



**CITY OF COLORADO SPRINGS
OFFICE OF THE CITY AUDITOR**

**07-380B MEMORIAL HEALTH SYSTEM
SECOND QUARTER 2007
CONSTRUCTION UPDATE**

PUBLIC REPORT

SEPTEMBER 17, 2007

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Office of the City Auditor

PUBLIC REPORT

Date: September 17, 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: 07-380b – Memorial Health System Second Quarter 2007 Construction Update

During the second quarter of 2007, we continued our review of the East and North Towers construction projects being undertaken by Memorial. This report is to provide an update on the ongoing monitoring of those projects. We included follow-up on two outstanding issues from our August 9, 2006 "06-380a Memorial Health System Construction Update" report. As noted in the previous audits, our ongoing construction audit included a review and evaluation of procedures, practices, and controls related to the capital projects on a selective basis.

In addition to the follow-up on two findings related to our report of August 9th, we had three new findings as a result of this review. We also noted two areas where we want to recognize Memorial's actions that we classified as Commendable Practices.

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
Gus Lee, Memorial Health System, Chief Operating Officer
Gary Flansburg, Memorial Health System, Chief Financial Officer/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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Abbreviations and Acronyms used in this Report

CA	Contract Administrator
GMP	Guaranteed Maximum Price
JBA	Jonathan Bailey and Associates
MHS	Memorial Health System

Introduction

AUTHORIZATION

We continued our audit of construction activities at Memorial Health System (MHS) 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 East 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.

ORGANIZATIONAL PLACEMENT

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

Introduction

SCOPE AND METHODOLOGY

The Second Quarter follow-up audit is part of the ongoing monitoring of the East and North Tower Hospital expansion projects. Our primary focus in the Second Quarter was on the MHS North Tower project since it was in the final phases of construction and beginning the process of closing out the contract with the Contractor, JE Dunn. The Second Quarter follow-up audit included a review and evaluation of procedures, practices, and controls related to the capital projects on a selective basis.

The audit was conducted in accordance with the *International 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 April 2007 through June 2007.

BACKGROUND

Construction on the North Tower is complete and the facility is fully operational. Construction began on the MHS North Tower in the summer of 2004. The facility opened its doors for business on April 25th, 2007. As a result, the “closeout” of the MHS North Tower contract is in progress. Closeout activities include providing training, owner’s manuals, warranty information, etc. We plan to report on the overall closeout progress in our next quarterly update.

Construction on the East Tower is approximately 75% complete. The Emergency Department is fully operational on the first floor of the tower. MHS Construction Services team has indicated that the remainder of the building is on schedule to receive an Occupancy Permit by October 31, 2007.

COMMENDABLE PRACTICES

During the second quarter 2007, we noted two commendable practices which we would like to mention in this report.

Lessons Learned: MHS Construction Services team recently conducted a lessons learned roundtable discussion related to both the North and East Towers. The intent of the roundtable was to ensure that the team discussed and documented things that worked and things that could be improved on the next construction project. The City Auditors were invited to attend and provided input.

Hiring Sierra Properties: Recognizing their staffing limitations and possible complications that could arise as the relationship between MHS and Pikes Peak Cardiology changes, MHS hired Sierra Properties as a project manager to facilitate the build-out of the space that will be leased to Pikes Peak Cardiology in the East Tower. This arrangement appeared to be working well for MHS.

Introduction

OVERALL CONCLUSIONS

Project Management: As mentioned in the previous quarterly update, the Construction Services team experienced almost 100% turnover midway through both the East and North Tower projects. As a result, new personnel who were unfamiliar with the projects were brought onto the team. The new team has done a good job of managing two very large hospital construction projects (East and North Towers). They are committed to continuously improving. This commitment is evidenced by their recent “Lessons Learned” roundtable discussion in which key participants in the East and North Tower projects were invited to share their key “lessons learned.” MHS also hired an outside firm, Sierra Properties, to facilitate the build-out of the space that will be leased to Pikes Peak Cardiology in the East Tower.

Timely Billings by Contractor: Overall, the Contractor for the North Tower, JE Dunn, has provided timely billings. However, the City Auditors were requested by MHS Construction Services team to review Change Order #682, which contained charges for clean up and temporary protection that ranged from 2005 to 2007. Due to the significant time range and the amount of support that had to be reviewed, the issue is still unresolved. The auditors agree with MHS Construction Services team’s stance that this Change Order was not presented to MHS in a timely manner and the support does not adequately indicate what work was done, where it was done, and why it was done.

Change Orders: Change Orders were a primary focus of our audit work this quarter. With any large construction project, it is normal to have Change Orders. However, the number of changes to the North Tower project may have been negatively impacted by the lack of a contract with the Architect, turnover in the Construction Services team, and changes allowed by the Construction Services team.

