



# Fairfax County Internal Audit Office

**Department of Housing and Community Development  
Contract Administration Audit  
Final Report**

**August 2009**

*"promoting efficient & effective local government"*

# Executive Summary

We performed an audit of the Department of Housing and Community Development (DHCD) contract administration over construction contract change orders. We examined two construction projects, Glenwood Mews and Southgate Neighborhood Community Center. We determined that while controls existed in the contract general conditions they were not being consistently followed. In our detailed review of DHCD's Southgate Neighborhood Community contract we determined:

- Change orders appeared excessive and were not consistently controlled
- DHCD was overcharged approximately \$22,000 by a contractor as a result of misapplied overhead, excessive foreman hours charged, and excessive labor rates charged on change orders (see Exhibit A attached)

We found that invoices for change order work on the Glenwood Mews project the contractor was providing supporting cost documentation via third party software which made the cost verification process difficult and was not in compliance with the contract terms. Specifically, selected cost elements did not match to DHCD's standard cost reference (R.S. Means) for verification purposes.

We determined that DHCD had not updated and was not relying on written contract administration policies and procedures and instead, was relying on individual staff member contract administration knowledge to accomplish the work. DHCD had benefited in the past from the contract knowledge and experience of a long time employee who has now retired.

However, during the course of this audit and prior to our final report, DHCD has been developing updated documented contract administration policies and procedures with expected final implementation in the next two months. Documented business processes can help improve the likelihood of consistent contract monitoring with appropriate controls/safeguards.

Also, DHCD has pursued the overpayment of \$22,000. The contractor disputes the claim and DHCD will continue to work with the County Attorney's Office on this issue.

## Scope and Objectives

We reviewed construction contracts awarded and worked on during a fifteen month period, from January 2006 to March 2007. We noted two significant contracts, Glenwood Mews and Southgate Neighborhood Community Center that were active during the period and selected the Southgate Community Center contract to review in detail. We concentrated our audit effort on the area of contract change orders where the risk of overcharges and overpayments was greatest and selected 12 change orders to review in detail. In addition, we examined the cost controls and project contract methodology for the Glenwood Mews project.

The objectives of the audit were to determine that the department:

- Had developed written contract administration procedures that provide structure and guidance in the award and administration of construction contracts and change orders
- Was making contract change order payments in accordance with policy and that policies followed were in the best interest of Fairfax County
- Had employed appropriate standards for acceptable overhead costs

This audit was performed as part of our Annual Audit Plan and was conducted 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.

## Methodology

Our audit approach included interviewing key DHCD personnel, performing an internal control evaluation and examining existing documentation. We also performed a detailed review of all change orders issued for the Southgate Community Center noting allowable labor, overhead and profit rates. We reviewed contract terms and conditions for use, and analyzed unit prices to ascertain overhead and profit percentages allowed in typical unit prices of the Glenwood Mews contract (priced in accordance with Department of Purchasing and Supply Management's (DPSM) open-end contract available to all county agencies). We performed testwork that included reviewing construction contracts for general conditions particularly in reference to change orders.

## Findings, Recommendations, and Management Response

### 1. Internal Controls/Oversight

During our review of change orders on Southgate we noted several instances of mark-ups being applied incorrectly, as well as apparent excessive labor and/or labor burden rates and other cost elements that were paid twice. These overcharges, amounting to about \$22,000 when combined with the magnitude of owner requested change orders, resulted in a total of \$645,000 in change orders or 22% of the base contract amount being issued.

Typical new construction contracts include a 10% contingency for change orders. When discussing change orders with DHCD staff, we were advised that the Southgate contract likewise included a contingency of 10% for potential change orders. Contract general conditions provide for a 15% or 20% mark-up for overhead and profit depending on the significance of the change order and the payment of actual costs on change orders.

Based on discussions with DHCD contract personnel we learned that that the owner (Department of Community and Recreation Services) requested several change orders. However, evidence from the numerous overcharges for overhead and profit and the excessive labor rates charged demonstrated that oversight and supervision of change work was not sufficient and contributed to the significance of change orders. (See Exhibit A).

Excessive change orders and overcharges for overhead and profit and excessive labor rates on the project resulted in insufficient funding and the need for additional funding to complete the project. Further, DHCD did not have an established training program for its construction contract managers, and managers had not been trained on the proper application of mark-ups and other indirect costs included in change orders as detailed in the contract general conditions. A lack of training may result in contract administration procedures not being applied consistently or properly.

Internal Audit has verified that DHCD has taken steps to address overcharges on Southgate. On July 10, 2009, a letter went out to the contractor which requested repayment of the overcharges of approximately \$22,000.

