DATE: November 24, 2014

TO: Dr. Marcus Newsome  
School Superintendent

FROM: Greg L. Akers  
Director of Internal Audit

SUBJECT: School Construction Management Audit

The Office of Internal Audit completed an audit of School Construction Management, and the final report is attached.

We would like to thank John Behen and his staff for their cooperation and assistance during this audit.

Attachment

Copy: Andy Hawkins, Assistant Superintendent for Business and Finance  
John Behen, Director of School Construction
School Construction Management Audit

November 24, 2014

Clover Hill Academy
Midlothian High
Midlothian Middle
Watkins Elementary

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FINDINGS/RECOMMENDATIONS
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November 2014

Highlights

Internal Audit Report to the Board of Supervisors/School Board

Why We Did This Review

Internal Audit conducted this review as part of our FY14 audit plan approved by the County Administrator and Board Superintendent.

The audit focused on capital project management of four projects: the Clover Hill Academy, Midlothian High, Watkins Elementary, and Midlothian Middle. In particular, our objectives were to:

- Perform financial analyses of the financial activity for the life of the CIP projects.
- Ensure procurement requirements were in compliance with Code of Virginia and County Policies and Procedures.
- Review change orders and vendor invoices for proper pricing, adequate support, and approval.
- Test vendor payments for propriety and compliance to County Administrative Procedures.
- Report results to the School Superintendent.

What We Recommend

We recommended the following:

- School Construction maintain all original contract documents. (Repeat Finding from 2009 and 2012)
- Explore the possibility of separating procurement functions on the construction projects from project management.
- Re-evaluate the practice of netting allowances against additional cost and establish metrics to limit the use of change orders.
- Verify change orders for completeness, supporting documentation, and mathematical accuracy. (Repeat Finding from 2012)

For more information, please contact Greg L. Akers, at 804-748-1240 or Akersg@chesterfield.gov

School Construction

Management

What We Found

Procurement

A review of the construction contract files was conducted for compliance to policies and procedures. Based on this review it was noted that project files were misfiled, original file documents were not maintained, bid packets for the Clover Hill Academy were not maintained, and correspondence from the Architects were not maintained, therefore testing was limited.

Insurance Testing

We reviewed all insurance requirements for each contractor and verified coverage amount, time period, ratings, and financial stability of the surety and insurance companies and coverage was found to be adequate.

Financial Analysis

Original and revised budget(s) were reconciled between IFAS and General Ledger and compared to actual expenditures life-to-date. The projects appear to be on track to be completed within the total project budget.

Progress Payment/Expenditures

A download of all payments associated with the contract between the County and contractors was obtained. All payments were in compliance with County Administrative Procedures.

Change Orders

We reviewed 93 change orders issued for the four projects totaling $1,547,471. We noted 28 issues related to supporting documentation, timeliness and mathematical accuracy:

- 15 did not have adequate supporting documentation,
- 8 do not appear to have been issued timely,
- 2 were not approved before work was completed, and
- One altered the contract scope.
- One for $98,860 was netted against allowances for separate adjustments, which reduced the net change order amount below the $50,000 threshold that requires School Board approval.
- One for $32,969 associated with building permit delays for project where a Written Notice to Proceed was not issued. Instead the contractor was allowed to begin work when the contract was signed, before all permits were received.

Management concurred with 8 of 9 recommendations to be implemented from November 1, 2014 to January 1, 2015.

We appreciate the cooperation received from management and staff while conducting this audit.
INTRODUCTION

BACKGROUND
The audit of School Board Construction was included in the Audit Plan for FY14 as a regularly scheduled audit. The School Board Construction Office includes a Director, a CIP Coordinator, two Construction Coordinators, five Construction Specialists, and an Administrative Assistant. In 2013 there were four renovation projects in the construction phase along with other projects. These projects include the Old Clover Hill High (Clover Hill Academy), Midlothian Middle, Watkins Elementary, and Midlothian High School renovations.

