A photograph of a multi-story brick building with concrete balconies and a large tree in the foreground. The image is framed by a curved, wireframe graphic on the right side. A white text box is overlaid on the center of the image.

**Arizona State University
2016 Capital Project Audit Report
Psychology Building Renovation
October 24, 2016**

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Summary

The 2016 Capital Project Audit was included on the Arizona State University (ASU) FY 2017 audit plan approved by the Arizona Board of Regents (ABOR) Audit Committee and ASU senior leadership. The audit focused on the Psychology Building renovation and reviewed the adequacy of controls over the process, focusing on contract administration and due diligence as well as assessing if billings were adequately supported and in accordance with contract provisions.

Background: The Psychology Building was originally constructed in 1972 and is a three-story, 81,000 gross square foot structure. The building required upgrades to all building infrastructure systems to meet program requirements and current building and life safety codes. The original project budget was approved at \$22.7, million which was later reduced to \$20.5 million primarily due to estimate reductions in construction costs and reduction in design/construction contingency requirements. Renovation work included asbestos remediation, new interior finishes, major upgrades to mechanical, electrical and plumbing systems, exterior building repairs, and new audio visual systems and Furniture and Fixed Equipment (FF&E). The project was completed in September 2015.

The project was completed using the Construction Manager at Risk (CM@Risk) project delivery method, which provides for early involvement of the construction manager during the design phase, and completion of the construction under a Guaranteed Maximum Price (GMP). The CM@Risk was Holder Construction Group, as chosen by the Selection Committee. The Design Professional was SmithGroup JJR. Other major vendors included Native Environmental (remediation/demolition), Target Interiors (FF&E), and CenturyLink (communications). Holder Construction Group completed the construction portion of the project under a GMP of \$14.1Million.

Audit Objectives: The objectives of the engagement were to assess the Capital Programs Management Group (CPMG) controls around management and execution of the Psychology Building Renovation Project.

Scope: The scope of this engagement was to review and assess the adequacy of controls over the process, focusing on contract administration and due diligence as well as to validate that the contractor billings and reporting were adequately supported and in accordance with contract provisions.

Methodology: University Audit, supported by Protiviti, conducted walkthroughs of the CPMG processes used to manage the project including the following areas:

- Project Approval
- Bidding, Procurement, and Contracting
- Change Management

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- Project Accounting
- Project Management and Reporting.

In addition, applicable policies and procedures related to the capital project processes were reviewed and assessed for adequacy and compliance.

Project documentation also was evaluated to test for compliance with agreed upon contract terms and conditions covering monthly billing, schedule management, change order management, subcontractor management, insurance/risk management and materials and equipment.

Conclusion: Based on the audit test work performed, University Audit noted that the Psychology Building Renovation project was completed within the allocated budget. In addition, it was noted that CPMG has effective processes in place to monitor and assess performance of capital management activities, including the following areas:

- Policies and procedures to govern project management activities
- Management and approval of project changes
- Invoice review processes requiring review from a technical project manager and design professional, including requiring adequate supporting documentation
- Centralized procurement group to manage contracting, procurement and bidding process for direct contractors, and
- Processes to monitor and track CM@Risk lien wavers.

Although reasonable to strong controls in these areas were found to be in place, from an overall program management prospective, CPMG would achieve increased benefits and efficiencies from enhancements to certain processes and controls in place around compliance management and project reporting. These specific items are noted below.

The control standards University Audit considered during this audit and the status of the related control environment are provided in the following table:

General Control Standard (The bulleted items are internal control objectives that apply to the general control standards, and will differ for each audit.)	Control Environment	Finding No.	Page No.
Organizational Strategic Objectives are Achieved			
<ul style="list-style-type: none"> • Capital project budgets are reviewed and approved by appropriate levels of authority. 	Reasonable to Strong Controls in Place	N/A	N/A
<ul style="list-style-type: none"> • Capital project budgets are developed according to agreed-upon policies and procedures. 	Reasonable to Strong Controls in Place	N/A	N/A
<ul style="list-style-type: none"> • Capital projects are advertised for bids and the lowest responsible bidder is selected. A formal 	Reasonable to Strong Controls in Place	N/A	N/A

