REQUEST FOR QUOTE

Commissioning Agent Services

pennsylvania
DEPARTMENT OF GENERAL SERVICES

DEPARTMENT OF HUMAN SERVICES

NORTH CENTRAL SECURE TREATMENT UNIT

HVAC Upgrades to Green and Reed Buildings

Project No.
DGS C-0503-0026 Phase 1

Technical Submission

aramark
ENGINEERING SOLUTIONS

2400 Market Street
Philadelphia, PA 19103

February 24, 2023

Re: Commissioning Agent Services for DGS C-0503-0026 Phase 1, North Central Secure Treatment Unit HVAC Upgrades

Attn: Erin McCulley

We are pleased to respond and provide a proposal and cost estimate for Commissioning Agent Services during the design and construction phase stages of the Department of General Services Project No. DGS C-0503-0026 Phase 1, North Central Secure Treatment Unit HVAC Upgrades.

Aramark is familiar with the DGS requirements for design and construction and has worked on many projects for DGS. Sean McCarty is slated as the project manager for this project and has also worked on several projects for DGS in the Eastern PA region. Sean is the project manager for the Wilkes-Barre Readiness Center and has also managed past DGS projects such as the Coatesville Readiness Center and Honesdale Readiness Center. Dave Bacco will be supporting electrical commissioning who has supported DGS on multiple projects throughout his career with Aramark.

Past performance and the ability to provide a cost proposal for design and construction services in the DGS format is meaningless unless the firm has a track record of completing projects on time and within budget. Aramark is currently working on two projects that maintained our pricing throughout the design stage and we held our originally proposed pricing for the construction stage. Other firms see design stage pricing as a loss leader for an assumed construction stage engagement. Aramark will continue to hold its pricing after design and will perform our commissioning tasks to the hours that were initially proposed.

For the systems to be commissioned most of the HVAC systems utilize packaged AHU equipment with DX cooling and associated condensing units that will require start-up and integration with automatic temperature controls. We will lead the team to successful completion by coordinating that all respective parties are on-site for equipment start-up concurrently with manufacturer start-up rep, ATC, and TAB contractors as often in our experience systems are not accurately setup without all of the parties properly collaborating. This also applies to the heating hot water system and domestic hot water systems.

We look forward to continuing and strengthening our relationship with the Department of General Services. Should you have any questions, please do not hesitate to contact Matt Campise, Director of Commissioning Services, at (724) 689-9449.

Sincerely,

Brian Lee, P.E.
Vice President, Engineering Solutions
Authorized Signatory of Aramark Management Services Limited Partnership

TABLE OF CONTENTS

A. CONTRACTOR PRIOR EXPERIENCE

For more than 40 years, Aramark Engineering Solutions has demonstrated proven expertise in developing and implementing energy management programs that promote sustainability and conserve energy. We bring a customized approach based on the individual drivers of each organization. As one of the largest third-party commissioning agents in the United States, our unique operational expertise distinguishes our service from our competitors.

Our commissioning philosophy is guided by the following three tenets:

1. Provide a facility that operates to support the program
2. Verify systems achieve peak efficiency
3. Confirm building infrastructure is readily maintainable by the operators

Our services will further facilitate a seamless transition to the operations group and provide a technical resource to support building operations.

Experience At A Glance

Total Projects Commissioned: **900+**

Total GSF Commissioned: **70+ Million**

Constructed Value of Commissioned Projects: **$11.2 Billion**

FACILITIES COMMISSIONED

- Heating, cooling plants and major electric infrastructure
- Large classroom, academic, and computer facilities
- Hospitals & mission critical facilities
- Recreation centers (athletic & aquatics)
- Campus & performing arts centers
- Museums, libraries & cultural institutions
- Science, research, vivarium, BSL3 and laboratory
- Residential halls
- K-12 Schools and Campuses
- Retro-commissioning of existing buildings and systems

Select Aramark Commissioning Clients

- Baylor University
- City University of New York
- Centenary College
- Drew University
- Edinboro University
- Franklin & Marshall College
- George Washington University
- Institute for Advanced Study
- NYS Dept. of Corrections
- NYS Office of Mental Health
- Ohio State University
- Penn State University
- Princeton University
- Rutgers, State University of NJ
- State of Pennsylvania (PADGS)
- University of Pittsburgh
- University of Kentucky
- University of Pennsylvania
- Washington College
- West Chester University
- West Virginia University

PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
SCI BENNER TOWNSHIP ROCKVIEW

LOCATION:
Bellefonte, PA

GROSS SQUARE FEET:
629,573

CONTACT:
David Smead, CFMM3
814-353-3690, ext. 3500

SCHEDULE:
2017-In progress

The campus consists of:

