



CITY OF COLORADO SPRINGS OFFICE OF THE CITY AUDITOR

07-380a – MEMORIAL HEALTH SYSTEM CONSTRUCTION UPDATE FIRST QUARTER 2007

MARCH 19, 2007

Public Report

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Office of the City Auditor

PUBLIC REPORT

Date: March 19, 2007

To: Honorable Mayor and Members of City Council
Members of Memorial Health System's Audit Committee
Members of Memorial Health System's Board of Trustees

Re: 07-380a – MHS Construction – First Quarter 2007 Update

We have continued to review the East Tower and North Campus construction projects being undertaken by Memorial.

This report is to provide an update on the ongoing monitoring of the projects. We also followed-up on outstanding issues from our August 9, 2006 "06-380-a Memorial Health System Construction Update" report. As with the previous audits, our First Quarter 2007 follow-up audit included a review and evaluation of procedures, practices, and controls related to the capital projects on a selective basis.

Five of the seven findings that were mentioned in the August 9th report have been cleared, leaving two outstanding. We also had two new findings as a result of this review.

As always, feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in purple ink that reads "Jeff Litchfield".

Jeff Litchfield
City Auditor

Cc: Richard Eitel, Memorial Health System, Chief Executive Officer
Gary Flansburg, Memorial Health System, Chief Financial Office/Senior Vice President
Tracy Narvet, Memorial Health System, Controller
John Wyckoff, Memorial Health System, Compliance Officer
Theresa Meyers, Memorial Health System, Interim Vice President of Support Services
Joy Powell, Memorial Health System, Vice President/Administrator of Memorial Hospital North

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Introduction

AUTHORIZATION

We continued our audit of construction activities at Memorial Health System related to two major Hospital expansion projects, the East and North Towers, which are in their final construction phases. The East Tower is located on the Central Campus at 1400 E Boulder. The North Tower is located on the 82-acre North Campus at 4050 Briargate Parkway. The combined construction budgets for these two projects are approximately \$184 million.

We conducted this audit under the authority of Chapter 1, Article 2, Part 7 of the City Code, and more specifically parts 703, 705 and 706 of the Code, which state:

1.2.703: ENSURE PUBLIC ACCOUNTABILITY:

The City Auditor shall ensure that administrative officials are held publicly accountable for their use of public funds and the other resources at their disposal. The City Auditor shall investigate whether or not laws are being administered in the public interest, determine if there have been abuses of discretion, arbitrary actions or errors of judgment, and shall encourage diligence on the part of administrative officials.

1.2.705: DETERMINE EFFECTIVENESS AND EFFICIENCY OF PROGRAMS:

The City Auditor shall determine the extent to which legislative policies are being efficiently and effectively implemented by administrative officials. The City Auditor shall determine whether City programs are achieving desired objectives. The City Auditor shall review the administrative control systems established by the enterprises, department or group managers and by the City Manager, Utilities Executive Director and Memorial Hospital Executive Director and determine whether these control systems are adequate and effective in accomplishing their objectives.

1.2.706: EXAMINE BOOKS, RECORDS:

The City Auditor shall examine and inspect all books, records, files, papers, documents and information stored on computer records or in other files or records relating to all financial affairs of every office, department, group, enterprise, political subdivision and organization which receives funds from the City or under the direct or indirect control of the City Council. The Auditor may require any person to appear at any time upon proper notice and to produce any accounts, books, records, files and other papers pertaining to the receipt or expenditure of City funds, whether general or special. If that person fails to produce the papers, then the Auditor may request Council approval to search for and take any book, paper or record in the custody of that person or public official.

ORGANIZATION PLACEMENT

The City Auditor's Office of the City of Colorado Springs is structured in a manner to provide organizational independence from the entities it audits. This is accomplished by the City Auditor being appointed by and reporting directly to the City Council. The audited entity in this audit – Memorial Health System is governed by a Board of Trustees (a 15-member board also appointed by City Council).

Introduction

SCOPE AND METHODOLOGY

The First Quarter 2007 follow-up audit is part of the ongoing monitoring of the East and North Tower Hospital expansion projects. In addition, we followed-up on outstanding issues from our August 9, 2006 “06380-a Memorial Health System Construction Update” report. As with the previous audits, our First Quarter 2007 follow-up audit included a review and evaluation of procedures, practices, and controls related to the capital projects on a selective basis.

