An Audit Report on

Controls over Construction Project Management at Stephen F. Austin State University

July 2005

Report No. 05-038

John Keel, CPA
State Auditor

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Overall Conclusion

Stephen F. Austin State University's (University) controls over the management of construction projects reasonably ensure that the University (1) follows an appropriate process for identifying and selecting construction activities, (2) complies with statutes and rules when selecting construction service providers, and (3) completes projects on time and within budget.

While the University has adequate controls over the management of construction projects, there are opportunities to improve. Specifically, the University should:

- Improve its documentation of construction management activities and procedures.
- Conduct formal post-completion evaluations of major projects.

Background

To attract new students in light of decreasing enrollment, the University's strategic plans identified a significant need for physical campus improvements and upgrades.

The University's construction in progress increased from $16.3 million as of August 31, 2002, to $24.4 million as of August 31, 2004, a 50 percent increase. In fiscal year 2005, construction projects totaling more than $100 million were planned or underway, including a university center and adjacent garage, a student recreation center and two residence hall parking complexes.

State Auditor's Office
John Keel, CPA
State Auditor

This audit was conducted in accordance with Texas Government Code, Section 321.0132.

For more information regarding this report, please contact Dave Gerber, Audit Manager, or John Keel, State Auditor, at (512) 936-9500.

Detailed Results

Chapter 1

The University Has Adequate Controls over the Management of Construction Projects

Testing of three projects at Stephen F. Austin State University (University) showed that the University has adequate controls over the management of construction projects. The projects tested, which have combined approved budgets of $51.5 million, are as follows:

- New Residence Hall (Housing) (estimated to be completed December 31, 2005)
- Human Services/Telecommunications Building (completed January 15, 2004)
- University Center/Student Activity Center (estimated to be completed January 31, 2007)

Appendix 2 contains additional information on the construction project management process and the audited projects.

Management follows an appropriate process to identify and select construction activities and identifies future needs and trends when selecting projects. Testing of all three projects showed that the University president, vice-president, the Board of Regents (Board), and the Physical Plant Department are appropriately involved and give approvals when needed.

The University substantially complies with contracting statutes and rules when awarding contracts to construction service providers. The University has procedures in place to ensure that appropriate steps are taken when selecting service providers who will act in the best interest of the University. All projects tested were awarded through a bidding process that was performed in accordance with Texas Education Code criteria for competitive sealed proposals.

The University has controls to help ensure that it completes projects on time and within budget. On the one completed project examined, the University followed an appropriate system for reporting and communicating with the service provider. University personnel held monthly meetings and inspected the project appropriately to ensure that schedules were kept. The University has established an audit process to review contract payments prior to issuance of the final payment. This ensures that any overpayment or underpayment to the contractor is corrected before final payment is made.

As a result of the University's comprehensive controls, this project was $704,600 under budget, a savings of 8.4 percent, and was completed within two weeks of its original completion date. (See Chapter 2 for a discussion of the University's documentation of this delay.) The University used the Construction-Manager-At-Risk delivery method for this project. (See Appendix 3 for a description of different delivery methods.)

Chapter 2

While the University Has Adequate Controls over the Management of Construction Projects, There Are Opportunities to Improve

While the University has adequate controls over the management of its construction projects, opportunities exist for the University to improve. Improvement can be made in the documentation of selection decisions, negotiations, and change orders. In addition, a post-completion evaluation or review of projects would be beneficial to the University's future construction projects. Finally, the University should continue its efforts to compile a construction procedures manual.

Documentation of provider selection and fee negotiation. While audit testing did not identify irregularities in the University's processes for selecting providers and negotiating their fees, the University did not have documentation for some of these decisions. Without documentation, it is difficult for the University to demonstrate that its decision-making process complied with rules and regulations such as those regarding the evaluation of bidders on certain criteria. Section 51.779(c) of the Texas Education Code states that when evaluating bids and proposals for construction services, the "institution shall document the basis for selection and shall make the evaluations public."

