



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

# **06-380-a MEMORIAL HEALTH SYSTEM CONSTRUCTION UPDATE**

**AUGUST 9, 2006**

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## Office of the City Auditor

Date: August 9, 2006  
To: Honorable Mayor and Members of City Council  
Memorial Health Systems Board of Trustees  
Re: 06-380-a Memorial Health System Construction Update

Enclosed is our report on the Memorial Health System Construction process as of May 2006.

The two projects covered in this report include the East Tower – a seven story addition to the main campus at 1400 E. Boulder and the North Campus – a 200,000 square foot, five story, 89 bed adult hospital located at Briargate Crossing. The combined budget for these two projects is approximately \$250 million.

We will continue to monitor the progress of these two facilities and will issue additional reports on an as needed basis.

As always, please let me know if you have any questions.

Sincerely,

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

Jeff Litchfield  
City Auditor

Cc: Dick Eitel, Chief Executive Officer, Memorial Health Systems  
Gary Flansburg, Chief Financial Officer, Memorial Health Systems

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## Introduction

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### AUTHORIZATION

We performed an audit of two of Memorial Health System's (Hospital's) major construction projects. The projects were the East Tower located at 1400 E Boulder (formerly referred to as Building 16 or the Women's and Children's Hospital) and the North Campus located at 4050 Briargate Parkway. These projects have a combined budget of approximately 250 million dollars. We conducted this audit under the authority of Chapter 1, Article 2, Part 7 of the Colorado Springs City Code, and more specifically parts 703, 705 and 706, 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. (1968 Code §1-10.3; Ord. 76-54; 1980 Code; Ord. 01-42)

#### 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. (1968 Code §1-10.3; Ord. 76-54; Ord. 01-42)

#### 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. (1968 Code §1-10.3; Ord. 76-54; Ord. 01-42)

### 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 Systems) is governed by a Board of Trustees (a 15 member board appointed by the City Council).

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## Introduction

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### SCOPE AND METHODOLOGY

The purpose of this audit was to monitor two of the Hospitals' construction projects – the East Tower and North Campus. We also attempted to identify and address any problem areas as requested by management or determined during the audit. The audit included review and evaluation of procedures, practices, and controls related to the projects on a selective basis.

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 was done in two phases - September through October 2005 and March through May 2006. The first phase of fieldwork resulted in draft findings being prepared in October 2005. Because of work load requirements, we had to halt work on this project until March 2006. For simplicity purposes, we have combined the findings from the first phase of the audit with the findings from the second phase of the audit to arrive at this comprehensive audit report.

Further monitoring will be performed as necessary until completion of construction.

### BACKGROUND

#### *East Tower*

Memorial Hospital desired to build a Women's and Children's Hospital as part of their existing campus at 1400 E. Boulder Avenue. Funding was available, and the Hospital chose to fast-track this project. Jonathan Bailey & Associates was chosen as the architect to design the building, and Turner Construction Company (Turner) was chosen as the Construction Manager. The original agreement (August 2003) with Turner was a Construction Manager Agency Agreement (CMA). In 2004, the agreement was changed to a Construction Manager at Risk Agreement (CM At Risk). The CM At Risk was signed in August 2004 with the understanding that a Guaranteed Maximum Price (GMP) would be agreed to by November 2004.

Turner submitted a GMP on November 1, 2004, but the amount was higher than preliminary estimates provided to the Hospital. Memorial Hospital and Turner agreed to have an independent estimator prepare an estimate of the cost of the building. In March 2005, the independent estimator verified the price submitted in November 2004 was appropriate. However, before Memorial Hospital accepted the GMP, Turner withdrew it and offered a higher GMP.

Early in June 2005, Turner and the Hospital agreed that they could not reach an agreement on the GMP, and therefore, Turner would withdraw as Construction Manager. The two entities agreed that they would dissolve their contract as an "amicable separation." While the contract documents signed by the two entities included terms for dissolving the contract for cause or convenience, it did not specify terms for an "amicable separation." Consequently, the dissolution of that contract has not been finalized.

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## Introduction

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In July 2005, the project was re-bid. Technical Project Services (TPS) and J.E. Dunn Construction managed the construction during the interim period. PCL won the re-bid process and became the construction contractor in October 2005 for a contract amount of \$54.7 million. This amount did not include the addition of the 6th and 7th floors. On approximately April 20, 2006 the budget was revised based on an internal audit performed by the Project Manager, the Controller and the Purchasing Manager. The project's projected total cost is now estimated to be \$109.5 million, including the 6th & 7th floors.