- 9 inmate housing units at 32,008 square feet each
- 40,671 sq. foot unit
- 15,307 sq. foot unit
- 23,255 sq. foot outside administration facility
- 18,890 sq. foot security administrative building
- 24,570 sq. foot health services facility
- 24,273 sq. foot dietary services facility
- 49,810 sq. foot laundry facility
- 31,200 sq. foot maintenance shop
- 67,261 sq. foot multi-use building

Aramark acted as the commissioning consultant that reported directly to PADGS. Contractors were responsible for their own functional testing which was witnessed by a Cx Authority hired by the construction manager. Aramark performed static inspections and witnessed functional testing to make sure all was being completed in the best interest of the state. Essentially, Aramark were the experts that made sure the state received the services they contracted.

COMMISSIONING SUCCESS:

Throughout inspections and functional testing, Aramark found several issues. Select major issues included:

- Smoke Evacuation Systems: This issue is still not 100% resolved. The firefighters override panel has been remade and reprogrammed to operate per code requirements. We are to be involved with retesting, but this effort is still in the programming phase and yet to be completed.
- RTU BAS Controls: The HVAC contractor bought units with packaged controls that could not meet the facilities requirements. After the prison was occupied, humidity issues occurred in the summer and freeze stat issues occurred all winter. Therefore, the contractor decided to change out to field-installed BAS controls to match the rest of the facility. Aramark brought up the issue that functionality and custom operation would not be possible with the packaged controls very early which would have saved project budget and delays but through contractor resistance, this issue prolonged the finish of the project
- Hot Water System: The hot water system shutdown during the first winter that the prison system was occupied when the temperature dropped below 0°F. Aramark spent the night on site with the Department of Corrections staff to get the system operating correctly to keep the prison from freezing.
- Condensing Water System: Condensing water system/cooling tower operation did not work very well as the cooling tower was too low, causing the condenser pumps to cavitate. Thus, the cooling tower had to be raised.
- Balancing: There were many balancing issues, including the building connected to the campus loop backwards.

NEW YORK STATE DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION
GREEN HAVEN CORRECTIONAL FACILITY

LOCATION:
Stormville, NY

GROSS SQUARE FEET:
100,000

CX SERVICES:
Submittal Reviews
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Adam Card, P.E.
Wendel, 716-688-0766

SCHEDULE:
2023-In progress

Green Haven Correctional Facility is a maximum security level facility for males. Aramark was recently awarded this HVAC Controls Upgrade project from Wendel and is currently in the beginning stages.

The systems and equipment to be commissioned are:

- Direct Digital Controls (DDC) and Building Management System (BMS)
- Includes integration of all new points
- Steam PRV Controls
- Variable Frequency Drives
- New control valves installed as part of the project.
- Replacement actuators install as part of the project
- Outside Air Testing, Adjusting and Balancing

NEW YORK STATE OFFICE OF MENTAL HEALTH
BRONX PSYCHIATRIC CENTER

LOCATION:
Bronx, NY

GROSS SQUARE FEET:
500,000

USGBC LEVEL:
LEED Gold Registered

CX SERVICES:
Enhanced Cx Services
Design Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Marshall Vitale
518-549-5101

SCHEDULE:
2014-2016

For more than 20 years, Aramark has provided commissioning services to the New York State Office of Mental Health including the Bronx Psychiatric Center. This campus consists of the following:

- A new adult services building consisting of 156 beds.
- A new children's facility consisting of in- and outpatient programs, classroom facilities, gymnasium, pool building and inpatient housing for approximately 86 children.
- New central services building housing all direct services for administration, food preparation, linen services, pharmacy, maintenance, shipping and receiving and storage areas; and a central utility plant for all building utility services, including heating, air conditioning, domestic hot and cold water, emergency power systems, fire protection systems, centralized work control maintenance shops and the building management system.
- A new residential village center consisting of approximately 188 beds in three buildings.

The scope of work included enhanced commissioning services from design thru turnover phase in anticipation of receiving LEED Gold Certification. Aramark performed extensive design reviews and participated in value engineering on all buildings to assist the project team in maintaining their budget. We also assisted with the preparation of an updated Office of Mental Health (OMH) Guideline specification to be used by the project design teams in preparing documents and assuring consistency in both quality of products and compliance with all codes and standards required for an approved Joint Commission of Accreditation of Hospital Organizations.

COMMISSIONING SUCCESS:

During the design review phase of the project, Aramark recommended using riser fan coil units in place of a ducted system. This resulted in a reduction of 8' of total building height for all three 4-story buildings. The resulting overall costs were reduced by approximately $4,000,000. Aramark was vital in the coordination of the mechanical, electrical, and plumbing systems across the campus as there were different contractors and different project management firms managing the individual buildings. This type of coordination was crucial in providing a seamless system across the campus.

