

**University of California,
Santa Barbara**



Request
for
Qualifications
for the:

**NORTH HALL DATA
CENTER**

Project Number:
981610

**CAMPUS DESIGN &
FACILITIES**

Office of Design &
Construction Services

April 2008



University of California, Santa Barbara
UCSB North Hall Data Center
Project Number: 981610

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Project Description

Qualifications are hereby solicited from design professionals interested in providing services for the design and construction of **UCSB North Hall Data Center**. The current projected construction budget is approximately \$6,000,000. The planned date for completion of construction is 2010.

Scope of Services

The University is exploring the use of traditional Design-Bid-Build as well as Design Build for the delivery of this project. The University will determine the delivery method when the RFP request is issued to selected consultants. The scope of required services will vary depending on the selected delivery method. The design documents will be derived from the program, which has been completed by UCSB Design & Construction Services.

Design teams should indicate their experience with each of these two delivery methods in their response to this RFQ.

Instructions for Application

Design teams with qualifications that include experience in the design of projects similar in scale and scope are encouraged to respond. A copy of the Statement of Qualifications (SOQ) form will be available May 6, 2008 on our home page: [http:// facilities.ucsb.edu](http://facilities.ucsb.edu) under section: Contracts and then Request for Qualifications or call Telli Foster at (805) 893-2661 x2408. Six (6) sets of the Qualifications must be returned to:

Telli Foster, Project Manager
Contracting Services
Facilities Management, Bldg. 439
University of California Santa Barbara
Santa Barbara, CA, 93106-1030

No later than 3:00 PM, Thursday, May 15, 2008

- **Affirmative Action Statement**

Each candidate firm will be required to show evidence of its equal employment opportunity policy. Every effort will be made to ensure that all persons, regardless of race, religion, sex, color, ethnicity and national origin have equal access to contracts and other business opportunities with the University.



Background

The University of California at Santa Barbara (UCSB) is planning to construct a new Research Data Center in an existing building (North Hall) on campus. The total area of the renovation is approximately 5,500 square feet - of which approximately 4,500 square feet will be dedicated to computing. This building currently houses campus network infrastructure, existing campus information systems equipment, and infrastructure supporting various departmental operations.

UCSB has made the decision to move forward by providing an integrated computing facility with an emphasis on high performance computing (HPC) for research. This new facility should consist of innovative cooling and airflow dynamics, expandable power/distribution, facility to server integrated management, all while being a redundant, reliable, and secure environment for housing academic, business and research computing.

Project Summary

This project entails renovation of an existing building (North Hall) to support academic, business and research computing equipment. Project design will be based on the Detailed Project Program (DPP) completed by the University. Disciplines required for the project include:

- Architect
- Civil Engineering
- Electrical Engineering
- Structural Engineering
- Graphic Design/Campus Signage
- Mechanical
- Security

The following Operational, Construction, Utility, Life Safety/Security, and General Project summaries are considered essential to the success of the project:

Operational Summary

- Overall, the design will approximate a Tier 2+ data center.
- Data Center will require availability seven days a week, 24 hours a day.
- The data center will often be unoccupied.
- The data center will have on-site emergency power consisting of a battery backed uninterruptible power systems and optional standby emergency generation with a minimum 72-hour fuel storage capacity. It will provide standby power over a long

weekend and be easily tailored for designated loads. A standby emergency generator is defined as a generator permanently installed at the UCSB data center site.

- The existing data center must remain operational during the expansion and construction of the new facility.
- UPS and generator power is not required to support all the computer loads installed in the Data Center. Research work requires approximately 5% support by load while administration and network require at least 100% UPS and generator support with N+1 in some cases.
- UCSB will explore the latest sustainable and low energy use technologies. Various manufacturers' high heat density solutions are to be considered. Applicability of "Sustainability by Design" should be evaluated and reported in the final design.
- The stated design load per server cabinet is 15+kW in the high heat density zone. It is currently proposed that there be two other lower density zones in the facility plan.

Construction Summary

- Growth, in terms of additional hardware, software, and/or facilities components, within the new facility must be accomplished with minimal impact on systems availability.
- The proposed facility should be constructed in phases through the application of scaleable infrastructure.
- Raised floor will be utilized for the entire new data center.
- A structured heat return plenum will be used for low and medium heat density zones.

Utility Summary

- UCSB will provide new racks and populate with new and existing equipment. The racking systems and associated technologies will be evaluated and integrated into the overall facility design.
- UCSB has purchased (2) 225kVA, UPS systems to be used at this site. Otherwise all major support equipment will be new.
- The campus electrical infrastructure can handle the proposed demand load. The existing 12 kV smart switch has the capability of providing 3.5 MW power to the building.
- Multiple power distribution buses within the facility will be required. At a minimum, there is a need for uninterruptible 3 phase AC and filtered utility 3 phase AC. Additional busses for AC and / or DC are possible.
- The existing campus chilled water loop has been extended to North Hall and will be utilized for primary cooling of the new data center. The current air-cooled chillers have been investigated for use as standby.
- The existing campus chilled water loop has "flywheel" thermal storage inherent in its design that could be utilized during a short-term chiller plant failure.
- In the event of an extended utility failure or other unforeseen anomalies, the facility management automation must be capable of executing preprogrammed scripts for a variety of automated shutdown scenarios.