If not specifically stated in the report, any issues identified are common to both the North and the East Tower projects. If an issue is specific to only one of the projects we will identify the specific project the issue pertains to.

The audit was conducted in a manner that meets or exceeds the Standards for the Professional Practice of Internal Auditing, a part of the Professional Practices Framework promulgated by the Institute of Internal Auditors. The audit included such tests of records and other supporting documentation as deemed necessary in the circumstances. We reviewed the internal control structure and compliance tests were performed using statistical sampling techniques. Sufficient competent evidential matter was gathered to support our conclusions.

Our fieldwork covered the period November 2006 through February 2007. Ongoing monitoring of both projects will be performed until completion of construction. The “amicable separation” issue (finding #5, p.10 of August 2006 Construction Update report) is currently being handled by the City Attorney’s Office, with participation from the Office of the City Auditor. Participation from the City Auditor’s Office is under a separate consulting agreement and is not included in the scope of this audit.

BACKGROUND

An initial audit of the two projects was issued in October 2005. A subsequent follow-up audit was issued in August 2006. At this time, the Office of the City Auditor plans to start issuing quarterly reports on the construction audits. The Office of the City Auditor plans to issue these reports to coincide with the quarterly meetings of the Memorial Health System Audit Committee.

The East and North Tower Hospital Expansion projects are both “Fast Track” construction projects. “Fast Track” construction projects typically have higher construction costs than traditional construction projects. In traditional construction projects, estimates are based on completed design documents and building does not commence until bids are finalized. In order to reduce overall project time, “Fast Track” construction projects begin construction prior to completion of design drawings. This requires bids to be estimated from partially completed design drawings, which makes estimating project costs more complicated because not all potential design, material, equipment, and labor costs are known when the bids are submitted. In contrast to traditional construction projects that are based on completed design drawings, “Fast Track” project budgets typically include higher contingency funds to allow for unknown costs. The primary benefit of a “Fast Track” project is that the overall project time is greatly reduced, allowing the owner to bring products or services to market much quicker than with a traditional construction project.

Introduction

Memorial Health System made a strategic decision to fast track the construction of both the North and the East Tower projects in order to bring additional medical services to the community quickly. As a self-sustaining enterprise of the City, Memorial wanted to gain market share within its service area at the North Campus, prior to the opening of competing hospital services in northern Colorado Springs. Audits performed in October 2005 and August 2006 did not contest the strategic value of fast tracking the North or East projects. However, it was determined that initial estimates for both projects may have been too low and neither project had included adequate contingency funds in their estimates to allow for potential unknown issues that may arise. Subsequently, the construction estimates for both projects were re-evaluated and contingency funds were added to the budget.

East Tower

The initial General Contractor for the East Tower project was Turner Construction. Memorial Health System management and Turner Construction were unable to agree on a Guaranteed Maximum Price (GMP) for the project and terminated their contractual relationship. After the “amicable separation” of Turner Construction from the project, the East Tower project had to be re-bid. Technical Project Services (TPS) and J.E. Dunn Construction managed the construction during the interim period. PCL Construction Services was selected as the new contractor in October 2005. Instead of a GMP contract, the PCL bid was accepted as a lump sum contract. At that time, a business decision was made to expand the five story structure to seven floors. In April 2006, the budget was revised as a result of the new PCL bid, the two additional floors, and an internal audit performed by the Project Manager, the Controller, and the Purchasing Manager. The project’s revised estimated cost was \$109.5 million, including the 6th & 7th floors, and a 4% contingency.

North Campus

The North Tower project is also a fast track construction project. The General Contractor is JE Dunn. The project is a GMP contract. However, similar to the East Tower, initial construction estimates were low and did not allow adequate funds for design and construction unknowns. In July 2006, the construction budget was revised to \$74.2 million.

OVERALL CONCLUSION

Overall, both the North and the East Tower projects are progressing as planned. The Project Management Team and Contractors are working together to ensure the projects stay on track. Construction is over 90% complete for both towers.

Project Management: The Project Management Teams for both the East and North projects have had to overcome several challenges, including turnover to the extent that most of the original project management team are no longer on the projects. In addition, the Project Management team is relatively small for the size and scope of the projects they are managing. Overall, the Project Management team is committed, has a sense of urgency, and is working hard to ensure the projects are on time and on budget.