During the warranty phase, Aramark worked closely with DASNY, OMH, and the facility to identify and correct building operational issues. Aramark worked directly with building engineers and provided on the job training.

NEW YORK STATE OFFICE OF MENTAL HEALTH
SOUTH BEACH PSYCHIATRIC CENTER RESIDENTIAL BUILDING

LOCATION:	CX SERVICES:	CONTACT:
Staten Island, NY	Enhanced Cx Services Design Review Installation Inspections Performance Verification Operations Training	Marshall Vitale 518-549-501
GROSS SQUARE FEET: 232,000		USGBC LEVEL: Pursuing LEED Silver
SCHEDULE: 2018-2020		

The Residential Building located on the South Beach Psychiatric Center Campus in Staten Island, NY is a newly constructed 232,000 SF five-story state-of-the-art 262-bed inpatient treatment facility that replaces five functionally obsolete buildings that were damaged after superstorm Sandy. Located adjacent to Lower New York Bay and the existing campus, the new inpatient facility and three adjacent recreation yards have been constructed 20 feet above sea level to mitigate damage from future storm surges. The new building includes adult and adolescent behavioral health care beds, a dental clinic, pharmacy, and administrative support spaces and is linked to the recently constructed Central Services Building.

In addition, the building houses dining areas, a centralized pharmacy, a centralized medical mall, centralized nursing, interior and exterior program spaces, patient admissions, a mental health court and visitor center. The new Residential Building is designed to be LEED® for New Construction Silver certified.

COMMISSIONING SUCCESS:

Commissioning of the new Residential Building was successful. Aramark identified over 300 design phase issues and over 3500 construction phase issues over the course of the project. Aramark distributed 44 general field inspection reports and 25 functional verification field reports during the construction and testing process. These reports were vital to the project's overall success as they provided real-time documentation of the construction progress. Some of the major items found are included below.

- Aramark witnessed test and balance for the air side and water side equipment. Issues were found with the airside systems that resulted in STV issuing Bulletins to adjust cfm requirements on some supply and return air grilles, and to change return fan air flow in the AHU systems.
- During construction and testing, Aramark coordinated with the project team, TDX, and STV to raise any issues between the existing systems and the integration of the new mechanical systems. Aramark's collaboration with the project team resulted in the upgrade of the existing Boiler #1 hot water isolation valve to match the new Boilers #2 and #3 new Residential Building scope.
- Several issues were identified with the AHUs, such as the implementation of a revised outdoor air sequence provided by STV and damper actuator adjustments to maintain proper minimum airflow positions.

OHIO MENTAL HEALTH AND ADDICTION SERVICES
TWIN VALLEY BEHAVIORAL HEALTHCARE HOSPITAL

LOCATION:
Columbus, OH

CONTACT:
Thomas Baker
614-995-4551
thomas.baker@ofcc.ohio.gov

CONSTRUCTION COST:
$112 Million

GROSS SQUARE FEET:
285,000

SCHEDULE:
2019-In progress

CX SERVICES:
Design Review
BAS Commissioning
Installation Inspections
Performance Verification
Operations Training

Twin Valley Behavioral Healthcare Hospital is being replaced by a 208-bed, 285,000 square foot facility that will be 100% new construction, including all mechanical, administrative, food service, and support space. Patient accessible areas will be designed to reflect state-of-the-art safety and security requirements, including ligature–resistant fixtures and hardware and highly durable construction.

This new facility will provide a secure environment for residential patient units, clinical/admitting space, full kitchen, indoor and outdoor recreation, and required support operations consisting of administrative offices, food and bulk storage facilities and maintenance operations. Expected Occupancies include Institutional, Assembly, Storage, Food Processing, and more. Key features of this facility will include the development of a “secure building envelope” for patients.

Aramark was selected for this facility due to our vast experience of commissioning healthcare projects particularly with a specialty in mental health behavioral facilities. We have been providing all commissioning services for the New York State Office of Mental Health which sees over 700,000 individuals each year at over 25 facilities. Aramark commissions any new projects at any given facility.

COMMISSIONING SUCCESS:

Still early in design, Aramark is currently reviewing very early sets of documents and are involved in the selection of equipment for mechanical, electrical, plumbing, and building envelope systems.

