THE UNIVERSITY OF ARIZONA

Health Sciences Education Building, Finish Shell Space Construction Contract

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Health Sciences Education Building, Finish Shell Space

Summary

Our audit of the Health Sciences Education Building, Finish Shell Space (HSEB SS) construction contract was included in our approved Fiscal Year 2016 Audit Plan. The University of Arizona (UA) contracted for the HSEB SS tenant improvement project with a construction phase Guaranteed Maximum Price (GMP) of $9 million. Construction projects have been identified as strategic, high-risk areas for the universities. Charges to the project may not comply with the negotiated contract, resulting in overcharges and cost overruns.

Construction administration and project monitoring for UA is provided by Planning, Design and Construction (PD&C). Since 2009, we have completed nine audits of construction contracts administered by PD&C.

Background: HSEB is a 265,000-square foot building located on the Phoenix Biomedical Campus (PBC) at 7th Street and Van Buren. HSEB was completed in July 2012; however, 45,371 SF of shell space remained temporarily unfinished. Completion of the built-out space included a Lecture Hall on the 1st floor; an expanded Simulation Center, a new Learning Studio, and classroom space on the 3rd and 4th floors; and office and administrative support space on the 5th floor.

The HSEB construction project is part of the $376 million PBC, Phase II project. One request for qualifications (RFQ) was issued, and the contract was awarded to DPR/Sundt (A Joint Venture). The original contract and amendments included the following construction sub-projects:

- HSEB,
- Vivarium,
- Arizona Biomedical Collaborative II (ABC 2) building, and
- Phoenix Union High School Renovation.

Separate GMP and design documents were prepared for each sub-project. As the project progressed, the Phoenix Union High School Renovation was put on hold due to budget constraints. The ABC 2 building was funded and renamed the Biomedical Sciences Partnership Building. This project is currently under construction and will be substantially complete in December 2016 with occupancy in January 2017.

At its March 2013 meeting, the ABOR Business and Finance Committee granted Project Approval for $17.9 million for the HSEB SS project.[1] Funding was provided through the sale of Stimulus Plan for Economic and Educational Development (SPEED) revenue

[1] Approximately $8.8 million of the $17.9 million approved for the HSEB SS project was put on hold until NAU finalized plans for their space, leaving a total of $9.1 million for this phase of the project.

bonds, which are to be repaid 80% from State lottery proceeds and 20% from University funds.

The cost of the project was shared by UA and Northern Arizona University (NAU). Once needs were identified and costs estimated, the cost split between UA and NAU for tenant improvement of the shell space was based upon square footage costs on a floor-by-floor basis. Project costs were first calculated per floor and then divided based on square footage assigned to either NAU or UA. The split was then based upon percentage of total construction costs. The percentage was determined to be approximately 75.8% for UA (covered by this audit) and 24.2% for NAU. See table below for cost breakout.

GMP Description	UA	NAU	Total
Pre-Construction Phase Fee	$57,607	$33,833	$91,440
Construction Phase GMP	6,847,616	2,189,923	9,037,539
Total Pre-Construction and Construction GMP	**$6,905,223**	**$2,223,756**	**$9,128,979**

HSEB was built using the Construction Manager at Risk (CM@Risk) project delivery method, and the HSEB SS project was delivered through continuation of the CM@Risk originally selected for HSEB. The CM@Risk selected for HSEB was DPR/Sundt (A Joint Venture), hereinafter referred to as "DPR/Sundt." The contract with DPR/Sundt included pre-construction design-phase services as well as construction-phase management, including coordinating all subcontracted work.

The contract included an approved sub-contractor selection plan that allowed for Core Team Partners to be selected by a Quality Based Selection (QBS) process. This process eliminates the typical request for three subcontractor competitive bids. The QBS selection is based on a subcontractor's qualifications, which include: successful experience with the CM@Risk; successful experience with the UA, NAU, or the City of Phoenix; skill in providing early conceptual estimating and value design options; and financial strength.

The following table lists the top five subcontractors by subcontract dollar amount. One of the five, DPR Drywall, was awarded lump sum subcontracts, as stipulated in the contract, for self-performed work.