Change Orders and Contractor Applications for Payment: Our review of Contractor Applications for Payment and Change Requests did not identify any significant issues.

Introduction

Operational and Occupancy Readiness: The Memorial team is doing an excellent job preparing for the opening of two large hospital facilities. This preparation was evidenced by the East Tower Emergency Department (ED) opening on January 11, 2007 without any significant issues.

The preparation for the various phases of occupancy and overall operational readiness for both facilities has been well planned and comprehensive. Management and user departments have been fully involved in developing processes and procedures for the new and transitioning operations. "Day in the Life" simulations were conducted prior to the opening of the East Tower ED to ensure medical and operations staff had processes, procedures, and equipment in place when the ED opened for business. The success of the "Day in the Life" simulations at the East Tower ED will be leveraged at the North Tower as well. North Tower "Day in the Life" simulations are being expanded beyond doctors and medical staff to include administrative staff and management.

The Memorial Risk Manager is actively involved in the Operational and Occupancy readiness planning committees, helping identify risks stemming from new procedures and advising on costs associated with mitigating the risks.

Prior Audit Findings

Memorial Health System management has worked hard to correct the findings noted in prior audits. During our audit we noted that the following prior findings have been addressed:

- **Budgets:** Budgets for the East and North Tower were revised to reflect more accurate construction costs and contingency amounts were added to allow for unknown items that may surface during the fast track construction.
- **Additional contingency amounts added to individual changes:** We noted that contingency amounts were no longer being added to each individual change request for the East Tower. This practice was a contract stipulation that was addressed in the prior audit. We followed-up to verify that it continues to be properly addressed.
- **Future Construction Contracts:** To better protect the interests of Memorial Health System, the generic American Institute of Architects (AIA) contracts will no longer be used for Memorial construction projects. New boilerplate construction contracts have been drafted. The new boilerplate contracts contain Memorial-specific language and general conditions, as well as a right to audit clause.
- **No Right to Audit Clause in PCL contract:** Even though the PCL contract does not include a right to audit clause, PCL has been very cooperative in providing any information requested by the City Auditors in the course of this audit.

Our audit did note two prior findings that remain unresolved as of the issuance of this report:

- There is still no contractual agreement with the Architect (JBA) for both the North and East Towers.
- The Memorial Construction Services Project Team still does not have a full-time Contract Administrator.

Introduction

New Audit Findings

During the course of our audit we identified two areas of concern:

- Updated business assumptions for the East Tower Budget may require Memorial to incur additional upfront costs to generate long-term revenue. The benefit is new medical services to offer the community and potential sources of long-term revenue. The risk is that these assumptions will strain the current construction budget estimates.
- At the beginning of the design phase, business and user requirements were gathered to ensure that the Towers would be built in a manner that served the needs and requirements of Memorial Health System. The user and business requirements gathering was facilitated by JBA. Memorial has no copies of these requirements and with no signed contractual agreement with JBA; Memorial may not have established a legal right to these documents.

We will continue to monitor these projects until their completion and will issue updates every quarter. Our 2nd quarter audit work will focus on subcontractor agreements, close-out procedures, purchasing system controls over construction projects, and the contract with Pikes Peak Cardiology.

***We have made no determination as to which findings are more important than others.
Therefore, the findings are not necessarily listed in order of importance.***

Findings, Recommendations and Responses

THE FOLLOWING FINDINGS AND RECOMMENDATIONS ARE OUTSTANDING ITEMS FROM THE AUGUST 2006 CONSTRUCTION UPDATE REPORT:

1. The Budget

The initial construction estimates for the East Tower may have been too low and did not include adequate contingencies. It was recommended that the Hospital consider obtaining independent estimates of project costs when establishing a budget and include adequate contingency amounts in the budget. For future projects, Memorial's October 2005 response acknowledged the need for independent cost estimates for large projects and adding adequate contingencies.

For the current project, Memorial management required that the Facilities, Information Technology, Finance, and Purchasing departments, along the General Contractor (PCL), conduct as weekly "construction cost tracking" meeting. The intent of the meeting was to track current and potential costs on a weekly basis to allow adjustments as needed to keep within budget.