UNIVERSITY OF PENNSYLVANIA
BUS LOW RISE AIR CONDITIONING KCEH

Three low rise college dormitory houses (Dubois Center, English House, and Kings Court) were renovated to accommodate air conditioning system upgrades. The scope of worked included modifications to existing architectural, mechanical, electrical, plumbing, and fire protection systems. The project construction was completed in the summer 2019 between May and August 2019, and punch list and commissioning issues were addressed over winter break 2019-2020.

LOCATION:
Philadelphia, PA

GROSS SQUARE FEET:
216,000

CX SERVICES:
Submittal Review
Installation Inspections
Performance Verification
Operations Training

CONTACT:
Dave Dunn
Senior Project Manager
215-898-8803
ddunn@upenn.edu

SCHEDULE:
2018-2019

SYSTEMS COMMISSIONED:

- Heating hot water systems
- Dual temp water systems
- Chilled water systems
- Make up air handling units
- Fan coil units (25% strategic sampling)
- Hydronic Piping Systems
- Air Distribution Systems
- Iconics SCADA (100% sampling)

COMMISSIONING SUCCESS:

A few of the higher priority issues identified and resolved include the following:

- System performance issues:
  - Kings Court and English House dual temp systems were pumping frequently at 100% speed and not maintaining initial balanced differential pressure set points over various systems loads with outside air temperatures below 60° to above 95°. The mechanical contractor resolved this by correcting pipe risers that were piped backwards.
  - Kings Court and English House dual temperature systems and Kings Court glycol CHW system were not maintaining 47°F temperature set point over various loads with outside air temperatures below 60° to above 95°. The mechanical contractor corrected the CHW system flow checks to resolve the issues.
  - Make-up air handling units MUA-1,2,3 cooling performance were not meeting scheduled performance data due to associated glycol chilled water system performance issues. Check valve repairs were made by the mechanical contractor to address the issues.
- Final ATC controls were a work in progress at the time of testing which was later corrected and verified.
- Balancing integration of system set points and optimization of set points for accurate energy efficient system control.

UNIVERSITY OF PENNSYLVANIA
ROSENTHAL BUILDING CENTURY BOND HVAC UPGRADES

LOCATION:
Philadelphia, PA

GROSS SQUARE FEET:
60,000

CONSTRUCTION COST:
18.9 Million

CX SERVICES:
HVAC and ATC Systems
Design phase (early involvement)
Construction phase
Occupancy phase
Post-occupancy warranty phase

CONTACT:
Chris Gallagher, Project Manager
215-898-2938

SCHEDULE:
2019-In progress

The Gladys H. Rosenthal Building of the School of Veterinary Medicine houses research laboratories and academic facilities. The building systems had reached their useful life and were replaced by this Century Bond funded project. The project included the installation of new air handlers, variable air volume, and new electrical distribution. A cost analysis of the commissioning functional testing issues yielded a conservative estimate of $49,000 cost avoidance savings.

COMMISSIONING SUCCESS:

The functional performance testing acceptance phase of the HVAC systems identified over 160 issues. The higher priority issues found and resolved via commissioning meetings and team collaboration and resolution include the following:

- ERU-1 enthalpy wheel leakage, roof ductwork leakage and floor distribution ductwork leakage was discovered during the balancing and commissioning process and impacting laboratory airflow and pressurization control. Ductwork leakage impacting lab airflow and pressurization control
- ATC graphics related issues mostly concerned mapping of ATC points to OCC SCADA and temperatures not being maintained within dead band of set points.
- Reheat coil heating issues were discovered on a small percentage of reheat coils mostly a result of clogged strainers or low flow.
- Existing chilled water system issues were discovered with existing sensors and set points required to serve Ryan, Rosenthal, and Old Vet Quad chilled water loads.
- Several hot water system flow switches were either installed in the supply piping that caused issues with readings switching from ‘Flow’ to ‘No Flow’ and others or did not read correctly consistently.
- After ductwork rough-in completed, Lab Room 150, adjacent to and served by Phoenix valves in room 149, was observed without exhaust airflow service for this BSL2 lab.

B. PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING

Aramark understands that the Department of General Services wishes to upgrade the existing HVAC systems at the North Central Secure Treatment Unit at Danville Hospital. The HVAC systems in the Reed Building and Green Building have reached end of life and are currently failing. The project consists of replacing the aged and failing equipment in both buildings. In addition, the project goals are to improve energy efficiency; provide system redundancy; improve environmental control, safety, and comfort; and improve serviceability of the systems. There are also upgrades to the domestic hot water heating systems, fire alarm system, and fire protection sprinkler additions that will be verified during the commissioning process.

This project consists of two existing two-story buildings on the Danville State Hospital grounds located at 200 State Hospital Drive, Danville, Montour County, PA. The project schedule notes commissioning onboarding in March 2023, Construction Documentation submission in April 2023. Construction is slated to start in October 2023 and finish in May 2024.