A recap of the original budget and how it has changed over the life of the project is as follows:

\$67,000,000	November 2003 - Original project budget included a 4 story building and basement, with the 4 <sup>th</sup> floor not ready for occupancy (shell only).
4,184,000	April 2004 – Remainder of 4 <sup>th</sup> floor and addition of 5 <sup>th</sup> floor.
10,000,000	September 2005 – Project re-bid. Additional scope changes were made.
18,500,000	September 2005 – 6 <sup>th</sup> and 7 <sup>th</sup> floor were added.
<u>9,784,933</u>	April 2006 – Added unbudgeted costs for the first 5 floors and established a contingency of 4%.
\$109,468,933	August 2006 - Current Budget for project

The East Tower's emergency department (level one) is scheduled to be turned over to Memorial in November 2006, with the remaining floors scheduled to be completed by August 2007.

### *North Campus*

To meet the health care needs of residents in northern Colorado Springs and throughout El Paso County, Memorial Hospital purchased 82 acres of land at Briargate Crossing early in 2004. The land will be developed as a medical campus to include a full service hospital, medical office buildings, clinics, and related services such as retail or possibly hotel facilities.

Currently, phase-one is under construction at this site. Plans for this phase consist of a 200,000 square foot, five-story, 89-bed adult hospital with a full range of diagnostic and treatment services. The construction manager for this project is J.E. Dunn and the architect is Jonathan Bailey Associates. The expected completion of this phase is early 2007.

North Hospital has approved change orders to date that will expend the remaining contingency amounts. As additional changes are necessary, the project is at risk for either going over budget or reducing scope. Several items have already been identified as potential future changes that could increase the project cost. Because the North Hospital is only about 75% complete to date, it appears unlikely that the project will remain within its current budget.

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## Introduction

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### OVERALL CONCLUSION

In general, we found our concerns can be grouped into two categories, which are the management of Budget and Contracts. Additional details for each of these categories include:

#### Budgets

- Initial Cost Estimates were inadequate (finding 1)
- Lack of adequate contingencies (findings 1, 9 and 10)

#### Contracts

- Did not always use contracts (findings 3, 4 and 8)
- When used, not always in the best interest of the Hospital
  - Used those designed by AIA (finding 2)
  - Did not contain Audit Clauses (finding 7)
  - Not always followed (finding 5)

In closing, we found that Memorial Hospital is working very hard to correct deficiencies in their purchasing, budget and control procedures. Upgrades to their staff included strong leadership, a construction project manager and an experienced contract administrator. The current staff is working diligently to manage the construction and deliver high quality facilities. Although positive strides have been made, the staffing for the magnitude and complexity of these projects is still stretched extremely thin, leaving several deficiencies as noted in the findings section of this report. Although future projects may be impacted by some of the positive effects of the new contracting and purchasing procedures, the changes will not have as much of an impact on the current projects of the East Tower and North Campus.

We will continue to monitor these projects until their completion.

***The following pages contain 10 findings and recommendations, along with the Hospital's responses. The findings are not necessarily in order of importance.***

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# Findings, Recommendations and Responses

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## PHASE 1 FINDINGS (SEPTEMBER TO OCTOBER 2005 FIELDWORK)

### 1. The Budget

Memorial Hospital may have placed too much trust and reliance in Turner, the Construction Manager, in establishing the budget for the project. The Hospital relied on the Construction Manager's estimates to establish the budget for the project. However, with hindsight, Turner's early estimates appear low. The estimates also did not include adequate contingencies. For large projects, we recommend that the Hospital consider obtaining independent estimates of project costs when establishing a budget. We also recommend including adequate contingency amounts in the budget.

#### *Memorial's October 2005 Response*

In the future, Memorial Hospital will obtain an independent cost estimate for large projects utilizing expert services of such companies as "Cummings and TPS." Memorial Hospital also will recommend the following contingencies:

- a. Construction contingency of not less than 3% of total construction cost.
- b. Design contingency of not less than 5% of total design fees.
- c. Owners scope reserves of not less than 5% of construction cost to be controlled by the owner.
- d. Mid project escalator for inflation of not less than 5% each year during actual construction for budgeting purposes.

Memorial Hospital will also look at increasing the "Design Development" (DD's) contingencies from 3% of the construction and 5% of design to 8% of construction and 8% of design until the drawings are more complete for budgeting purposes. When drawings reached a true "Construction Document" (CD's) phase the hospital would adjust the contingencies back to the above recommended range.

The following departments will be represented at a weekly "construction cost tracking" meeting: facilities, information technology, finance, purchasing and PCL. The meeting will track current and potential impact cost on a weekly basis to allow adjustments as required keeping on 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.

The impact of not including adequate contingencies has also been observed at the North Hospital (See Finding 10).

#### *Memorial's August 2006 Response*

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

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## Findings, Recommendations and Responses

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### 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 (See Finding 7).

#### *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 contracts 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.

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## Findings, Recommendations and Responses

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### 3. The Architect

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 signed contract with the architect (See Finding 8).

