

North Carolina State University
Campus Wide Building Automation System Master Plan and Upgrade
Project Summary
2/13/16

Project Description:

NC State Facilities Division manages the building system engineering and operations for 15 Million GSF of facilities located on North, Central, South, and Centennial, campus precincts in Raleigh, NC. This effort includes procurement and efficient use of the \$32 Million annual utility budget. With continued stress on operating budgets, the University is committed to efforts to reduce energy consumption and improve energy efficiency on campus consistent with the needs for a safe, secure, and inviting campus community.

Over the course of many years of continued growth, implementing the latest engineered building systems, the University has accumulated variety of building mechanical and electrical systems. At present, these systems operate independently of each other and the central utility system.

In 2006 the University commissioned an effort to assess the multiple level of systems and functions related to building operation, maintenance and energy utilization. The study anchored around the gathering, manipulation and utilization of information between buildings and central utilities. The study initiated efforts to enhance overall campus operation through networking of SCADA systems to monitor and manage energy consumption.

As the University continues to grow and develop a “smart grid” utility infrastructure a new assessment is needed and a focus on implementation of a “smart building” as a component of the smart grid will be charged. Buildings are the largest energy consumers at NC State, which make them a focal point for conservation.

The purpose of this project is to continue to build on SCADA integration efforts providing for enhanced communication and energy management both within building systems and within a smart grid network. This project will include multiple phases of construction completed as funding becomes available. A qualified professional consultant specialized in SCADA networking, energy management, and building automation system design will lead the first phase of the project, advanced planning. The project team will include preferred BAS vendors and members of the Facilities Division Energy Systems Department to assist in developing priorities and assist in project packaging to maximize available funding sources.

Project Scope:

This project will develop a master plan for continued growth and implementation of smart grid solutions. Specific focus on will be placed on upgrading various building automation systems on campus to provide for an integrated network of intelligent building systems that provide managers and engineers the data necessary to make strategic operating decisions within a “Smart Grid Network”. Future phases of this project will focus on implementation of recommended BAS upgrades to include such items as software upgrades, local/network controller replacement, sequence modifications, and IT compatibility requirements to meet operational improvements and energy reduction efforts.

Project Budget:

The current budget of \$200,000 will complete Master Planning. Additional funding will be added to complete additional project phases defined by the advanced planning effort.

Project Site:

The project is located on North, South, Central and Centennial Campus.

Pre-Submittal Meeting

A Pre-submittal Meeting will be held on **February 23rd, 2017** at **3:00** in NC State University Administrative Services III Building Room 101, 2701 Sullivan Drive. Attendance is not mandatory but highly encouraged.

Project Schedule

Master Planning Efforts Complete – October 2017

Design Process

The selected firm will work through the North Carolina State University Office of the University Architect with a building committee that includes user representatives. The process will include normal involvement of the State Construction Office.

Critical Selection Factors

Interested firms can participate in the process by submitting a current SF 330 form and addressing the following in a written proposal. Please note that one hard copy and one electronic copy (CD/DVD/USB Flash Drive) of the proposal is requested. Most of the criteria listed below can be accommodated in sections A-G of the 330 form. Section H can be used for any additional information. The total submittal, including letter of interest, is limited to 26 sheets of paper. Both sides of the sheet may be used for a total of 52 pages. Firms are requested to assure receipt of proposals at address listed below by **5:00 p.m. on March 9th, 2017**.

1. Experience and expertise with similar projects.
2. Past performance on similar projects.
3. Experience in design projects to be part of an existing campus context.
4. Adequate staff and proposed consultant team – qualifications and examples of previous collaborations.
5. Historically Underutilized Business representation in proposed consultant team
6. Current workload and State projects awarded.
7. Proposed design approach or methodology.
8. Recent experience with project cost estimates and schedule adherence.
9. Construction administration capabilities.
10. Record of successfully completed projects without major legal or technical problems.
11. A minimum of three references with current contact information.
12. Other (if there is other)

Designer Selection Process

Following the receipt of proposals, a University Interview Committee, appointed by the Secretary to the University Board of Trustees' Building and Property Committee, will shortlist, interview and make a recommendation of selection to the University Board of Trustees' Buildings and Property Committee.

Questions/Proposal Submittal

In order that the selection process be as objective as possible, do not contact members of the Board of Trustees, or any university officials other than the project manager. All questions and project submittals are to be directed to:

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