PROJECT APPROACH

It is evident that in order to truly assist in the short- and long-term success of this project, our commissioning plan requires a unique and varied blend of technical, operational, and engineering expertise. The challenges involved in the construction of this project focus around:

1. Project schedule
2. Complex building systems
3. Increased integration of systems and components
4. MEP technical expertise
5. Project turnover and operations expectations

We are familiar with these significant challenges through our extensive commissioning, operations backgrounds, and experience with capital and operation teams. Our focus is to “bridge the gap” between the construction teams, design teams, project management, and operations groups. Our solution to these challenges is to develop and integrate a unique commissioning program that will provide collaboration between teams, verify that the design intent (installation and performance) is met, establish parameters for acceptance of the construction/end users, and integrate turnover/operations smoothly and effectively.

A summary of the solutions are outlined in the following bullets.

- Creating partnerships and leading collaboration within the project and construction teams
- Providing “on-site” representation to focus and coordinate the commissioning efforts
- Coordinating and integrating teams of professionals in supporting corrective actions
- Establishing parameters and testing requirements for system acceptance as opposed to component acceptance
- Exercising the systems throughout operating ranges, safety, and emergency conditions

Aramark will develop a program specifically geared towards the North Central Secure Treatment Unit project. Aramark will work directly for the PADGS and provide an unbiased, objective view of the systems installation, operation, and performance. As part of the owner's building systems commissioning process, Aramark will cooperate with and coordinate all commissioning activities with the project manager, design professionals, construction manager, and contractors. This process is not to take away or reduce the responsibility of the design team or installing contractors, but to provide a finished and fully operational product in accordance with design intent.

Our scope of services consists of the following focused efforts:

PROFESSIONAL COMMISSIONING SERVICES – PHASED APPROACH

DESIGN PHASE

With construction documentation in progress and submission scheduled for 4/27/23, design phase tasks are limited to compiling documentation as noted. The commissioning team leader will develop, organize, implement, observe, document, and lead the commissioning effort in a manner that furthers the success of the project. This effort will not only minimize the impact on project schedule, but also promote efficient system startup and turnover. A summary of activities in this phase consists of:

A. **Owner's Project Requirements (OPR)** – Working with DGS Project Manager and the Client Agency Facilities maintenance staff to document the design decisions that were made for the project and reason. This will include the project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information. Provide descriptions of the following: a.) primary purpose of project, b.) environmental and sustainable goals, c.) energy efficiency goals, d) indoor environmental quality requirements, e) desired equipment/ system quality, reliability, and maintenance requirements, f) facility operation and maintenance requirements, f) facility operation and maintenance requirements including requisite personnel training and orientation.

B. **Commissioning Plan (Cx Plan)** – Provide written document that outlines the overall process, organization, responsibilities, schedule, allocation of resources, and documentation requirements of the Commissioning Process to verify and document that the design, construction, and operation of the facility meet the Owner's Project Requirements (OPR).

C. **Design Review** - Provide a review and comments of the Professional's current set and construction document set. Also review and provide comments on professional's specifications.

D. **Commissioning Specifications** – Provide Commissioning Specifications for all systems/assemblies being commissioned for inclusion within the Project Construction Documents.

CONSTRUCTION PHASE

A pivotal aspect of our commissioning program is enabling team reviews and inspections of the systems in their area of expertise (i.e., mechanical, electrical, and plumbing). Deficiencies and outstanding issues are documented in the commissioning database. The intent of the database is to generate a comprehensive list for the project manager to distribute to the design and construction teams for response and action. Subsequent to each focused inspection, a progress report will be issued detailing the deficiencies, resolution actions, and status of each item. We will maintain a current status for each item on the deficiency list as well as document the resolution actions in the final report. The commissioning team leader will act as the point person and bring up

issues to the construction and design teams. The focus of the construction installation phase will include the following:

a. **Submittal Review** – Identify and review Contractor (CxA firm) submittals applicable to systems/assemblies being commissioned. Identify issues that might result in rework or change orders. Verify the following: a) conformance with Owner's Project Requirements (OPR) and Basis of Design (BOD), b) achievement of operations and maintenance requirements, c) enablement of performance testing. All submittal reviews and correspondence must take place in eBuilder.

b. **Job Construction Meetings** – CxA shall attend regular job construction meetings as necessary to ensure the systems are properly installed, operated, and tested, and are functioning correctly to meet the design intent.