Trades Description	Subcontractor	Original GMP Amount	Net Adjustments	Final GMP Amount
Mechanical	UMEC, Inc.	$1,379,309	$207,425	$1,586,734
Finishes	DPR Drywall	$1,295,022	$152,126	$1,447,148
Electrical	Cannon & Wendt	$1,261,324	($34,346)	$1,226,978
Finishes	Barrett-Homes	$587,194	$26,596	$613,790
Openings	Walters & Wolf	$447,140	$80,215	$527,355

The Notice to Proceed was issued December 23, 2013, and construction work began in January 2014. The contract called for substantial completion by June 30, 2014. PD&C is satisfied with the quality of the work and that the contractor completed work during the required timeframe, issuing a Certificate of Substantial Completion dated July 1, 2014.

Audit Objectives: To determine whether financial transactions relating to construction activity for the HSEB SS project complied with the terms of the contract, including whether:

- contractor billings were adequately supported by actual costs or subcontractor estimates, plus overhead, profit, and fees as specified by the construction contract;
- general conditions expenses were charged to the project in accordance with contract provisions;
- contingency funds were managed in accordance with contract requirements;
- *Change Orders* were priced according to the contract terms and were properly approved;[2]
- the CM@Risk provided the contracted scope of work;
- insurance coverage during construction was in compliance with the terms of the contract;
- quality assurance and control procedures were implemented in accordance with the contract terms; and
- opportunities for process improvements exist.

Scope: Our audit of the HSEB SS project included all construction-phase expenses incurred by DPR/Sundt from the start of the contract in December 2013 through August 2015, the last pay application processed prior to commencement of the audit.

We relied on PD&C's expertise for the construction technical aspects and, therefore, our scope of work did not include any on-site inspections to assess construction methods, materials, or compliance with design specifications. We also did not include any costs associated with the project that were not part of the CM@Risk contract, including architectural fees or PD&C internal costs.

Methodology: Our audit objectives were accomplished through:

- preparing a control schedule of the initial GMP, internal adjustments, and payment applications to ensure payments to the CM@Risk did not exceed the approved GMP;
- reviewing all 14 UA construction-phase payment applications and comparing the summary information in the payment application to the detailed supporting invoices or payment applications from the subcontractors to DPR/Sundt;
- recalculating the fee, bonds and insurance, and taxes applied against the GMP to verify accuracy of indirect construction costs;

[2] We found that there were no *Change Orders* executed for UA's portion of the contract.

- reconciling the job cost ledger against invoices and pay applications;
- reviewing the itemized list of General Conditions and Requirements and examining pay application line items and supporting documentation to ensure General Conditions and Requirements items were not included as expenses in pay applications;
- reviewing UA payments to vendors other than DPR/Sundt to ensure the expenses were not included in the CM@Risk contracted scope of work;
- reviewing quality control processes, issues, and resolutions;
- verifying all required insurance coverage and bonds were maintained during the project;
- selecting and reviewing a random sample of contingency expenditures to ensure that all uses of the contingency fund are made in accordance with the contract;
- ensuring the subcontractor bidding process was performed in compliance with contract terms;
- reviewing the third party assessment of costs for self-performed work areas to ensure reasonableness and compliance with contract terms;
- reviewing subcontracts and bid documents for the three largest (by final contract dollar amount) subcontractors to ensure the contract terms were consistent and in compliance with the CM@Risk contract;
- examining project close out documents to ensure punch list items were resolved and a substantial completion certificate was issued in a timely manner; and
- discussing the project with representatives from PD&C and DPR/Sundt to obtain additional information and clarification.