OBJECTIVES
The objectives of the audit were to:
- Determine compliance with the Code of Virginia, Code of the County of Chesterfield and County Administrative Procedures for project contracts.
- Determine compliance with bond and insurance requirements.
- Perform financial analysis of the projects life-to-date.
- Test vendor payments for propriety and compliance with County Administrative Procedures.
- Determine that change orders are priced in accordance with contract documents, adequately supported, and properly approved.
- Report results to the School Superintendent.

SCOPE
We reviewed activity for four projects: the Clover Hill Academy, Midlothian Middle, Watkins Elementary, and Midlothian High School Renovations. Our audit included testing the following areas from the inception of the project through November 30, 2013:

<table>
<thead>
<tr>
<th>Procurement</th>
<th>Bonds and Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress Payments/Expenditures</td>
<td>Change orders</td>
</tr>
<tr>
<td>Financial Analysis of expenditures to the budget</td>
<td></td>
</tr>
</tbody>
</table>

We considered the following codes, policies, and procedures during our audit:

<table>
<thead>
<tr>
<th>Chesterfield County Public Schools Procurement Policy</th>
<th>Library of Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 1-5: Bill Approval, Documentation and Payment</td>
<td>Accounting 1-12: School Capital Projects</td>
</tr>
<tr>
<td>Purchasing 12-11: Competitive Sealed Bidding</td>
<td>Purchasing 12-12: Competitive Negotiation</td>
</tr>
<tr>
<td>Purchasing 12-15: Contract Administration</td>
<td>Purchasing 12-16: Change Order</td>
</tr>
<tr>
<td>Purchasing 12-17: Receiving/Payment Authorization of Goods and Services Policy</td>
<td>Purchasing 12-18: Review/Approval Levels for IFB/RFP files and non-county contract exemptions</td>
</tr>
</tbody>
</table>
We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Divya Barrer, Senior Auditor and Crystal Hinkle, Staff Auditor performed the audit work. Chesterfield County Internal Audit is a department within the organization of Chesterfield County/Schools.

**METHODOLOGY**
Detailed information regarding the methodology can be found in the individual findings listed in the report. Our methodology included review of the construction projects with compliance to Code of Virginia and County Administrative Procedures. We reviewed bid tally sheets for accuracy and adequate analysis, as well as the evaluation of the winning bids prior to contract award. We reviewed contract documentation and tested bonds and insurance against contract requirements to ensure coverage met contract requirements, covered appropriate time periods, and insurers were financially stable. We also performed financial analyses of the project, including reconciling to the County’s accounting system, to ensure budget transactions were properly documented and approved, and the project was proceeding within commitments. Finally, we tested change orders and progress payments for propriety and compliance with County Administrative Procedures including adequate support, mathematical accuracy, and proper approval.

**INTERNAL CONTROL CONCLUSION**
According to Government Auditing Standards, internal controls, in the broadest sense, encompass the agency’s plan, policies, procedures, methods, and processes adopted by management to meet its mission, goals, and objectives. Internal controls include the processes for planning, organizing, directing, and controlling program operations. It also includes systems for measuring, reporting, and monitoring program performance. An effective control structure is one that provides reasonable assurance regarding:

- Efficiency and effectiveness of operations;
- Accurate financial reporting; and
- Compliance with laws and regulations.

Based on the results and findings of the audit test work, auditors concluded that there are several opportunities for improvement to internal control procedures to better provide reasonable assurance of achieving effective and efficient operations, reliable financial and performance reporting, or compliance with applicable laws and regulations.

**CLOSING**
We would like to thank the School Construction Management staff for their cooperation and assistance during the course of this audit.
CRITERIA:
School Board Policy and Procedure 7150 – Operations and Finance, specifies the guidelines for securing public confidence of purchasing, competition among vendors and contractors, and to obtain high quality goods and services at the lowest possible price. In addition, the policy states that the School Superintendent is the purchasing agent for School Board construction funds.