c. **Commissioning Meetings** – CxA shall hold regularly scheduled jobsite Commissioning Meetings with all project stakeholders to review important aspects of equipment, HVAC systems, Plumbing System, Protective Systems, Building Assembly, and Controls System installation. Review and document necessary installation details, system testing procedures, and documentation requirements. Keep meeting minutes and include in the Cx Report.

d. **Construction Observation and Testing** – Verify that the performance of the systems/assemblies being commissioned, as installed, meet the Owner's Project Requirements (OPR), Sustainability Criteria, and Contract Documents. Furnish test procedures and checklists prior to equipment installation. Produce a Pre-functional test procedure for each test. Test procedures shall list the entities responsible for executing each test. Provide installation inspections. Direct, witness, and document tests. Evaluate test results and verify that installed systems/assemblies meet the criteria for the Project.

e. **Issues and Resolution Log** – Develop Issues Log containing open and continuing items, status, and name of person/organization responsible for resolution. Provide a spreadsheet listing all components to be commissioned, identified by unique tag name, and status of the related Cx activities.

f. **Systems Manual** – During the design and construction of the project, the design and construction documents should be assembled into the systems manual. This assembly of documents provides the details and history of the design and construction of the building and information needed to properly operate the building. The systems manual includes the project final OPR, construction record documents, submittals, completed startup, verification checklists, functional and performance checklists, verified sequence of operation, facility guide, training records, and commissioning report. The systems manual should be used in the initial and subsequent training of the building operations staff and occupants. The systems manual should be updated throughout the life of the building.

g. **Pre-Functional and Functional Performance Testing –** Confirm (but not necessarily witness) manufacturer's startup of individual equipment components (Pre-Functional Performance Testing). Write, direct completion of, witness, and document full Functional Performance Testing of each system and system component. Confirm proper operation of all control sequences for each season operation. Document in Cx Report.

h. **Training Plans and Records** – Review, pre-approve, and verify training of the Client Agency personnel by the Contractor (CxA firm), to operate and maintain systems/assemblies being commissioned. Include training plan, training materials, and records in final Systems Manual.

i. **End of Warranty Cx** Report – Provide post-occupancy operation commissioning, including incomplete, delayed, and seasonal testing, as well as warranty issues. Post-occupancy operations shall begin at Substantial Completion and shall continue through to the end of the warranty period.

j. **Preliminary and Final Cx Report** – A preliminary commissioning report should be prepared that shows the commissioning progress and equipment performance to date at the time the Certificate of Occupancy is issued. At the completion of the project the final commissioning report should be

assembled and provided to the owner and others as required by the OPR and local jurisdiction requirements. This report includes the final commissioning plan, copy of design and submittal review reports, all startup, inspection, verification, functional and performance test forms and reports, the verified sequence of operation, the final Issues and Resolutions log, and summary of the performance of commissioned systems.

SYSTEMS TO BE COMMISSIONED

- Building Assembly Systems including Roof Assemblies.
- Protective Systems including Fire Suppression and electronic Fire Alarm Systems.
- Plumbing Systems including Domestic Hot Water Systems.
- Heating, Ventilating, Air Conditioning, and Refrigeration Systems (HVAC) including Exhaust Fans, Heat Generation, Refrigeration, Ventilation, and HVAC Control Systems.
- Temperature Control System.

C. GEOGRAPHIC LOCATION

Sean McCarty is located in Harleysville, PA which is only 120 miles from Danville. Travel time will not be required for reimbursement as travel will be performed on the employee's time.

D. PROJECT WORK PLAN

I. Schedule of Milestones

DESIGN REVIEW PHASE – MARCH THROUGH APRIL 2023

- Review Owner's Project Requirements (OPR); provide retrospective OPR
- Develop and provide the Cx Plan
- Provide design review and comments
- Develop and provide Cx specs for all systems/assemblies being commissioned.

CONSTRUCTION PHASE – MAY 2023 THROUGH MAY 2024

- Perform submittals review
- Conduct Cx kick-off meeting with contractors
- Attend construction meetings as needed
- Hold regular commissioning meetings
- Develop pre-functional test forms and provide to contractors
- Conduct construction observation and testing
- Develop and maintain issues and resolution log
- Witness start-up of Cx systems
- Perform functional performance testing of Cx systems
- Conduct Cx meetings as needed
- Develop and deliver Systems Manual
- Review, pre-approve and verity training of personnel
- Develop Preliminary Cx Report

ACCEPTANCE PHASE – MAY 2024 THROUGH MARCH 2025

- Develop End of Warranty Cx report
- Develop Final Cx report

II. **Indicate all resources need to complete the assignment including staff assignments, consultants, and reimbursements**.

Aramark will perform all commissioning activities with its own personnel. Staff assignments are indicated in the organizational chart. Reimbursements will be submitted for mileage only which is detailed in Section C above.