Auditor's August 2006 Follow-up

The budget meetings have been sporadic. They began weekly in January 2006, and then went to bi-weekly in March. In April, they were deferred until the project budget was internally reviewed and increased. On June 14, 2006, the bi-weekly meetings were resumed.

Memorial's August 2006 Response

The Health System has determined that the meetings are more beneficial on a bi-weekly basis rather than a weekly basis and is committed to having those meetings on a regular basis.

Auditor's 1st Quarter 2007 Follow-Up:

The budget meetings, initially intended for just the East Tower, have become more regular and have been expanded to include the North Tower Project Manager. The Project Managers give project schedule and cost updates to the budget team members. Potential cost issues are brought up by each team member when warranted.

PCL does not attend these meetings due to the regularly scheduled (bi-weekly) Change Requests meetings and bi-weekly Owner/Architect/Contractor (OAC) meetings with the Project Manager and Architect. The Change Request meeting is intended to discuss specific change orders being requested. The OAC meeting is a general status and issue meeting. Cost issues, such as Change Requests and Schedule, are a regular agenda items for the OAC meetings.

The Office of the City Auditor does not plan any additional follow-up on this issue. No response was requested from Memorial Health System on this issue.

Findings, Recommendations and Responses

2. Contracts

The Hospital modified standard architect contracts, instead of developing in-house documents. A contract that is developed in-house can more easily be designed to protect the Hospital. The Hospital would be more likely to get what they want if they tell the contractor exactly what they want and expect in the contract document. We would recommend that the Hospital consider developing their own contracts. While the Hospital may want to incorporate parts of the standard architect contracts into their contracts to promote uniformity, we believe the Hospital can be better protected by contracts that are developed by the staff and legal counsel.

Memorial's October 2005 Response

The Hospital is currently working as a multi-disciplinary group to develop the standard contracts for the architects, engineers and contractors to sign. The group has representation from the City Attorney's office, Memorial Hospital purchasing and facilities and TPS staff, and by the next meeting, the City Auditor's Office. The new contracts will incorporate the City's tested and proven contracts, modified to fit the hospital's requirements.

Auditor's August 2006 Follow-up

The contracting project is still ongoing. The City Auditor's Office plans to review the contract when it is completed. Sample wording containing favorable audit language was forwarded to Memorial Hospital for their use in the new contracts. However, Hospital management neglected to include an audit clause in their current contract with PCL.

Memorial's August 2006 Response

The Health System is actively working to draft standardized contracts, in many cases using City contracts as a template. The contract will include audit language. The System is also working with the Utilities Department to utilize their contract management system, which will provide more information and controls in managing contracts. The City Auditor's Office will be involved in reviewing the contract formats and the final contracting procedures.

Auditor's 1st Quarter 2007 Follow-Up:

Memorial Health System has retained legal counsel with construction contract experience. The Memorial Attorney's Office, Purchasing, and the COO have been working with retained counsel to produce Memorial-specific boilerplate construction contracts. The Office of the City Auditor has reviewed the drafts and given feedback. In addition to revising the contracts, a new "Master Agreement" has been drafted that overrides all other signed agreements. It is intended to enforce consistency in some of the basic contract requirements throughout all contractual relationships. As a process improvement, a contract routing document has also been created. The contract routing document is routed to all Memorial departments that are party to or impacted by a contract. The contract routing document has a checklist of basic and construction-specific items that the user departments must sign-off on. Any contracts that do not have a completed contract routing document will not be signed by Memorial's Attorney's Office. Specific language in the new contracts requires a signature from a representative of Memorial's Attorney's Office for the contract to be valid.

The Office of the City Auditor does not plan any additional follow-up on this issue. No response was requested from Memorial Health System on this issue.

Findings, Recommendations and Responses

3. The Architect (Contract Administrator)

The addenda issued by the architect may have been excessive. JBA provided the Hospital with a state-of-the-art design for Building 16. It appeared that the design will be both patient-friendly and cost-effective. However, the circular design of the building required detailed production drawings be provided by JBA. When Turner generated the first GMP based on Construction Drawings issued in August 2004, the price included addenda #1-2. Having two addenda included appeared appropriate because the building was being designed at the same time as the contractor was readying the construction site. However, when the project was re-bid in August 2005, JBA issued addenda #10 & 11 with modifications made to over 230 sheets of design drawings. In a phone conversation with a representative of JBA, we were told that the modifications on addendum 11 were answers to questions that had been posed by the bidders on the project. While our review did not address the role of the architect in Building 16, we recommend that Memorial Hospital closely monitor the changes that are made by the architect to ensure that they are reasonable and appropriate.