Section 2.2-4300 of the Virginia Public Procurement Act, provides guidance for public entities in the Commonwealth to obtain high quality goods and services at a reasonable cost through fair and impartial procurement practices.

Section 2.2-4302.1 of the Virginia Procurement Act – Process for Competitive Sealed Bidding, requires that the following steps be followed: (1) issuance of a written Invitation to Bid, (2) public opening and announcement of all bids received, (3) evaluation of bids, and (4) award of bid to lowest and responsible bidder.

Section 2.2-4302.2 of the Virginia Procurement Act – Process of Competitive Negotiations, requires that the following steps be followed: (1) issuance of a written Request for Proposal, (2) public notice of Request for Proposal, (3) selection of two or more qualified proposals, (4) if proposals shall be for professional services then the engagement of discussions with qualified proposal owners should take place, and finally (5) the negotiation for a fair and reasonable price.

Library of Virginia GS-02, Series 010159 – Records Retention and Disposition Schedule – states that County and Municipal Governments should retain contracts and agreements entered into by the locality for 5 years after the expiration date.

County Administrative Policy and Procedure 1-12: Accounting - School Capital Projects Accounting, includes, but is not limited to, the following: retainage and payment terms of contracts executed by the School Board will conform to the County’s standards, School Construction maintains the contract files for all school capital projects, and also states that change orders require approval in accordance with County Administrative Procedure 12-16: Purchasing – Change Orders.
CONDITION(S):
We reviewed the following construction contract files for compliance to policies and procedures:
- Clover Hill Academy
- Midlothian High
- Midlothian Middle
- Watkins Elementary

We reviewed each of the 4 projects, and the following was noted:

- Project records at School Construction were misfiled and files were not maintained properly.
- **Procurement – Contractor:**
  - The original contract for Watkins Elementary could not be located.
  - 2 of 4 projects did not have complete documentation of pre-bid conference (if held).
    - The Addendums for the Midlothian High project could not be located.
    - Bid packets for Midlothian High were not maintained at School Construction, but were obtained from the Architect.
  - Bid packets for Clover Hill Academy were not maintained, therefore the bid bonds, cashier’s checks, or other appropriate surety in the amount of 5% of the total bid could not be verified.
  - All construction contracts were approved and the requisition was authorized.
  - All proposed projects were advertised using the Invitation for Bid (IFB) in the newspaper.
  - All projects had IFBs posted at least 10 days prior to the opening date of the bid.
  - All projects had IFBs advertised for at least 10 days.
  - All bids opened publicly at the date and time specified, and tabulated on tally sheets.
  - All bids had two staff present at the public bid opening.
  - All bids were awarded to the lowest responsible bidder according to the tally sheets.
- **Procurement – Architect:**
  - All architect contracts were approved and the requisition was authorized.
  - All proposed projects were advertised using the Request for Proposal (RFP) in the newspaper.
  - All proposed projects had RFPs posted at least 10 days prior to the date set for receipt of proposals.
  - All projects had RFPs posted in newspaper of general circulation.
  - All projects received at least two bids for each proposed project.
  - All RFPs were evaluated individually by a selection committee via a scoring matrix.
FINDINGS, RECOMMENDATIONS, RESPONSES

Procurement Testing
(Point Sheet C-1.1 Continued)

- Construction Awards:
  - 3 of 4 projects did not have correspondence from the Architect showing that the contractors selected had experience in performing similar work and had equipment available.
  - All 4 projects tested did not have evidence showing if the prior clients were contacted by the Architects to check the quality of work and performance of the contractor firm.
  - All of the projects had contractors licensed with the State and were not on the debarment lists.

CAUSE(S):
- School Construction staff did not maintain all supporting documentation for the projects as required per policy.
- According to School Construction, the original project files went out for FOIA request and the information was missing when the files were returned.
- School Construction staff has not received a formal training in the Virginia Public Procurement Act.