#### *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 this new position is filled.

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## Findings, Recommendations and Responses

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### 4. Using Contracts

Contracts were not always used for vital services necessary to the completion of Building 16. Through 2004, change orders for pre-construction work on Building 16 were approximately 18.5% or \$378,129 overall. Approximately \$220,651 or 58% appeared to be related to problems encountered because of unexpected delays, incorrect utility locations, or design issues. In order for an estimate to be reliable, information related to costs that can be anticipated should be detailed in the original bid specifications, i.e., reliable civil engineering drawings, information from surveys, etc. If a vendor providing a service has not performed accurately or timely there should be recourse to the owner to recover additional costs due to non-performance issues. Memorial Hospital could not subrogate these costs to the vendors who performed the services because no specific contracts had been signed for the services. We recommend Memorial Hospital enter into written contract agreements with all major or critical service providers required for a construction project. The contracts should specify deliverables, time frames, and consequences for non-performance.

#### *Memorial's October 2005 Response*

Memorial Hospital agrees and will ensure compliance with using contracts for any and all vital services.

#### *Auditor's August 2006 Follow-up*

Management is addressing purchasing procedures with finance, purchasing and facilities personnel in weekly meetings. When the new procedures are complete, the City Auditor's Office plans to review the procedures. As previously mentioned, Memorial does not have a contract with the architect for these two projects (See Finding 8).

#### *Memorial's August 2006 Response*

The Memorial Health System is working on finalizing contracts with the architects for the two projects. See Finding 8.

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## Findings, Recommendations and Responses

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### 5. Amicable Separation

When the Hospital realized that they could no longer work with Turner, Memorial's management notified Turner by phone and agreed to an amicable separation. However, the terms for an amicable separation were not in the contract. The separation agreement was not detailed. Turner provided a letter on July 18, 2005 which specified some terms, which had been worked out with the Facilities Administrator. We recommend that agreements such as those terminating a relationship should be written, specify details that should be addressed when finalizing the separation, and signed by all parties involved.

#### *Memorial's October 2005 Response*

Memorial Hospital will continue to work with the City Attorney's Office regarding any and all contract separation issues and pursue the most appropriate method of dispute resolution.

#### *Auditor's August 2006 Follow-up*

The Turner separation issue is being handled by the City Attorney's Office.

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## Findings, Recommendations and Responses

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### 6. Sales Tax

Documentation related to Memorial Hospital being a tax exempt entity was not consistently shared with subcontractors. Some subcontractors paid sales tax and then included sales tax in their billings to the Hospital. If the Finance Department caught the inclusion of sales tax, the sales tax amount would be excluded from payment to the subcontractor. The subcontractor would then be instructed to present a request for a sales tax refund to the City. According to the scope of services included with each subcontract, a Certificate of Exemption should be given to every subcontractor. The scope of services also references forms that can be submitted to get a refund for City tax paid. According to comments made by some subcontractors, they did not appear to have the Certificate of Exemption. Therefore, we recommend that the Hospital ensure that all contractors and subcontractors receive the Certificate of Exemption and instruction on how to use it.

#### *Memorial's October 2005 Response*

Memorial Hospital will make sure that the contractor and sub-contractors are informed of Memorial Hospital's tax status by distribution of the project policy and procedures manual.

#### *Auditor's August 2006 Follow-up*

Subsequent to the issuance of the original finding, the City Auditor has begun an audit of the City's Sales Tax Division. While that audit is not expected to be complete until August 2006, a preliminary report was issued on June 16, 2006 which identified the above mentioned practice of having contractor's request a refund for sales tax paid as not allowed in the City's Tax Code. Based on this information, we now recommend that Memorial develop a new methodology for material purchases on projects with substantial taxable purchases. The new methodology would require that materials be purchased by the Hospital, delivered to their site, and paid for by the Hospital, in order to obtain the tax exemption contained in the City's Tax Code.

On June 26, 2006, during their informal council meeting, the City Council instructed staff to provide them alternatives relating to the Sales and Use Tax paid by governments such as the Hospital. The Hospital should monitor the actions taken by Council and determine strategies to lower the overall costs associated with their projects.

A copy of the City Auditor's June 16<sup>th</sup>, Sales Tax Report can be found on his website at [www.springsgov.com](http://www.springsgov.com). Click on City Agencies, City Auditor, Published Report and select the June 19<sup>th</sup> entry for 05-128 – Performance Audit of the Sales Tax Division.

#### *Memorial's Response:*

The Memorial Health System will monitor City Council's actions and will develop procedures to maximize their sales tax refunds as suggested.

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## Findings, Recommendations and Responses

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### Phase II Findings (March to May 2006 Fieldwork)

#### 7. No Audit Clause in PCL Contract

The PCL contract for the completion of the East Tower was written using the standard American Institute of Architects (AIA) format. The contract did not contain an audit clause. The change order section also does not contain an audit clause, although a review of all support is allowed before each change order is approved. After approval, the change order is considered a lump-sum contract.