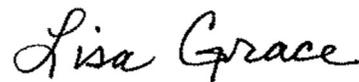
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notice to proceed is required after the contract award is made.			
Reliability and Integrity of Financial and Operational Information			
<ul style="list-style-type: none"> Payment of invoices require project manager review and approval prior to payment. 	Reasonable to Strong Controls in Place	N/A	N/A
<ul style="list-style-type: none"> The project manager reviews and approves the burdened labor rate to ensure it is accurate and does not include prohibited line items. 	Opportunity for Improvement	2	6
Effectiveness and Efficiency of Operations			
<ul style="list-style-type: none"> A defined change management process exists and is followed. 	Reasonable to Strong Controls in Place	N/A	N/A
<ul style="list-style-type: none"> ASU's organization and project team structure is clearly defined and reporting roles and responsibilities within the team are clearly understood. 	Reasonable to Strong Controls in Place	N/A	N/A
<ul style="list-style-type: none"> A Construction Project checklist is utilized to ensure all required project documentation is obtained and maintained as part of the construction project process. 	Opportunity for Improvement	4	9
<ul style="list-style-type: none"> Ongoing vendor and subcontractor compliance monitoring is performed to ensure compliance to contractual terms. 	Opportunity for Improvement	3	7
Safeguarding of Assets			
<ul style="list-style-type: none"> Monthly reports tracking key status and metrics of the project are prepared by the CM@Risk and provided to ASU. 	Opportunity for Improvement	1	4
Compliance with Laws and Regulations		N/A	N/A

We appreciate the assistance of Capital Programs Management Group during the audit.



Gordon Murphy, CPA, CFE, MAEd
Internal Auditor Senior



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Executive Director

1. Required monthly reporting by the CM@Risk was not performed as required by the contract.

Condition: The CM@Risk did not provide ASU with the required monthly reporting. Although three instances of detailed cost, schedule and project status were observed in November 2014, January 2015 and February 2015, reports were not formally distributed after this point.

The lack of tracking of “Contingency and Allowance usage” is of specific concern as this is one of the primary methods through which ASU would detect potential misuse of the Contingency. Specifically, section 7.11 of the contract allows the CM@Risk to allocate variances of the Schedule of Values (SOV) to the Construction Contingency without express approval by ASU. Section 1.2.3 states that the Bidding/Construction Contingency is to be used to cover any excess in the amount bid by a subcontractor over the amount for that work in the GMP or to cover unforeseen expenses. As a result, the monthly reporting related to the Contingency usage is the primary control that gives management visibility into potential misuse.

Criteria: Section 2.1.2 of the contract requires the CM@Risk to provide monthly reporting that includes the following items:

- Cost tracking with projected final cost
- Subcontract amounts and buy-out status
- Contingency and Allowance usage
- Updates to current Critical Path Method (CPM) schedule
- Tracking of project schedule variance
- Updates to cash flow projection for the duration of the project
- Copies of the construction superintendent’s daily site reports
- Identification of construction document conflicts or ambiguities requiring resolution
- Health and safety performance tracking
- Tracking of issues that could jeopardize the CM@Risk’s ability to complete the work for the GMP on schedule and within the contract time(s).

Cause: Formal project management processes were not in place to ensure required reporting was obtained and assessed. Instead, reliance was made on the frequent communication between the project manager and the CM@Risk.

Effect: Although no material items were noted related to the lack of these reports, it is considered best practice to ensure the monthly updates are obtained and reviewed to ensure effective management of the overall project status and to ensure adequate transparency to potential risk areas of the project.

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Additionally, specific to the Contingency usage reporting, the lack of transparency around SOV changes and Contingency use negatively impacts management's ability to ensure that all potential savings are being passed back to ASU as required by the contract, a key benefit of a Guaranteed Maximum Price contract. Although there are review and approval controls in place to ensure that actual items submitted for payment are supportable, the volume of support and detail provided is such that it limits the ability to identify potential misuse of the contingency.

Recommendations:

CPMG should enforce the contractual terms to ensure consistent distribution of the monthly status reports to ASU project managers, managements and other relevant stakeholders.

Management Response:

Management concurs with this issue. CPMG will ensure that monthly reports are completed by the CMAR consistently and completely going forward.

2. Review of CM@Risk Labor Costs was not formally documented.

Condition: There was no evidence documenting that a review was performed of the direct supervisory labor cost. This review ensures that prohibited items are not included and that the overall rates are reasonable and appropriate.

Criteria: Sections 1.2.22 and 2.2.2.1 of the contract describe an open book cost concept to ensure there is full transparency of labor costs. It is acceptable that “allocated rates” are used for such billings, but these rates must be reviewed and approved by ASU at the start of the project.

Cause: Management confirmed that the review was performed as required; however, this review and approval was not formally documented.

Effect: University Audit was unable to independently confirm if this review occurred and if the rates billed by the CM@Risk were compliant with contractual terms.

Recommendations:

CPMG should formally document the review process involved in reviewing the labor costs including the required approval. As part of this review, appropriate document should be maintained to evidence that the rates are reasonable and do not include any prohibited items.