EFFECT(S):
School Construction is in violation of the Records Retention and Disposition Schedule. The Library of Virginia GS-02, Series 010159 – Records Retention and Disposition Schedule states that County and Municipal Governments should retain contracts and agreements entered into by the locality for 5 years after the expiration date.

RECOMMENDATION(S):
1. We recommend School Construction maintain original contract documents including addendums on file, to ensure compliance with the contract as well as state and local policy and procedure compliance.
2. We recommend School Construction maintain all bid information (i.e. proposals, bid packets, advertisement support (newspaper article), bid bond documents, insurance certificates, etc.) for all IFB’s and RFP’s for at least 5 years after the expiration date. (Repeat Finding from 2009 and 2012)
3. We recommend that School Construction explore the possibility of separating procurement functions on the construction projects from project management. Based on procurement complexity and compliance risk, designating a lead or specialist to obtain procurement training could improve business practices and help ensure complete documentation is maintained supporting compliance with Virginia Public Procurement Act requirements.
4. We recommend measures be put in place by School Construction to ensure proper filing of project/contract documents, to ensure accuracy and ease of obtaining project related information.
MANAGEMENT’S RESPONSE(S):

1. Concur. John Behen, Director of Construction is responsible for implementing 1/1/15. We will establish procedure to better maintain contract documents.

2. Concur. John Behen, Director of Construction is responsible for implementing 11/1/14. We have begun separating our Job Files into three categories. The first is all activities that have to do with IFB’s and RFP’s, starting with Bid Invitations and following through to Award of Contract. This puts all the bid information in one location and allows us to isolate it from the day to day project filing.

3. Concur. John Behen, Director of Construction is responsible for implementing 11/1/14. We have established procedures to separate procurement from project management. Issuing bid documents, reviewing bid proposals, etc. are already handled by our Architects and Engineers.

4. Do Not Concur. As long as files are removed from our office for FOIA, we cannot assure their integrity. There has been discussion about changing the procedure so that they are not removed.
FINDINGS, RECOMMENDATIONS, RESPONSES

Change Orders Testing
(Point Sheet C-1.3)

CRITERIA:
According to County Administrative Policies and Procedures 12-16: Purchasing – Change Orders, the same official who has authority to execute a contract on behalf of the County or School Board shall have authority to execute change orders or other amendments to that contract. The policy also states that any single change order that increases the amount of a contract by more than $50,000 shall be approved by the Board of Supervisors or School Board.

Per policy 12-16, change orders that amend a contract in a way other than changing the amount of the contract shall be approved by the Board of Supervisors or School Board when they change the scope of the project beyond the scope of the contract originally awarded by the Board.

CONDITION(S):
We reviewed change orders for Clover Hill Academy, Midlothian High, Midlothian Middle, and Watkins Elementary from inception through November 30, 2013. During the period reviewed, there were 93 change orders issued for a total amount of $1,547,4710 for the four projects, and the following was noted:

- Written Notice to Proceed was not issued by School Construction to the contractor on Watkins Elementary and Midlothian High, instead the contractor was allowed to begin work when the contract was signed.
- 1 change order to add seating, carpeting, and flooring for the auditorium at Midlothian Middle for $98,860 was netted against allowances for separate adjustments that reduced the net of the change order amount to $47,804. It should be noted per the criteria above that any single change order that increases the amount of a contract by more than $50,000 shall be approved by the School Board. Also, limited detail on pricing breakdown was included for evaluating the proposed costs.
- The delegation of authority to sign change orders was issued by the Assistant Superintendent to the Director of Construction in 2002, and has not been reviewed in 10 years.
- 5 change orders had undetected minor mathematical/calculation errors.
- 1 change order altered the scope of the contract.
- 15 change orders did not have adequate supporting documentation.
- 2 change orders were not approved before work was completed.
- 8 change orders do not appear to have been issued timely.
The analysis below shows the amount and percentage of change orders issued in each project:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>No. of change orders</th>
<th>Original Contract Cost</th>
<th>Net Amount of Change Orders issued</th>
<th>Change Order % to Total Project cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clover Hill Academy</td>
<td>5</td>
<td>$24,200,000</td>
<td>$94,403</td>
<td>0.39%</td>
</tr>
<tr>
<td>Midlothian High</td>
<td>17</td>
<td>$11,796,000</td>
<td>$422,723</td>
<td>3.58%</td>
</tr>
<tr>
<td>Midlothian Middle</td>
<td>33</td>
<td>$7,975,000</td>
<td>$567,930</td>
<td>7.12%</td>
</tr>
<tr>
<td>Watkins Elementary</td>
<td>38</td>
<td>$4,702,000</td>
<td>$462,415</td>
<td>9.83%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>93</strong></td>
<td><strong>$48,673,000</strong></td>
<td><strong>$1,547,471</strong></td>
<td></td>
</tr>
</tbody>
</table>