In 2002, we provided Memorial a recommendation that stated “Contracts between Memorial Hospital and the architects or contractors had either no audit clause or an inadequate audit clause. Memorial Hospital used American Institute of Architects (AIA) standard contract forms. AIA Document A101/Cma did not contain an audit clause. AIA Document B141 in Article 1.2.2 ‘Responsibilities of the Parties-Owner’ states in paragraph 6 that ‘the owner shall furnish all... including auditing services, that may be reasonably necessary at any time for the Project to meet Owner’s needs and interests.’ This audit clause did not sufficiently cover the scope of services that may be required during an audit.”

Memorial Hospital or its designee should upon reasonable notice be allowed to inspect and/or reproduce information that may in its judgment have any bearing on or pertain to any matters, sources of information, or other agreements covered by the contract documents. An undefined audit clause is an internal weakness in the contract. When performing an audit, it may be necessary to review documents or records that may not appear to be reasonably necessary to the architect. This could create a delay in obtaining the necessary information to perform an effective audit. A contract without an audit clause does not allow the owner to verify or review information related to the project.

#### *Auditor’s 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 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.

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## Findings, Recommendations and Responses

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### 8. No Signed Contract for the Architect

No signed contract exists between the architect (JBA) and Memorial Hospital. JBA has been paid \$10.6 Million dollars (\$6 million for the East Tower and \$4.6 Million dollars for the North campus).

The Hospital was under considerable risk when they chose to expand the main campus and build the North Hospital under the fast-track method, instead of the traditional design, bid, build method. A true design build would have shared the risk with the builder and architect by addressing maximum costs in the contract. The original unsigned contract with JBA stated a flat 6.95% of building costs and referred to a negotiated maximum price. At the time the contract was drafted, Turner's estimated price of \$51,174,263 was used to estimate a maximum architect fee of \$3,556,263 for the East Tower. After the project costs increased, JBA continued billing at the 6.95% level with costs now at \$6 million of the East Tower. As the project expanded, the architectural fees continued to increase with no financial incentive for JBA to hold the project to a maximum price, or by capping their fees at an agreed upon level.

By paying the invoices as presented without a signed contract in place, Memorial Hospital has weakened their negotiation position for any controversies that might arise.

#### *Auditor's Recommendation:*

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

#### *Memorial's 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 3<sup>rd</sup>. A proposed contract was sent to the architect on June 28<sup>th</sup>. Once the Memorial Central contract is finalized, we will work promptly to finalize the North Hospital contract, using the Central contract as a template.

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## Findings, Recommendations and Responses

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### 9. Contingency added in Change Order

Many of the subcontracts for Change Order #7 have been marked up by PCL to include a 1% to 2% contingency. The contract does not provide for a contingency to be included in the change order pricing.

PCL's pricing for the subcontractor portion of Change Order #7 is \$63,705 higher than the subcontractor bids submitted. Although the 1% to 2% contingency does not appear material, credits will not be given for this amount if it's not used. The risk is that new scope will be billed in a future change orders, and the contingency will not be monitored or used for additional scope.

The contract allows for negotiation and pricing reviews before the change order is approved, but price adjustments after the approval is not allowed by the contract. To continue to monitor PCL under this contract, the City Auditor's Office should be involved in change order auditing before the change orders are approved. This will provide an opportunity for potential discrepancies to be discovered before the pricing is agreed upon.

#### *Auditor's 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 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.

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## Findings, Recommendations and Responses

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### 10. THE NORTH CAMPUS BUDGET IS AT RISK

North Hospital has approved change orders to date that will expend the remaining contingency amounts. As additional changes are necessary, the project is at risk for either going over budget or reducing scope. Several items have already been identified as potential future changes that could increase the project cost. Because the North Hospital is only 68% complete to date, and all the drawings are still not complete, it appears unlikely that the project will remain within its current budget.

The drawings for North were not complete when the GMP contract with J.E.Dunn was signed. Many items that would normally be included in the original scope of construction were not included in the drawings used by J.E.Dunn to prepare their bid. Memorial made a conscious decision to fast track the construction. Incomplete drawings increase the budget risk significantly, therefore, Memorial could have mitigated the risk 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%.

On future projects management should consider the risk of the project when determining the contingencies.

*Auditor's Recommendation:*

We recommend contingencies be based on the amount of risk for the project. Memorial will need to take appropriate steps to address the probable budget shortfall.

*Memorial's Response:*

The Memorial Health System agrees with the recommendation. Contingencies on future projects will be set with the amount of potential risk considered. Memorial Health System is currently evaluating the Memorial North budget.