Memorial's October 2005 Response

Memorial Hospital is looking at adding a full-time Contract Administrator (CA) to oversee major construction projects. The CA will be responsible for ensuring that all commitments regarding the contract deliverables are delivered on time and per our new contract. These deliverables will be tracked and recorded from not only the architect and contractor, but also the Hospital to ensure all commitments are met. The CA will work closely with each project team to ensure any and all changes are tracked and approved prior to work commencing. The approved changes will be tracked in the weekly "construction cost tracking" meeting. The CA will work closely with the architect and Memorial Hospital's project manager to keep them on track designing to Memorial Hospital's approved budget.

Auditor's August 2006 Follow-up

A full time Contractor Administrator was hired by Memorial in February 2006, but he is currently working solely on the North campus as a Project Manager for the construction. Memorial does not have a signed contract with the architect.

Memorial's August 2006 Response

A full time Contract Administrator was hired to address the original recommendations. Because of unexpected turnover and the critical need to provide a project manager for the Memorial Hospital North site, this person has been acting primarily as the project manager. The contract administration issues are being covered in the weekly construction update meetings and more attention from the Materials Management Department. The System is recruiting for a full time Facility Manager for the North site. The current Contract Administrator will have more time to dedicate to his duties once the new position is filled.

Auditor's 1st Quarter 2007 Follow-Up:

The person hired as the Contract Administrator is still the acting Project Manager for the North Tower project. A Project Manager position has been posted, but has not been filled to date. Once the Project Manager position is filled, we have been told the acting Project Manager for the North Tower project will resume his intended role as Contract Administrator.

Findings, Recommendations and Responses

With large construction projects, the Project Manager needs a resource that understands the details of the contractual agreement, the construction documents, and the responsibilities of the Contractor, Architects, and Subcontractors. The Contract Administrator is the Project Managers key resource in areas such as:

- Understanding the terms of all of the contractual agreements (e.g., Contractor, Architect, owner-retained subcontractors, etc.). This includes the scope of work, the general conditions, any exclusions or substitutions, etc. ;
- Understanding the construction documents – the contract spells out the legal agreement, but the construction documents (requirements, design docs, blueprints, schedule of values, etc.) are what drives the construction.
- Providing a secondary review of Contractor and Architect Applications for Payments. Because of the Contract Administrator’s detailed knowledge of the contract, construction documents, and Contractor/Architect/Owner responsibilities, their review of Payment Applications is crucial to ensure billed costs are appropriate, within the scope of work, and Owners responsibility to pay.
- Reviewing Change Requests. Similar to Payment Applications, a secondary review by the Contract Administrator provided the Project Manager with assurance that proposed changes are outside of the contracted scope of work and billed at agreed upon rates.
- Working with the Contractor and Architect to resolve cost and scope disputes.

MEMORIAL’S RESPONSE:

We are continuing to advertise / interview for a Senior Project Manager position to support the work being done by Memorial Health System (MHS). We are in agreement with the auditors report that a Contract Administrator would be a key resource for MHS.

Findings, Recommendations and Responses

4. No Audit Clause in PCL Contract

The construction contract with PCL Construction (East Tower General Contractor) did not contain an audit clause.

Auditor's August 2006 Recommendation:

We recommend that contracts between Memorial Hospital and the architects or contractors have an audit clause that will allow them to adequately perform an audit.

Memorial's August 2006 Response:

The Memorial Health System fully agrees with the recommendation and will be developing our own contracts with an audit clause. It should be noted that our contract for the North Hospital contains an audit clause and that, even though our contract with PCL does not have an audit clause, PCL is allowing the Health System to do audits.

Auditor's 1st Quarter 2007 Follow-Up:

Audit clause language has been incorporated in the new Memorial Health System boilerplate construction contracts. In addition, PCL construction has been very cooperative with the Office of the City Auditor in conducting our review of the East Tower project.