- The location of the emergency generator outdoors is a concern due to noise, fumes and nearby housing. An enclosure would need to be designed and constructed if a generator is included in the project.

Life Safety and Security Summary

- Pre-action sprinklers are highly recommended by the University's Fire Marshall. The existing building has no fire sprinkler protection. UCSB requests that gaseous suppression systems be considered during the design process.
- High security and monitoring is required for the proposed data center.
- Interior lighting and security must be integrated into the facility management automation systems with comprehensive use of motion detection and cabinet access technologies.
- As an integrated computing facility, there is need for variably sized physical security zones (on a rows basis) that do not impact air distribution.
- Facility ingress/egress should be protected with programmable smart card and digital video logging.



Project Site Plan





Project Schedule

SOQ's Due at UCSB	May 16, 2008
Evaluation of SOQ's	Mid May 2008
Reference Checks & Develop Short List	Mid May 2008

The anticipated proposal schedule is tentative. The exact dates will be set forth in an "Announcement to Prequalified Proposers".

Issue Request For Proposal	Late May 2008
Campus Site Visit	Late May 2008
Consultant Interviews (tentative)-(all on one day)	Early June 2008
Selection Letter	Mid June 2008
Fee Negotiations	Early July 2008
Design Start (SD only)	August 2008
Construction Documents Start	January 2009
Bids	May 2009
Construction Start	June 2009
Project Complete	October 2010



Instructions to Applicants

1. Respond concisely to the Selection Criteria and complete the Statement of Qualifications Form. A list of projects of similar scope, complexity, and cost will be essential to a successful application. The Statement of Qualifications must be signed by a responsible member of the firm applying for the project.
2. Include supplementary information supporting qualifications (8 ½ x 11 format). Organization and brevity will be appreciated. Work submitted as an example of the design team's qualifications will be considered only to the extent it is similar to the proposed project. Additional information may be submitted demonstrating experience in programming, planning and design on university campuses. Identify the engineering team and consultants for all projects listed as examples of your firm's work. Provide information on proposed engineering staff and consultants for this project and an organization chart. Provide a list of previous projects the proposed team has participated in together.
3. Return to:
Telli Foster, Project Manager
Contracting Services
Facilities Management, Bldg. 439
University of California Santa Barbara
Santa Barbara, CA 93106-1030
4. Submit 6 (six) copies of all material bound into a single document.
5. Due Date: Friday, May 16, 2008, no later than 3:00PM.
6. Design teams with qualifications considered appropriate by the Screening Committee will be asked to submit detailed proposals for consideration by the Selection Committee.



Selection Criteria

1. ***Design ability.*** Ability as it can be evaluated by examination of the functional, technical, economic, and aesthetic qualities of projects done for the University or other clients.
2. ***Research potential.*** Capability to undertake appropriate research to resolve design problems specific to the needs of the program or project under consideration.
3. ***Program responsiveness.*** Previous experience that demonstrates success in completing projects consistent with program schedule, budget, and technical requirements, and that indicates the ability to complete the proposed project in a manner that is responsive to the specifics of the program.
4. ***Evaluation of engineering consultants proposed to be employed.*** Previous experience with special engineering requirements appropriate to the project under consideration with evidence or expression that appropriate consulting advice can be obtained as required.
5. ***Production capability.*** Evidence of ability to perform all design phases of the work, to produce construction documents of superior quality and to meet the completion schedule for each phase.
6. ***Coordination and supervision.*** Evidence of ability to provide experienced staff and timely support during the construction phase of the project.
7. ***Proximity.*** to the project location, willingness to establish a local office or an association with a local consulting firm.
8. ***Client relationships.*** Recognition of the consultative processes associated with work on a University Campus.
9. ***Equal Opportunity.*** The commitment of the University to equal opportunity applies to the selection of design professionals.



Privacy Notification

The state of California Information Practices Act of 1977 requires the University to provide the following information to individuals who are asked to supply information about themselves:

The principal purpose for requesting the information on this form is for use in the selection process for Design Professionals commissioned by the University. University Policy authorizes maintenance of this information.

Furnishing all information requested on this form is mandatory - failure to provide such information will delay or may even prevent completion of the action for which the form is being filled out. Information furnished on this form will be used by the Office of Design & Construction, Facilities Management, University of California at Santa Barbara in consideration of commissions to Design Professionals.

Individuals have the right to access to this record as it pertains to themselves.

The official responsible for maintaining the information contained on this form:

Contracting Services
Office of Design & Construction Services and
Physical Facilities
University of California, Santa Barbara
Building 439
Santa Barbara, California 93106-1030