*The amount of change orders was netted against allowances and credits of $278 for Midlothian Middle and $83,685 for Watkins Elementary.

Change orders for the above projects by category:

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Cost</th>
<th>Clover Hill Academy</th>
<th>Midlothian High</th>
<th>Midlothian Middle</th>
<th>Watkins Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner's Request</td>
<td>$779,007</td>
<td>$46,644</td>
<td>$265,670</td>
<td>$200,828</td>
<td>$265,865</td>
</tr>
<tr>
<td>Architect/Engineer Omission</td>
<td>71,510</td>
<td>5,985</td>
<td>35,788</td>
<td>4,523</td>
<td>25,214</td>
</tr>
<tr>
<td>Unforeseen Changes</td>
<td>640,400</td>
<td>40,956</td>
<td>106,560</td>
<td>334,691</td>
<td>158,193</td>
</tr>
<tr>
<td>Code Requirement</td>
<td>107,268</td>
<td>818</td>
<td>14,705</td>
<td>28,166</td>
<td>63,579</td>
</tr>
<tr>
<td>Permit Delays</td>
<td>32,970</td>
<td>-</td>
<td>14,705</td>
<td>-</td>
<td>32,970</td>
</tr>
<tr>
<td>Mathematical Corrections</td>
<td>279</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>279</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$1,631,434</strong></td>
<td><strong>$94,403</strong></td>
<td><strong>$422,723</strong></td>
<td><strong>$568,208</strong></td>
<td><strong>$546,100</strong></td>
</tr>
<tr>
<td>Less: Unused Allowances and Credits</td>
<td>(83,963)</td>
<td>(278)</td>
<td>(83,685)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net amount of Change Orders</td>
<td><strong>$1,547,471</strong></td>
<td><strong>$94,403</strong></td>
<td><strong>$422,723</strong></td>
<td><strong>$567,930</strong></td>
<td><strong>$462,415</strong></td>
</tr>
</tbody>
</table>
FINDINGS, RECOMMENDATIONS, RESPONSES

Change Orders Testing
(Point Sheet C-1.3 Continued)
**FINDINGS, RECOMMENDATIONS, RESPONSES**

*Change Orders Testing*
(Point Sheet C-1.3 Continued)*

Additional analysis on owner’s requests of compared to the individual project costs is shown below:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Original Contract Cost</th>
<th>Amount of Owners Requests</th>
<th>Owners Requests % to Original Contract Cost</th>
<th>Project Expenditures as of 11/30/13</th>
<th>Owners Requests % to total expenditures as of 11/30/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clover Hill Academy</td>
<td>$24,200,000</td>
<td>$46,644</td>
<td>0.19%</td>
<td>$8,511,063</td>
<td>0.55%</td>
</tr>
<tr>
<td>Midlothian High</td>
<td>11,796,000</td>
<td>265,670</td>
<td>2.25%</td>
<td>14,011,712</td>
<td>1.90%</td>
</tr>
<tr>
<td>Watkins Elementary</td>
<td>7,975,000</td>
<td>265,865</td>
<td>3.33%</td>
<td>10,414,678</td>
<td>2.55%</td>
</tr>
<tr>
<td>Midlothian Middle</td>
<td>4,702,000</td>
<td>200,828</td>
<td>4.27%</td>
<td>6,304,908</td>
<td>3.19%</td>
</tr>
</tbody>
</table>