The Office of the City Auditor does not plan any additional follow-up on this issue. No response was requested from Memorial Health System on this issue.

Findings, Recommendations and Responses

5. No Signed Contract with the Architect for the East or North Tower Projects

The issue of no signed contract between the Architect (JBA) and Memorial Health System was addressed in the August 2006 Construction Update audit. Memorial Management's response to the audit report indicated that a contract had not been signed with JBA due to the fast track construction approach and turnover in Memorial Construction Services staff. However, Memorial management understood the risk and had been working with JBA since March 3, 2006 to finalize contract negotiations.

Without a signed contract Memorial Health System has no contractual ability to:

- Hold JBA accountable for additional costs associated with potential design issues;
- Hold JBA accountable for any delays associated with slow turnaround of design documents, requests for clarifications from subcontractors, or change requests;
- Ensure the use of any JBA designs, drawings, or documentation for use on future phases;
- Obtain or retain user requirements that JBA gathered at the inception of the project.
- Ensure that JBA will sign off on Temporary or Final Certificates of Occupancy to allow Memorial employees to occupy the Towers and conduct business.

If, as recourse to resolve disputes, Memorial holds up paying JBA invoices, the construction schedule and costs could be impacted by JBA discontinuing services. If to keep construction on schedule Memorial pays the JBA invoices without a contract, Memorial weakens their negotiating position for any design-related issues that might arise.

Auditor's August 2006 Recommendation:

We recommend Memorial enter into written contracts with the architect. The contracts should limit Memorial's total cost for architectural services.

Memorial's August 2006 Response:

The Memorial Health System fully agrees with the recommendation. Contracts were never finalized with the architect because of the fast track nature of the project and because of turnover of Memorial Health System staff. The Health System management and the City Attorney's staff have been diligently working on finalizing the contracts since May 3rd. A proposed contract was sent to the architect on June 28th. Once the Memorial Central contract is finalized, we will work promptly to finalize the North Hospital contract, using the Central contract as a template.

Auditor's 1st Quarter 2007 Follow-Up:

To date, with no contractual agreement in place, JBA has been paid approximately \$10.7 million for architectural services for the East and North Tower projects (\$5.6 million for the East Tower and \$5.1 million for the North campus).

Memorial Management is still in contract negotiations with JBA. The primary issue hindering the contract negotiations is a dispute of approximately \$700,000 in additional costs related to potential design issues. Due to the risk of impacting the construction schedule and increasing costs, Memorial management has entered into an interim agreement with JBA. This agreement ensures that JBA will continue to provide construction services until a formal contractual

Findings, Recommendations and Responses

agreement is reached. Memorial will pursue recouping the disputed \$700,000 costs through the construction claims process with JBA's insurance carrier.

MEMORIAL'S RESPONSE:

MHS agrees with the auditors comments.

Findings, Recommendations and Responses

6. Contingency Added in East Tower Change Orders

The August 2006 Construction Update audit revealed that some subcontracts for change orders contained a 1% to 2% contingency. Memorial had already factored in overall contingency amounts for the project. There was no need for additional contingency amounts to be added to each change request. Also, per the contract, contingency can not be included in change order pricing. PCL had allowed subcontractors to include contingencies in some change order work where the scope of work was not fully known. However, PCL did agree to provide credits for work where their cost came in less than was expected.

Auditor's August 2006 Recommendation:

We recommend that all change orders be carefully reviewed and audited (to the extent possible) before approval. We also recommend Memorial consider adding an audit clause to future change orders. We recognize that adding an audit clause would require the cooperation and approval of the contractor.

Memorial's August 2006 Response:

PCL did include small contingencies on some change orders where the full scope of the proposed change was uncertain. Memorial does have a very open book relationship with PCL, and PCL has worked diligently to fully explain the basis for their cost on all change orders negotiated to date. Memorial feels that contingencies have been allowed only where they were warranted. PCL has voluntarily provided credits for work where their cost came in less than was expected.

The City Auditor's office is currently involved in auditing all change order requests prior to approval. As recommended, the Health System will add audit clauses to all future construction contracts.

Auditor's 1st Quarter 2007 Follow-Up:

No contingencies were noted in our review of recent change orders for the East Tower.

The Office of the City Auditor does not plan any additional follow-up on this issue. No response was requested from Memorial Health System on this issue.