Management Response:

Management concurs with this issue. CPMG confirmed that the review was performed and that both the Project Manager and the Project Manager’s Supervisor approved the rate; however, no documentation was maintained. In the future, a formal memo to the project file documenting the review process, including approval by management, will be maintained with the project file.

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3. Vendor, CM@Risk and Subcontractor Compliance and Monitoring is not occurring in all cases.

Condition: CPMG has implemented tracking on various compliance and performance requirements; however, there were several areas identified as part of testing that had limited or no tracking place.

Compliance Item	Contract/Policy Reference	Tracking Mechanism	Verification Status
Vendor and CM@Risk Insurance Certificates	Varies by contract	None Observed	No CPMG tracking observed. Insurance certificates provided by CM@Risk. Exceptions noted for Native Environmental and Century Link.
Major Subcontractor 1% Apprenticeship Program Contribution	CM@Risk Contract Section 13.19D	CM@Risk – Tracking Sheet	No CPMG tracking observed. Per CM@Risk, mechanical subcontractor is union and is required to make the contribution.
Use of 10% ration of apprentice to journeyman	CM@Risk Contract Section 13.19D	None Observed	No tracking mechanism observed for CPMG, CM@Risk or Subcontractors.
Tracking of Subcontractor performance in past ASU projects	ABOR Policy 7-111; Best Practices	None Observed	No tracking of subcontractor performance by CPMG observed.
Tracking of Fees and Markups	CM@Risk Contract Sections 1.2.7, 10.4	ASU – Monthly Pay App and Change Notice Review	Minor inconsistencies noted regarding applications of CM@Risk Fee and Tax rates.
Tracking of Rental Equipment	CM@Risk Contract Section 7.12	None Observed	Rental Equipment use was minimal during this project.

Criteria: There are various components of the contract that require specific performance by the CM@Risk.

Cause: Management did not have a formal process or checklist to ensure all compliance/performance items are tracked to ensure compliance to the terms of the contract.

Effect: While none of these areas by themselves are of a significant risk for this project, in aggregate they demonstrate a need to formalize tracking processes to ensure the required terms of the contract are met and maintained.

Recommendations:

CPMG should work with the CM@Risk to ensure that all subcontractors and service providers are consistently reviewed for compliance with contractual requirements. In addition, tracking mechanisms should be implemented by CPMG to promote contract compliance and reduce risks associated with non-allowable construction costs and under-insurance. In some cases, tracking should be done by the CM@Risk; however, CPMG should implement processes to ensure this is being done.

Management Response:

CPMG has created a responsible matrix to clarify which ASU department is accountable for contract component management to ensure clearer areas of responsibility and to ensure compliance is tracked.

4. Required and/or relevant project documents were not obtained/maintained as part of the Psychology capital project.

Condition: Various project documents that may help ASU monitor and control the scope, cost and schedule of project budget or that were required per the contract were not obtained/maintained as part of the overall project management. As a result, the following documents were not available as part of our review.

Ref	Document Description
(1)	Documentation of conflict-checks performed
(2)	Pre-Construction and Construction Phase monthly written status reports
(3)	Documents confirming that all project close out items were received prior to retention payment (per General Conditions section 7.9.2) including: <ul style="list-style-type: none"> a) An affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by the Owner) have been paid or otherwise satisfied by the CM@Risk; b) A certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) calendar days' prior written notice has been given to the Owner; c) Consent of Surety to Final Payment; d) Unconditional waivers of lien in statutory form from all Subcontractors, material suppliers, or other persons or entities having provided labor, materials and equipment relating to the Work; e) If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract Documents; f) All Project warranty documents, including special manufacturers warranties; g) Final Subcontractor List; h) All approved Submittals and Shop Drawings (electronic copy); i) Schedule of Required maintenance

Criteria: Based on various contract terms, neither final payment nor final release of retainage shall become due until the CM@Risk submits the required documents.

Cause: Although a project checklist was created as a result of a previous contract audit to document required documents that may help ASU monitor and control the scope, cost and schedule of construction projects, it was not available at the time of this audit. No other processes were in place to ensure relevant and required documents were obtained.

Effect: Although no specific impact was noted, it is considered best practice to ensure the completion and tracking of these documents to promote a more comprehensive project management process as well as to reduce cost overruns, process inefficiencies and close out issues.

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Recommendations:

CPMG should utilize the project documentation list previously developed. CPMG should develop a document tracking process to promote easy retrieval of documents or to document where compliance to the specified item was not feasible and the reason why.

Management Response:

Management concurs with this issue. CPMG will work with University Audit to finalize the list and use as part of the overall project management process going forward. This will be completed by January 31, 2017.

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