By inadequately or not documenting activities and decisions like the ones described below, the University may leave itself open to criticism and accusations of favoritism in the award of contracts. Without documentation of the decision process, it is more difficult for management to demonstrate that they exercised due diligence in arriving at their recommendation. If the University is perceived to be favoring individual providers, qualified contractors may not bid, resulting in higher construction costs.

We identified the following examples of inadequate documentation:

- The University did not have documentation to explain why the Board did not select the highest-ranked bidder to be the architect/engineer for the Human Services/Telecommunications Building.

- On the University Center/Student Activity Center project, four finalists made oral presentations before the Board. Board minutes indicate only the final selection and provide no documentation of the basis for selection.

- The evaluators' individual evaluation forms regarding the University Center/Student Activity Center contractor proposals were not retained to allow testing of the fairness of the award.

- Documentation of fee negotiations with architects was not available on any of the three projects tested.

Documentation of change orders. The University should improve its documentation and approval of change orders and additional service requests. Such documentation helps ensure that changes undergo the appropriate review and approval and that the contract documents require that they be adequately approved and documented. The Human Services/Telecommunications Building files were missing the following required documentation:

- Change orders totaling $136,983

- Change orders or negotiations regarding the extension of the completion date or liquidated damages assessments (the project was completed 14 days after the contracted completion date)

- The physical plant director's approval of one additional service request from the primary architect regarding a subcontractor, and the physical plant director's formal signature on another

Formal post-completion evaluations. The University currently does not conduct formal post-completion evaluations. Such evaluations serve to determine whether a facility's design objectives were achieved and whether the facility is functioning as intended. A formal evaluation process can provide a written record of problems encountered and their resolution for use in planning future projects.

Documentation of construction management procedures. The Physical Plant Department has formal policies in place but has not developed detailed written procedures documenting the activities performed regularly by its personnel. New personnel currently learn through on-the-job training from more experienced staff. However, the Physical Plant Department anticipates that some employees in management positions will retire in the near future, increasing the importance of written procedures. This was also a finding in a University internal audit report issued in June 2003.

The University is aware of this issue and has already taken steps to resolve it. The University plans to complete documentation of the Physical Plant Department's procedures by August 31, 2005.

Recommendations

The University should:

- Consistently document the basis for selecting construction service providers as required by the Texas Education Code. Special attention should be paid to situations that vary from normal expectations, such as those in which the highest-ranked bidder is not selected.
- Improve its documentation of architects' fee negotiations.
- Ensure that it appropriately retains and approves required documentation for change orders and additional service requests. The University also should consider documenting reasons that contract terms are not strictly enforced to avoid future complications.
- Conduct post-completion reviews of projects. The reviews could be used to determine whether project objectives were met and could include cost, schedule completion time, methods, designs, problems encountered, and resolutions. The documented results could be used to form a permanent record that can be used to help ensure that problems are not repeated.
- Continue its efforts to document the Physical Plant Department's procedures.

Management's Response

The University concurs with the State Auditor's recommendations regarding documentation and procedures to improve management of construction projects at Stephen F. Austin State University. The recommendations will be phased in for projects in progress and fully implemented on future projects.

The responsible party for implementing corrective action is the Vice President of Business Affairs.

Appendices

Appendix 1

Objectives, Scope, and Methodology

Objectives

The project objectives were to determine whether existing construction oversight and controls for Stephen F. Austin State University (University) are sufficient to ensure that:

- The University followed an appropriate planning process to identify and select construction activities.
- The University followed contracting laws and regulations during the request-for-proposal/planning phase.
- Projects are completed on time and within budget and meet contract terms.

Scope

The scope of this review included selected projects at by the University that were completed within fiscal year 2004 or that were in process during fieldwork.

Methodology

To achieve these objectives, we:

- Interviewed University construction management personnel.
- Reviewed University policies and procedures.
- Compared University construction management processes with best practices, industry standards, and requirements in relevant laws and in University rules and regulations.
- Tested selected construction projects for compliance with relevant statutes, University rules and regulations, and the University's policies and procedures.