Findings, Recommendations and Responses

7. The North Campus Budget is at Risk

Memorial made a conscious decision to fast track the North Tower construction. The benefit of fast track construction is that the construction is done much sooner than a traditional construction project, allowing the Owner to bring products and services to market sooner. The risk with fast track construction projects is that bidding is completed and construction begins prior to the completion of the design documents. This increases the risk of changes and additional costs.

Due to the fast track approach, many items that would normally be included in the original scope of construction were not included in the incomplete drawings used by J.E. Dunn, or their sub-contractors, to prepare their bid. Memorial could have mitigated the risk associated with incomplete drawings by allowing a larger than average owner contingency. A 10%-15% contingency would have been more realistic considering the stage of the drawings and number of unknowns at the time. The actual contingency established for the project was 5%.

As of the August 2006 Memorial Construction Update report, the North Tower project was only 68% complete and had already incurred approved change orders that would expend the remaining budgeted contingency. With potential changes beyond the approved change orders already identified and the design drawings not complete, there was a high probability that costs would exceed the budget.

Auditor's August 2006 Recommendation:

We recommend contingencies be based on the amount of risk for the project. On future projects, management should consider the risk of the project when determining the contingencies.

Memorial's August 2006 Response:

Memorial is reviewing the North Budget

Auditor's 1st Quarter 2007 Follow-Up:

The budget for the North Tower was revised. Currently, a contingency of \$6,301,000 is budgeted for the North Tower. Projections at the time of our report indicate that the project may use most of the budgeted contingency, but will not likely exceed it.

The Office of the City Auditor does not plan any additional follow-up on this issue. No response was requested from Memorial Health System on this issue.

Findings, Recommendations and Responses

THE FOLLOWING FINDINGS AND RECOMMENDATIONS ARE NEW ITEMS:

8. Updated Business Assumptions for the East Tower Budget

Updated business assumptions for the East Tower Budget include a newly signed lease agreement with Pikes Peak Cardiology and recovery of overpayments made to Turner Construction.

- The terms of the lease agreement will require Memorial to incur additional upfront costs to facilitate a long-term relationship. The benefit of the lease would include additional medical services being offered to the community through Memorial, which may add sources of long-term revenue for the hospital. The risk is that the terms of the lease agreement may cause the current construction budget estimates to be exceeded.
- The recovery assumptions, which offset the additional costs related to the lease agreement, may not accurately reflect the actual amount to be realized. Recovery is not guaranteed and/or may not be collected in a timely manner. If the budgeted recovery amount is not realized in a timely manner, the amount paid to vendors will exceed the budget for the East Tower.

Auditor's Recommendation:

The assumptions related to recovery of overpayments need to be monitored closely and periodically revised to reflect the current status of recovery efforts and the probability of collection.

MEMORIAL'S RESPONSE:

MHS agrees with the auditor's comments and will monitor the recovery assumptions closely.

Findings, Recommendations and Responses

9. User and Business Requirements

At the beginning of the design phase, business and user requirements were gathered to ensure that the Towers would be built in a manner that served the needs and requirements of Memorial Health System. As a service to Memorial, the user/business requirements gathering sessions were facilitated and documented by JBA. However, JBA retained ownership of the user/business requirements documentation. Memorial has no copies of these requirements. With no signed contractual agreement with JBA, Memorial may not have established legal ownership or rights to these documents.

The initial user and business requirements help drive design, which impacts cost estimates. By documenting and retaining user requirements, Memorial project management should be able to hold the Architect and Contractor accountable for changes related to failure to incorporate published user/business requirements into design or construction. In addition, documented user/business requirements can assist Memorial Project Management in holding Memorial user departments accountable for funding costly additional requirements that were not included in original designs or cost estimates.

Auditor's Recommendation:

A signed contractual agreement with JBA for the North and East Tower projects should include an agreement to either obtain ownership or copies of the documented user/business requirements.

For future construction projects, Memorial should either facilitate and document user/business requirements internally, or, if done by an outside vendor, have a contractual agreement that allows Memorial to secure ownership of all documented user/business requirements. Well defined user/business requirements are essential to controlling costly changes in construction.

MEMORIAL'S RESPONSE:

MHS agrees with the auditors comments.