Conclusions: Based on our audit work, the financial transactions relating to construction activity, by both DPR/Sundt and PD&C, complied with the terms of the contract. Specifically, the Schedule of Value line items were based on actual costs and supported with back-up documentation, and contingency funds were managed in accordance with contract requirements. Additionally, the CM@Risk provided the contracted scope of work; insurance coverage during construction was in compliance with the terms of the contract; quality assurance and control procedures were implemented in accordance with the contract terms; and close-out documents completed to date were in order.[3]

During this project, the CM@Risk utilized a field management software tool, *BIM 360™ Field*, to manage quality control issues from initial identification through final punch list resolution. The mobile app facilitated real-time reporting through the use of cloud-based collaboration and reporting to and from field personnel and office/project managers, thereby improving quality, safety, and project visibility.

This construction project was part of an umbrella contract signed in 2009, prior to development of the current Tri-University construction contract. Therefore, the General

[3] A contractor evaluation had not been completed since the project was not yet finalized.

Conditions and Requirements expenses were fixed at $1,208,626 (13% of the total GMP) for which no supporting documentation was required. The revised standard Tri-University contract now requires all General Conditions and Requirements expenses to be based on actual costs and documented with receipts, invoices, and/or purchase orders, allowing for more auditable expenses.

During this audit, we identified a $15,050 expense for final cleaning that is traditionally a part of General Conditions and Requirements. However, the CM@Risk excluded final cleaning from the General Conditions and Requirements. The CM@Risk believed this to be an additional expense and transferred contingency funds to an added line item for the final cleaning expense while $10,000 of the fixed general conditions amount remained unspent. Although final cleaning costs are normally included in generally accepted General Conditions and Requirements, the 2009 construction contract did not specify expenses to be included in the General Conditions and Requirements fixed amount. Since the revised Tri-University standard construction contract eliminated the option for fixed amount General Conditions and Requirements and requires those expenses to be itemized and supported, this issue should not occur in the future.

As noted in a previous construction contract audit, the current standard Tri-University contract requires retainage to be withheld from contractor payments. However, ABOR Policy 3-804, *Professional Services and Construction Services Procurement*, dated 6/2006, permits the CM@Risk to provide a substitute security in lieu of retainage. Since this has become a fairly common practice, the Tri-University contract committee should consider including contract language that allows the CM@Risk the option to substitute security for retainage. If the committee elects to revise the contract to permit the contractor to substitute security for retainage, the committee should evaluate whether existing monitoring practices are sufficient to ensure the required amounts are deposited into security escrow accounts.

According to the Institute of Internal Auditors International Professional Practices Framework, an organization is expected to establish and maintain effective risk management and control processes. These control processes are expected to ensure, among other things, that:

- the organization’s strategic objectives are achieved;
- financial and operational information is reliable and possesses integrity;
- operations are performed efficiently and achieve established objectives;
- assets are safeguarded; and
- actions and decisions of the organization are in compliance with laws, regulations, and contracts.

Our assessment of these control objectives as they relate to the HSEB, Finish Shell Space construction contract is on the following page.

General Control Objectives	Control Environment	Recommendation	
		No.	Page
Achievement of the Organization's Strategic Objectives			
• Strategic objectives were met by providing state-of-the-art facilities that help the university achieve its research and educational goals.	Reasonable to Strong Controls in Place		
Reliability and Integrity of Financial and Operational Information			
• Contractor billings were adequately supported by actual costs incurred by the CM@Risk.	Reasonable to Strong Controls in Place		
• General Conditions were charged to the project in accordance with contract provisions.	Reasonable to Strong Controls in Place		
• Contingency funds were managed efficiently and effectively.	Reasonable to Strong Controls in Place		
• *Change Orders* were priced and approved according to contract requirements.	Not Applicable		
Effectiveness and Efficiency of Operations			
• Quality control procedures were effective in ensuring compliance with the contract.	Reasonable to Strong Controls in Place		
Safeguarding of Assets			
• The CM@Risk provided the contracted scope of work.	Reasonable to Strong Controls in Place		
Compliance with Laws and Regulations			
• Insurance coverage during construction was in compliance with the terms of the contract.	Reasonable to Strong Controls in Place		
• The contract was managed to ensure the CM@Risk complied with all terms of the contract.	Reasonable to Strong Controls in Place		

We appreciate the assistance of both PD&C and DPR/Sundt representatives during the audit.

/s/

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