The specific criteria used consisted of the following:

- Texas Government Code, Title 10, Chapter 2166

- Texas Education Code, Title 3, Chapter 51, Subchapter T, Sections 51.776 through 51.784
- Texas Higher Education Coordinating Board rules
- *Rules and Regulations: Board of Regents, Stephen F. Austin State University*
- Policies and procedures of Stephen F. Austin State University

Project Information

This audit was conducted in accordance with generally accepted government auditing standards. Fieldwork was conducted from March to May 2005. The following members of the State Auditor's staff conducted the audit:

- Agnes Barnes, CPA (Project Manager)
- Jules Hunter, CPA (Assistant Project Manager)
- Shahpar Ali, CPA, JD
- Robert H. (Rob) Bollinger, CPA, CFE
- Michelle L. DeFrance, MA
- Michael Gieringer, MS-HCA
- Lorey Helford
- Carmelita S. Lacar, Ph.D.
- Fabienne Robin, MBA
- Charles P. Dunlap, Jr., CPA (Quality Control Reviewer)
- Dave Gerber, MBA, CISA (Audit Manager)

Appendix 2

Overview of the Construction Management Process and Information on the Audited Projects

Figure 1: Construction management process

The following illustrates the stages of the basic construction management process:

- Determine the need for a construction project
- Select project management team
- Define project objectives

- Select contract delivery method
- Select design team
- Draw up design
- Advertise for, collect, and evaluate proposals
- Award contract

- Document communication between contractor and management
- Oversee construction process through:
  - Regular inspections
  - Approval of vendors/ subcontractors, change orders, pay applications

- Establish documented and reasonable warranty period
- Perform walk-throughs
- Correct punch list items
- Perform final inspections
- Review closeout documents
- Perform final acceptance
- Make final payment
- Evaluate project

Table 1: Time line and financial information for the audited projects

Stephen F. Austin State University Budget, Project Costs, Completion Dates, and Funding Sources					
Project	Funding Source(s)	Approved Budget (in thousands of dollars)	Completed Cost (in thousands of dollars)	Original Completion Date	Actual/Estimated Completion Date (extended)
New Residence Hall (Housing)	Auxiliary Enterprise Revenue Bonds	$11,972.4	Not complete	December 31, 2005	December 31, 2005
Human Services/ Telecommunications Building	Tuition Revenue Bonds, Higher Education Assistance Funds	$8,325.8	$7,621.2 ($704.6 under budget)	January 1, 2004	January 15, 2004 (14 days)
University Center/ Student Activity Center	Student Fees, Other Revenue Bonds	$31,259.1	Not complete	January 31, 2007	January 31, 2007

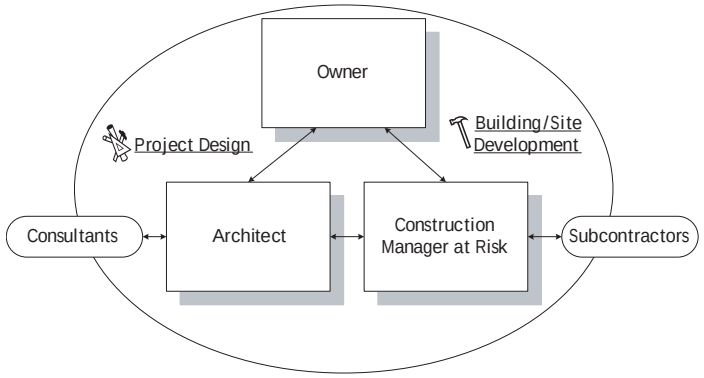
Descriptions of Construction Project Delivery Methods

The one completed project included in this audit was contracted using the Construction-Manager-At-Risk delivery method. According to the University, it prefers this method because of the partnering nature of its relationship with the providers. The University has also started to use the Design-Build delivery method to respond to certain needs. These two methods and others are described here.

Figure 1

Construction-Manager-At-Risk Method

Regulated by Section 51.782 of Texas Education Code.