Contractor Applications for Payment: We continued to review Contractor Payment Applications for the North Tower during our Second Quarter review. Since the inception of the project, the Contractor Payment Applications have only been supported by an updated Schedule of Values, indicating percentages complete for major areas of construction. Since this is a cost plus fee type of contract, this level of support is insufficient. While we identified no significant issues with accuracy or discrepancies with the Schedule of Values, it is recommended that on future projects the Contractor Payment Applications be supported not only by the Schedule of Values, but also with documentation from the subcontractors and contractor that provides more detail on how the Schedule of Values was updated by the contractor. This type of billing will require a more detailed review by MHS Construction Services team. As the time approaches for JE Dunn to provide their final billing, MHS should clearly communicate in writing to the Contractor concerning the level of detail and support that they will require in order to perform their closeout review.

Introduction

Prior Audit Findings

Our audit did note two prior findings that were unresolved at the time of our previous report and remain unresolved as of the issuance of this report:

- There is still no contractual agreement with the Architect Jonathan Bailey and Associates (JBA) for both the North and East Towers.
- MHS Construction Services team still does not have a full-time Contract Administrator performing as a Contract Administrator.

***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

Follow up Items from Prior Reports:

The following findings and recommendations are outstanding items from the August 2006 Construction Update Report:

1. Contract Administrator

The addenda issued by the Architect may have been excessive. JBA provided MHS with a state-of-the-art design for Building 16 (the East Tower). 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 Guaranteed Maximum Price (GMP) based on Construction Drawings issued in August 2004, the price included addenda #1 and 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 and 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 MHS closely monitor the changes that are made by the Architect to ensure that they are reasonable and appropriate.

MHS's October 2005 Response

MHS 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 MHS's project manager to keep them on track designing to MHS's approved budget.

Auditor's August 2006 Follow-up

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

MHS'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 MHS 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.

Findings, Recommendations and Responses

Auditor's First 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.

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 Manager's 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 documents, 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 provides 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.

MHS's March 2007 Response:

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

Auditor's Second Quarter 2007 Follow-Up:

A Contract Administrator has not been hired. The lack of a dedicated Contract Administrator hinders MHS Construction Services team's ability to perform adequate reviews of Change Orders and Payment Applications.

MHS's Response:

We agree with the recommendation. The Contract Administrator position remains vacant. We plan to review the job description and reporting structure with the new Director of Construction Services after he starts with MHS on September 6, 2007.

Findings, Recommendations and Responses

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

The issue of no signed contract between the Architect (JBA) and MHS was addressed in the August 2006 Construction Update audit. MHS'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 MHS Construction Services staff. However, MHS management understood the risk and had been working with JBA since March 3, 2006 to finalize contract negotiations.

Without a signed contract, MHS 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 MHS employees to occupy the Towers and conduct business.

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

Auditor's August 2006 Recommendation:

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

MHS's August 2006 Response:

The MHS 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 MHS 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 MHS Central contract is finalized, we will work promptly to finalize the North Hospital contract, using the Central contract as a template.

Auditor's First 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).

MHS 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, MHS management has entered into an interim agreement with JBA. This

Findings, Recommendations and Responses

agreement ensures that JBA will continue to provide construction services until a formal contractual agreement is reached. MHS will pursue recouping the disputed \$700,000 costs through the construction claims process with JBA's insurance carrier.

MHS's March 2007 Response:

MHS agrees with the auditors comments.

Auditor's Second Quarter 2007 Follow-Up:

While the lack of a contract with the Architect most likely had an impact on the number of Change Orders for the North Tower, the bigger impact may be on the future tower projects at the Briargate location. At issue is who owns the "intellectual capital" pertaining to the design of the first tower. The current unresolved dispute with JBA could impact the design and/or timing of future towers.

MHS's Response:

MHS and JBA attorneys reached an agreement on the terms and conditions of the Contract on August 23, 2007. The JBA attorney will discuss the final draft of the contract with this client, but expects no objections to the final draft. MHS reasonably expects a fully executed Contract between the parties in the very near future. It is important to note that MHS is under no obligation to use JBA on future projects.

Findings, Recommendations and Responses

New Findings:

The following findings and recommendations are new items related to the North Tower:

3. Timely Contractor Billings

Overall, the North Tower Contractor, JE Dunn, has provided timely billings. However, the City Auditors were requested by MHS Construction Services team to review Change Order #682, which contained charges for clean up and temporary protection that ranged from September 2005 to February 2007. Per the Contractor, the costs were incurred due to the excessive Change Orders on the project. The Auditors' primary concerns with the Change Order are:

- MHS was not made aware of the significance of the additional clean up or temporary protection costs until February 2007. As such, MHS did not get an opportunity to manage these costs over the two year period the costs were escalating.
- If the costs were associated with Change Orders, per the contract, the costs should have been included in the cost of the Change Order.
- Because the support is not well documented, it is not clear if the costs are associated with the original contract scope, change requests (which require approval prior to the work being done), or some unforeseen events.
- Due to time span that the existing support covers (1000+ time cards, 300+ materials invoices), the time to review the Change Order is excessive and unreasonable.

The contract between MHS and JE Dunn, the Construction Manager, requires the following:

- AIA A121 Sec 2.3.2.6: The Construction Manager shall maintain a daily log containing a record of weather, Subcontractors working on the site, number of workers, Work accomplished, problems encountered and other similar relevant data as the Owner may reasonable require.