III. **Note inefficiencies or risks to successful implementation, and any planning efforts to mitigate issues such as travel distance, schedule conflicts and required coordination.**

Aramark has no scheduling conflicts associated with performing the commissioning requirements of this project.

IV. **Indicate the anticipated number of hours required for completion of the work described in the Scope of Work (Attachment A).**

Design Phase: 22

Construction Phase: 296

E. PROJECT PERSONNEL AND QUALIFICATIONS

All of Aramark's engagements rely on our experienced professional staff to function as the catalyst for the success of the overall program. Our staffing strategy for managing this relationship expertly and efficiently is straightforward:

- Provide PADGS with a qualified commissioning agent to lead the overall program and serve as the primary contact person.
- Support PADGS with a core technical team comprised of individuals with the requisite technical experience and skill sets.
- Provide experienced "quality assurance" resources to verify that the highest level of quality services is provided.

The success of our approach has always been the quality and consistency of our senior leadership as well as the professionals that comprise the core technical team. The organizational chart illustrates the proposed team for this engagement. Biographies including experience with similar projects as well as overall expertise are included on the next pages.

Although the proposed staff will have primary responsibility for the proposed engagement, any of the more than 100 technical professionals within the Engineering Solutions group will be made available to PADGS if their skills, expertise, and/or availability will add incremental value to this engagement.

Aramark's Engineering Solutions group consists of more than 100 technical professionals including: Professional Engineers (PE) Certified Commissioning Professionals (CCP), LEED Accredited Professionals (LEED AP) and other technical designations.

19 Professional Engineers (PE)

12 LEED® Accredited Professionals (LEED AP)

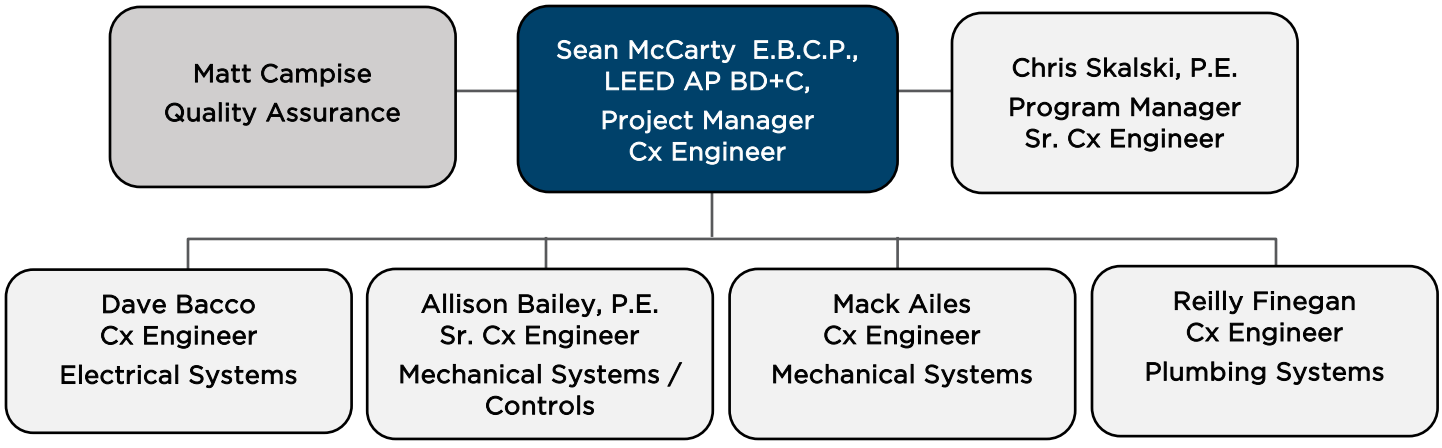
19 Certified Energy Managers (CEM)

4 Certified Measurement Verification Professionals (CMVP)

2 Registered Architects (RA) / NCARB

2 Commissioning Process Management Professionals (CPMP)

1 Certified Existing Cx Professional (EBCP)



SEAN MCCARTY, M.S.M.E., E.B.C.P., LEED AP BD+C

Cx Engineer

- 7.0 Million GSF Commissioned
- 35 Projects
- University of Alabama Master of Science Mechanical Engineering
- University of Alabama Bachelor of Science Mechanical Engineering

Mr. McCarty has 14 years of energy management and building commissioning experience. Currently working in the North Atlantic region as a Project Manager, he has been involved in all aspects of commissioning from new building commissioning MEP design review to retro-commissioning energy analysis. As a preferred project manager for some of our top clientele, he is capable of providing the services needed to present a result that exceeds expectations.