Method fosters team approach between owner, A/E, and CM

- CM at risk selected based on quality rather than lower cost
- CM selected concurrently with A/E; allows CM to provide consultation during and after design of facility, enables faster delivery
- CM manages construction process and has contractual responsibility with all subcontractors

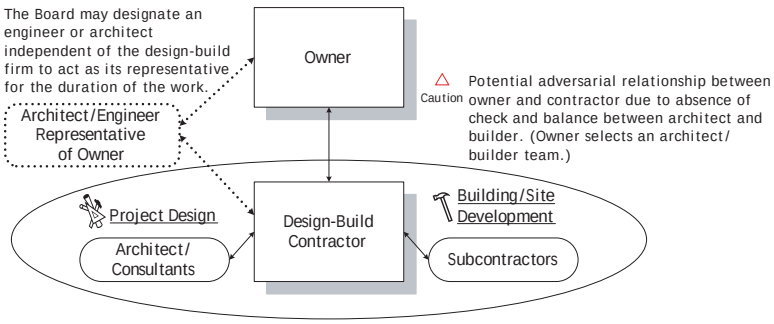
Source: Section 51.782 of Texas Education Code

Construction-Manager-At-Risk Method. Under this method, the owner contracts with the construction manager and the architect/engineer at the same time. This structure fosters teamwork between the three parties. Furthermore, the construction manager at risk is selected based on qualifications and best overall value to the University rather than on price alone. Through early selection and coordination with the architect, the design and construction phases can be overlapped to provide valuable constructability review during the design phase and enable faster project delivery. Checks and balances between the architect and builder are maintained, as they work for different companies. The construction manager manages the entire construction process and provides a single point of accountability for all subcontractors. (See Figure 1.)

Figure 2

Design-Build Method

Section 51.780 (1) of Texas Education Code defines a Design-build contract as a single contract with a design-build firm for the design and construction of a facility.



- The Board selects the design-build firm that offers the best value for the institution on the basis of selection criteria published in the Request for Qualifications
- A single point of accountability for design and construction activities
- Early contribution of contractors expertise in the process
- Fast project delivery

Source: Section 51.780 of Texas Education Code

Design-Build Method. When using this method, the owner contracts with a single design-build contractor. Some benefits of this approach are that the owner deals with a single point of contact for all construction and design-related work. Because the architect and builder are part of

the same team, the builder can contribute expertise earlier in the design process. Construction can start before the design phase is over, enabling a faster delivery of the project. The owner may designate an independent architect to act as its representative. This can reduce the potential of an adversarial relationship between the owner and the construction team by restoring the checks and balances that disappear when the designer and the contractor are not independent of each other. (See Figure 2.)

Competitive Sealed Proposals and Lowest Competitive Bid Methods. These two approaches are similar in that the architect/engineer is selected before the request for proposals is issued for contractors. However, under the Competitive Sealed Proposals method, the contractor is selected based on best value rather than on price alone, and the negotiation process may lead to contract terms and prices that are different from those originally submitted. In the Lowest Competitive Bid method, the selected contractor is generally the lowest responsible bidder, and the contract award is based on that lowest bid. This can create a potentially adversarial relationship between the architect and the builder if design intent is challenged by price cutting.

Construction Manager-Agent Method. The benefits of this approach are that the owner selects the construction manager-agent based on qualifications rather than on low bid. Early selection (made concurrently with the architect/engineer) may allow early involvement in the design process. The owner also retains the flexibility of selecting the architect/engineer, the construction manager, and all subcontractors. However, this may lead to higher project management costs for the owner as a result of dealing with multiple contractors. There is also no single point of accountability since the construction manager-agent is not contractually responsible for subcontractors.

Job Order Contracts Method. An institution may award job order contracts for the minor construction, repair, rehabilitation, or alteration of a facility if the work is of a recurring nature but the delivery times are indefinite and indefinite quantities and orders are awarded substantially on the basis of predescribed and prepriced tasks.

Copies of this report have been distributed to the following:

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