JE Dunn was able to provide time cards, but did not have a daily log of work that described what work was performed, i.e., work accomplished. A daily log of work would have given MHS the ability to determine why the work was done, if it was within the scope of the original contract, or related to a Change Order.

- AIA A121 2.3.2.7: The Construction Manager shall develop a system of cost control for the Work, including regular monitoring of actual costs for activities in progress and estimates for uncompleted tasks and proposed changes. The Construction Manager shall identify variances between actual and estimated costs and report the variance to the Owner and Architect at regular intervals.

As stated previously, this Change Order represents costs that stem from 2005. The Change Order submitted on March 20, 2007 was not a timely submission. The method of billing has been firmly established through the monthly Application and Certificate of Payment. These costs could have easily been billed incrementally each month. In addition, MHS was only given a vague inference to the growing costs in writing in November of 2006. At that time the extent of the costs was not indicated by the Contractor. This inference does not represent communication of variances at regular intervals nor was it indicative of a good system of cost control by the Contractor.

Findings, Recommendations and Responses

Due to the significant time range and the amount of support that had to be reviewed, the issue is still unresolved.

Auditor's Recommendation:

We recommend that MHS Construction Services team continue to review the Change Order and continue negotiations with JE Dunn. The auditors agree with the MHS Construction Services team's stance that due to the "age" of the charges, it is difficult to determine what MHS is paying for. This Change Order was not presented to MHS in a timely manner and the support does not adequately indicate what work was done, where it was done, and why it was done. The City Auditors will continue to monitor this issue and work with MHS and JE Dunn to resolve this issue.

MHS's Response:

We agree with the recommendation. MHS has elected to discontinue the use of AIA contracts for future construction projects whenever possible. Two MHS contracts have been developed based upon city contracts for construction services. Each contract spells out in detail the requirements for pay application submissions. Specifically, Appendix B Memorial Health System Terms and Conditions of the Construction Contract addresses the responsibility of the contractor regarding change orders and cost. Section 7, Changes in Work, subsection 72 Cost of Changes addresses the finding of the audit and provides terms and conditions governing the change order process for future construction projects.

Findings, Recommendations and Responses

4. Change Orders

Change Orders for the North Tower were a primary focus of our audit work this quarter. With any large construction project it is normal to have Change Orders. However, the number of changes to the North Tower project may have been negatively impacted by the lack of a contract with the Architect, turnover in the Construction Services team, and changes allowed by the Construction Services team.

The cost and number of Change Orders potentially could have been reduced with more detailed reviews, a contract with the Architect, and an internal change process that requires end users to justify deviations from established user requirements

Auditor's Recommendation:

To help mitigate the cost of Change Orders, we recommend that user requirements be specified and documented during the design phase. Any deviation after the design is complete should require detailed, documented justification and approval. While changes in staff and turnover may not be completely avoided during a long construction project (three years), MHS may want to consider strengthening its internal construction staffing prior to entering into major projects so that the impact of turnover can be minimized. As previously recommended, having a detailed contract with the Architect may also help address the volume of Change Orders.

MHS's Response:

We agree with the recommendation. In addition to having the user requirements be documented, we also need to provide continuous feedback in reviewing the design / construction with the end users which need to include the physicians. With the market changes in healthcare and organizational needs, these may drive changes that in the long term will benefit MHS and the community we serve.

Findings, Recommendations and Responses

5. Contractor Payment Applications

Since the inception of the North Tower project, the Contractor Payment Applications have only been supported by an updated Schedule of Values, indicating percentages complete for major areas of construction. This schedule does not provide auditable details that can be verified by MHS staff prior to making payment to the Contractor. The review performed by MHS is limited to performing a reasonableness check on the estimated percentage of completion made by the Contractor. Since this contract is a cost plus fee type of contract, this level of support is insufficient. While we identified no significant issues with accuracy or discrepancies with the Schedule of Values, relying on the schedule alone is not a prudent business practice for the cost plus fee type of contract.

The current contract allows 60 days for MHS to complete a contract close-out once JE Dunn provides their final billing. If Payment Applications have not been verified prior to the close-out billing, 60 days may not be sufficient time for MHS to perform an appropriate review depending on how well JE Dunn documents and supplies support for that final bill.

Auditor's Recommendation:

We recommend that on future projects the Contractor Payment Applications be supported by a Schedule of Values and additional documentation. The additional documentation from the subcontractors and contractor should provide details on how the Schedule of Values was updated by the contractor. This information should undergo a detailed review by the MHS Construction Services team. As the time approaches for JE Dunn to provide their final billing, MHS should clearly communicate in writing with the Contractor concerning the level of detail and support that they require in order to perform their close-out review.

MHS's Response:

We agree with the recommendation. On large MHS projects in the future we will contractually require cost loaded scheduling. We would plan to provide a close out document to the contractor stating the list of requirements to have a successful close out at least 60 days prior to completion of the project.