank(s) could fit into the surrounding campus context with the intent of addressing visual impact/presence.
- E. Approach to MEP and building system design. Provide a narrative approach to the mechanical, electrical, and plumbing systems planning/design/delivery of facility that will contain programs and space types as noted herein. Be specific with your experience and highlight your project type expertise.

Certain additional engineering analyses are expected to be included in the scope of work during this master plan study phase of the project. This includes preliminary emissions modeling, noise/sound studies, and energy modeling.

- F. Approach to Sustainability. After reviewing PSU's High-Performance Standards, describe your team's approach to driving towards PSU's sustainability goals on the project, including exceeding our standards. Highlight your experience meeting similar high-performance standards and describe overall team commitment to sustainable design (including number of completed LEED projects in the past five (5) years). Among other applicable topics, discuss your team's approach and experience applying advanced sustainability measures, ability to apply best practices in sustainable design, applications of creative innovations to obtain the optimum performance for projects, and experience using energy models to drive design thinking.
- G. Approach to Prevention Through Design (PtD). Safety is essential to the University during the construction and post-occupancy maintenance/operation of the facility. Therefore, the University is stressing the implementation of Prevention through Design on this project. Share your thoughts, experiences, and approach to PtD. The LEED v4 Pilot credit for PtD will be mandatory for this project.
- H. Project Staffing/Workload. Verify the entire A/E Team's availability to successfully staff the project, immediately, given our project schedule and other A/E Team workload. By submission of this proposal, your team commits to the University that the proposed individuals identified will be those who will be assigned to this project.

- I. Graphic Schedule. Create a graphic project schedule showing pertinent details for this Study Phase. Also include high-level milestones for all future Phase durations, owner engagement and review periods, and identify critical path items, milestones, and schedule drivers. This can be done on an 11x17 page and will only count as a single page.

PROPOSAL SECTION 4 – PROJECT-SPECIFIC KEY DRIVERS & IDEAS

- A. Project Understanding and Drivers. Demonstrate your understanding of the project. Provide observations of the project program, project goals, or other provided information. Describe key project drivers, critical design elements, and potential constructability considerations your team has identified as a priority for this specific project. Discuss how you addressed similar issues on other projects.
- B. Project Insights. Provide your thoughts specific to design of facilities, like described in this RFP. Provide your team’s vision of what, beyond purely functional issues, constitutes the essence of project, such as we envision. Discuss potential key issues in the design of the ECCP & CHW TES.
- C. Program and Programmatic Goals. Delivering a facility that successfully accommodates the identified mechanical equipment and supplemental spaces, within state-of-the-art facilities, is of the utmost importance. Describe your programming, planning, benchmarking tools and methodologies that your team will use to test, and ultimately achieve, the stated project goals. Provide firm-specific core values, design principles, etc. regarding key space types. Feel free to reference precedent project examples.
- D. Provide your initial design ideas, thoughts, or considerations regarding our specific project. We are not seeking design solutions. We would rather you convey your “design thinking” or unique insight you have regarding our project. Considerations may include your thoughts/opinions related to:
 1. The project site, master planning and/or campus-making aspects.
 2. Building siting, massing, and/or environmental considerations.
 3. Any other design considerations and/or inspirations.

(OPTIONAL) PROPOSAL SECTION 5 – ADDITIONAL PROJECT IMAGERY

- A. (Optional) Additional Project Imagery. If pages remain within your proposal, please feel free to include additional project images of your listed previous project experience. Photo captions are strongly encouraged.

In closing, thank you for your participation in the A/E Team selection process for this exiting project. We understand the commitment that each team puts into their submissions. The Screening Committee reciprocates this effort in our detailed review and analysis of each Proposal. We look forward to learning more about the Long-Listed A/E Teams and their project-specific approaches to determine which three (3) Short-Listed A/E Teams continue to the Interviews stage of the selection process. Please do not hesitate to contact me (via e-mail) with any specific questions or concerns pertaining to this A/E Team selection process. If there are questions that will benefit all the teams, I will make every effort to provide each team with equal information and/or distribute an addendum.

Kindest Regards,

Nathan Patrick

Nathan T. Patrick, P.E., DBIA
Project Manager, Design and Construction
Office of Physical Plant (OPP), The Pennsylvania State University

Attachments: PSU UG CCHW GIS Map 2021-10-26.pdf (separate, via email)

cc: ECCP & CHW TES Screening Committee