Sean is slated as the Project Manager for this project. His primary responsibility as project manager is to ensure that all of the commissioning tasks as described within this response are completed. Sean will lead the design team as well as provide mechanical input.

CHRIS SKALSKI, P.E., LEED AP, C.P.M.P.

Cx Senior Engineer

- 8.0 Million GSF Commissioned
- 60 Commissioning Projects (Project Manager)
- 20 Commissioning Projects (Cx Agent)
- University of Pennsylvania Bachelor of Science Mechanical Engineering
- Bloomsburg University Bachelor of Arts Physics

Mr. Skalski is a Professional Engineer and LEED Accredited Professional with 18 years of experience as a building commissioning agent, including extensive experience in HVAC and plumbing systems design, building automation, and DDC systems.

On behalf of Aramark, Mr. Skalski is the commissioning team leader for several of Aramark's higher education clients. His responsibilities include engineering design reviews, installation quality assurance, pre-functional/performance testing, initiation of corrective actions, and operator training.

Chris is proposed in a support role and will create the functional test forms, perform mechanical static inspections, and assist with functional testing of the mechanical systems.

MATTHEW CAMPISE

Director

- 30 Million GSF Commissioned
- 70 Commissioning Projects (Project Manager)
- Washington and Jefferson College Bachelor of Arts Chemistry

Mr. Campise possesses more than 31 years of experience in building automation controls and commissioning and has been with Aramark for 14 years. Mr. Campise is the Director of Commissioning and oversees the commissioning program. He has been with Aramark for nearly 19 years.

Matt serves as the Relationship Manager to our larger clients within the state including Penn State University, University of Pennsylvania, UPMC, and Allegheny Health Network. He also serves directly as project manager for several projects at Penn State Health and has completed commissioning for over 10 projects for this client in the past four years.

Matt will be primarily responsible for quality control as well as major issue resolution on this project.

DAVID BACCO, E.I.T.
Cx Engineer

- 5.3 Million GSF Commissioned
- 250 Commissioning Projects (Electrical Lead)
- University of Pittsburgh Bachelor of Science Electrical Engineering

Mr. Bacco possesses more than 27 years of electrical building design, project management, evaluations, and engineering experience. Currently, Dave supports all electrical commissioning programs throughout the region and has performed the same duties on all of the reference projects listed within this proposal. Many of the issues he presents in design review comments and static inspections are of the highest return on investments for our clients.

Dave is proposed in a support role for the project. He will conduct design reviews of electrical systems, design the pre-functional and functional test forms for electrical systems, conduct electrical static inspections, and perform the electrical systems functional testing. Dave will also witness the emergency generator and automatic transfer switch testing.

ALLISON BAILEY, P.E.
Cx Senior Engineer

- 10 Million GSF Commissioned
- 55 Commissioning Projects (Project Manager)
- Ohio State University Bachelor of Science Mechanical Engineering
- Professional Engineer (KY, OH, and WV)

Ms. Bailey possesses more than 24 years of experience in HVAC design, DDC control programming, HVAC system troubleshooting, project management, and project coordination.

Currently, Allison supports commissioning programs throughout the region and is involved in all design reviews as the design lead and mechanical systems reviewer. She is also project manager for several projects at Baylor University and has recently completed, as project manager, our largest commissioning project at the South Halls Residence Facilities for Ohio State University.

Allison is proposed in a support role and will lead the design review team, provide design reviews of HVAC systems, review mechanical submittals, and design the pre-functional test forms for HVAC systems.

MACKENZIE AILES
Cx Engineer

- 1.8 Million GSF Commissioned
- 37 Commissioning Projects
- Penn State University Bachelor of Science Mechanical Engineering

Mr. Ailes is a Commissioning Manager, providing building commissioning services to various projects and clients in the Northeast Region.

Current projects include the DGS Kutztown University DeFrancesco Education Building Renovation, Penn State University Hazleton Campus Library Renewal, several projects on the campus of University of Pennsylvania, and projects with the Allegheny Health Network.

Mackenzie is proposed in a support role for the project and will conduct static inspections and perform functional testing for mechanical systems.

REILLY FINEGAN
Cx Engineer

- 6 Commissioning Projects
- Drexel University Bachelor of Science Mechanical Engineering Concentrations in Aerospace and Energy

Ms. Finegan is a mechanical engineer and a Commissioning Manager for Aramark Engineering Solutions where she provides building commissioning services to various projects and clients in the Northeast Region. Currently, she is providing support at the University of Pennsylvania on multiple projects and Nemours Children's Hospital.

Reilly is proposed in a support role for the project and will assist with functional testing for mechanical systems.