**CAUSE(S):**
- According to the Director of Construction, the contracts on Watkins Elementary and Midlothian High were fully executed contracts and did not require formal Notice to Proceed.
- The delegation of authority is not reviewed by School Construction Management when there are changes in Staff positions.
- School Construction relies on the Architects to check for mathematical accuracy and supporting documentation and do not verify the calculations or supporting documentation before signing the change order.
- The work being completed prior to the change order being authorized happens when the contractor identifies work to complete before project can move forward; contractor will sometimes proceed on a verbal approval through the Architect and the owner prior to the written change order being approved.
- The change orders were not issued timely as they were not approved timely. The approval time varied from 11 days to 52 days from the receive date.
- According to the Director of School Construction, the items omitted due to Architect errors would still have to be paid as a part of the initial contract, had they not been omitted.
FINDINGS, RECOMMENDATIONS, RESPONSES

Change Orders Testing
(Point Sheet C-1.3 Continued)

EFFECT(S):

- The Watkins Elementary contractor, mobilized by verbal notice to proceed and a signed contract, was unable to begin construction for 10 weeks until the building permit was obtained. Timing of road construction (a Virginia Department of Highways project) delayed School Construction in obtaining the building permit. A change order was issued to pay the contractor $32,969 for superintendent compensation and overhead cost during the delay in obtaining the building permit.
- Change order for $98,860 issued for seating, carpeting, and flooring for auditorium for Midlothian Middle was not included in the original scope of the project.
- Contractor’s completing the work before getting a formal authorized change order could result in unreasonable costs for the work performed.
- $1,499 was overpaid to the contractors due to mathematical/calculation errors on change orders that were not identified by the Architects when approved for payment.

RECOMMENDATION(S):

5. We recommend School Construction issue a written “Notice to Proceed” to the contractor on all construction projects. When School Construction is responsible for obtaining building permits, the Notice to Proceed should be held until permits are received (to prevent liability for contractor’s cost while waiting for permit approval).

6. We recommend School Construction re-evaluate the practice of netting allowances against additional cost when considering authorizing thresholds for change orders.

7. We recommend School Construction verify change orders for completeness (including pricing breakdown), supporting documentation, and mathematical accuracy. (Repeat recommendation FY12 audit)

8. We recommend School Construction establish metrics to monitor percentages of architect omissions and elective/optional changes to limit the use of change orders issued due to owners requests and architect omissions and utilize competitive pricing tools wherever possible.

9. We recommend School Construction approve the change orders before work is started.
MANAGEMENT’S RESPONSE(S):
5. Concur. John Behen, Director of Construction is responsible for implementing 11/1/14. Written Notice to Proceed will be issued.
6. Concur. John Behen, Director of Construction is responsible for implementing 11/1/14. We will evaluate when to apply allowances.
7. Concur. John Behen, Director of Construction is responsible for implementing 1/1/15. We will establish a procedure for verifying Change Orders.
8. Concur. John Behen, Director of Construction is responsible for implementing 11/24/15. We will use the Pay Application to monitor change orders. Each month the Director of Construction will review each project’s pay app for change orders. All change orders will be logged and responsibility will be assessed such as: Owner request, unforeseen condition, architect error or omission.
9. Concur. John Behen, Director of Construction is responsible for implementing 11/1/14. Procedure is in place to approve Change Orders before work is started. It is always the wording of the specifications to have approved change orders before work is started. There are some times when the contractor feels that delaying the work will cost him more and he proceeds without the proper authorization.