The University of North Carolina at Charlotte

Planning, Design & Construction

2nd Floor - Facilities Management

9151 Cameron Blvd..

Charlotte, N.C. 28223-0001

TEL: 704-687-0615

**PROJECT**: **UNC Charlotte  
 Duke HVAC & Controls  
 Code 42126 Item 322**

***Commissioning Services***

Thank you for your interest in the subject project. This information is being provided to all firms which express an interest in the commissioning of the project(s). Limit the size of your submittal document to no greater than forty (40) pages (20 pages when printing double sided), 12½ inches in height and 9½ inches in width. Submittals are due in this office by 2:00 p.m., August 25, 2023. **Do not transmit any submittal information via email.**

The University is seeking a Commissioning agent which is capable of reviewing design documents, preparing commissioning specifications and inspecting constructed facilities to ensure proper Mechanical, Electrical, and Plumbing (as needed for each project) commissioning of the facility described in the attachment. The selected firm will coordinate commissioning efforts with the project design engineer.

Submittals are to include the attached cover sheet, standard 330 Form, Commissioning Project Experience Listing form, along with any additional information considered appropriate. Please deliver one (1) hard copy of the submittal to my office at the address noted above along with one (1) digital submission (thumb-drive). Commissioning Project Experience Listing form in Excel format is available on request from [Wfinley@charlotte.edu](mailto:Wfinley@charlotte.edu)

All submittals will be reviewed by the University Commissioner Evaluation Committee. The preliminary evaluation will be conducted in early September 2023. Firms selected (and those not selected) for interviews will be notified at that time.

Please deliver all submittals to me at the address written above.

Sincerely,

William Finley

Project Manager

The University of North Carolina at Charlotte

**Duke HVAC & Controls**

Building Commissioning Services

**PROJECT DESCRIPTION:**

**Duke HVAC & Controls will include** upgrading the existing LON network to BACnet, replacing all of the existing obsolete Xenta VAV terminal controllers with new controllers. Replacing the building TCV valves and all remaining pneumatic actuators with DDC, low-voltage actuators, upgrading the controls for the main building AHU along with two air handling units in the Motor Sports Lab building and any other remaining fan coil units in the main building. Any remaining LON devices with BACnet, as well and any Modbus communicating meters to Schneider AS-P**.**

**SCOPE OF SERVICES**

The Commissioning Authority (CxA) will serve as the University’s agent to commission all identified components in the Project. The CxA is not responsible for design concept, design criteria, compliance with codes, design or general construction scheduling, cost estimating, or construction management. The CxA may assist with problem solving or resolving non-conformance or deficiencies, but ultimately that responsibility resides with the construction manager and the engineering design team. The primary role of the CxA shall be to develop and coordinate the execution of a Commissioning Plan; observe and document the installation, checkout, start-up, and equipment and system testing to establish that equipment and systems are functioning in accordance with the requirements of the Contract Documents; and to assist in developing correct and complete documentation of the construction effort. **The CxA shall utilize a web application for managing the commissioning documentation associated with the project. A dedicated project site will be established, and this web application will provide real time data and a single interface for all project team members to share information and collaborate effectively.**

**COMMISSIONING TASKS**

The following tasks will be accomplished by the CxA to provide Commissioning during the design, construction and acceptance phases of the project

**A. Design Phase**

The CxA shall review and provide comments of the Construction Documents (95% design stage).

**B. Construction Phase**

During the Construction Phase, the CxA will monitor construction progress to ensure that established commissioning objectives will be achieved. The CxA shall provide the following tasks during the construction phase:

* Conduct a Pre-construction Commissioning Meeting to review Commissioning scope, plan, and schedule with the Designer’s architect and engineering team, Construction Manager, Site Superintendents, and Project Managers and Superintendents of applicable subcontractors. Applicable subcontractors must include mechanical, electrical and plumbing.
* Coordinate the Commissioning work and, with the Construction Manager (CM), ensure that Commissioning activities are being scheduled into the Contractor’s Project Schedule.
* Review Bulletin Drawings and Shop Drawings and inform University in situations where Commissioning Objectives are at risk.
* Attend Designer’s Monthly Project Progress Meetings and address major issues which impact successful commissioning.
* Continue to update Commissioning Schedule and coordination throughout construction with CM and subcontractors.
* Continually update and modify Commissioning Plan based on actual construction and installed equipment, and distribute to University, Design Team and CM.
* Prepare final pre-functional and final functional test procedures for the equipment and systems.
* Review and approve TAB Execution Plan.
* Maintain a Construction Variance and Deficiency Log of any items observed to be a problem, poorly installed, or discrepancies.
* Verify accessibility and maintainability of all operable equipment with emphasis on equipment mounted in the ceiling.
* Witness and verify the engineering approved AHU, CW and HW systems sequence of operations.
* Witness a sample of checkout, TAB, end-to-end testing, and calibration of controls.
* Observe first Pre-functional Test of each type of system, including mechanical, controls, electrical, and specialty systems.

**C. Acceptance Phase**

Commissioning during the Acceptance Phase is required to demonstrate that performance of the installed equipment and systems meet the requirements of the Contract Documents and Commissioning Plan. The CxA shall complete the following tasks during the Acceptance Phase:

**EXPECTATIONS OF THE COMMISSIONING TEAM**

Members of the Commissioning Team must be capable of listening, comprehending and responding to University leaders who will give both general and specific guidance for desired project parameters. The team must have a principal-in-charge that is a Professional Engineer in the State of North Carolina, with other Engineers as appropriate that are also registered Engineers. Project managers, lead field Engineers, and field support staff may be non-Engineers who have the technical training, past field experience and skill in Commissioning, especially in the areas of TAB, HVAC operations, DDC systems and electrical system operations. The required expertise for this project must be part of the skill and experience set of the firm making the proposal. It is the university’s desire that the Commissioning Authority (CxA) satisfy as many of the following preferences as possible:

1. It is desirable that the CxA will have acted as the principal CxA for multiple projects and as principal CxA for a project of a similar type facility as the Project at hand.

2. The Commissioning team members should have extensive experience in:

1. operation and troubleshooting of HVAC systems,
2. direct digital control (DDC) systems,
3. testing, adjusting, and balancing (TAB) of HVAC systems. Extensive (minimum of five years)
4. field experience is required for this type of work and systems.
5. Demonstrate experience commissioning systems in an occupied building.
6. Experience with HVAC, BAS control systems.

3. Team members have knowledge and experience in building operations and maintenance, and have provided O & M training.

4. Team members have experience in energy-efficient systems design, and control strategy  
optimization.

5. Team members have experience writing commissioning specifications and test procedures.

SCHEDULE:

This project is currently in design and are schedule to be completed in 2024

This sheet is to be the cover sheet for the submittal. If the submittal is bound in a binder, this will be the top sheet visible upon opening the binder cover.

**SUBMITTAL COVER SHEET**

**COMMISSIONING SERVICES**

**Atkins AHU 3 Repair and Duke HVAC & Controls**

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Commissioning/Engineering Firm Engineer of Record