**Recommendation:** DHCD should strengthen its monitoring and oversight controls over the development of contract change orders by implementing the following:

- Provide training specifically structured to the administration of construction contract change orders
- Provide an increased level of supervision to construction managers for the change order administration function
- Require construction managers to prepare a Summary Record of Negotiations that documents the negotiation process including the preparation of the engineer's estimate, contractor's proposal and final change order amount on significant (\$100,000, or lower at discretion of project manager) change orders
- Prepare or obtain independent estimates for significant change orders
- Develop and utilize standard contract change order forms which indicate the proper mark-ups to apply
- Require contractors to comply with contract general conditions article 12.5.7 which requires a certificate of current cost or pricing data on all change orders over \$100,000

**Management Response:** DHCD staff will participate in annual training specifically to include the change order process. This will cover Article 12 of Section D of the General Conditions of DHCD's construction contract. On March 12, 2009, DHCD staff and the architect for the new Olley Glen construction project completed the first annual training, specifically, for project change orders. Training will include how change orders are generated and by which party, the proper response to a change order request in the field, the allowable mark-ups, the process for approval or denial of a change order; and negotiating change orders.

DHCD reviewed Article 12 of Section D of the General Conditions of DHCD's construction contract for improvements based on other agencies change order processes. DHCD will make the recommended changes to its boiler plate contract.

DHCD has developed standard forms indicating the proper mark-ups for COs. DHCD has developed a new change order process and has implemented it on the Olley Glen project. A memorandum explaining the changes accompanies all COs, as well as, a "Current Cost or Pricing Data Certificate" and a "Record of Negotiations." Also, review of the PCOs by the project's independent cost estimator is included as necessary with the COs. The new CO process will be included in the new capital project procedures manual.

DHCD has requested an audit by the county's Internal Audit Office of the Olley Glen contractor and their major subs in order to verify labor burden expenses.

## **2. Cost Specification Standards**

When submitting monthly progress payments or invoices for change order work on the Glenwood Mews project the contractor was providing supporting cost documentation via third party software which made the verification process difficult, if not impossible. Submitted cost elements did not always match to DHCD's standard cost reference for verification purposes. The RFP required the contractor to submit its monthly progress payments with supporting information linked to prices established in the R.S. Means Building Construction Cost Data Book (R.S. Means). The R.S. Means is a nationally recognized publication that is utilized by the construction industry and design professionals for estimating and budgeting. R.S. Means lists the national averages of unit prices for materials, labor, equipment, general conditions and overhead and profit for various types of construction projects. The proper use of R.S. Means would have allowed DHCD to evaluate costs included in the monthly invoices. The supporting information that was provided with monthly invoices used "crews" instead of "specific trades" to price labor; consequently it was as if they were lump-sum. Verification of labor hours and rates was not possible.

Personnel responsible for monitoring the monthly progress payments did not require the contractor to follow the terms of the contract. When discussing the issue with the DHCD's architectural firm responsible for contract administration and monitoring monthly payments, we were advised that verifying monthly invoices was very difficult. The contractor supplied their own third party software which was not conducive to verification procedures.

Overcharges may occur where there is no way to verify prices or where this is difficult to verify. Accordingly, the county may be overpaying contractor monthly progress payments and/or change orders. DHCD did not have an established training program for its construction contract managers and managers had not been trained on the proper cost controls as detailed in the contract general conditions. A lack of training may result in contract administration procedures not being applied consistently.

**Recommendation:** We recommend that DHCD require contractors working under the DPSM open-ended contract submit prices in conformity with contract specifications using the R.S. Means. Moreover, alternative job order pricing guides should be evaluated to determine if price validation could be done electronically. In addition, DHCD should implement a training program for its construction contract managers in regard to the cost controls contained in the contract general conditions.

**Management Response:** DHCD has implemented annual training (see item #1). DHCD has stopped using the Job Service Contract that was negotiated by DPSM using R.S. Means. If DHCD ever uses this contract in the future, DHCD staff will require contractors to submit pricing in conformance with contract specifications using the R.S. Means. DHCD will do research to determine if price validation can be done electronically. The anticipated completion date is July 31, 2009.

### 3. Open-Ended Contracts

DHCD awarded a \$3.5 million contract through an RFP for Glenwood Mews under the county's (DPSM) open-ended job order contract (JOC). A JOC is a vendor contract whereby unit prices have already been established for specific items and the county requests selected items to fulfill project needs. Typically it is used on projects of indefinite quantity and indefinite delivery. Additionally, a JOC is used on projects where little or no design is required. Accordingly, by issuing an RFP and not an invitation to bid (IFB), competition was limited to price and the contractor's efficiencies in production were not considered in contract award.

According to the scope of work provisions of DPSM's open-ended contract it is to be used for a broad range of construction projects to include minor construction, repair, replacement, renovations, alterations, and maintenance projects on an "as needed basis." Furthermore, when discussing the issue with DPSM representatives we were advised that the open-ended contract methodology was not intended for new construction. Its use should be reserved for contracts of indefinite delivery and indefinite quantity. We noted that the open-ended contract did go through competition by requesting bidders to submit their lowest unit price and advising that contract award would be made on the basis of lowest unit prices proposed. Moreover, we note that material researched about JOC contracts indicated they should be used on projects of \$1,000,000 or less. This is also consistent with DPSM guidance. Projects larger than \$1,000,000 usually require more significant design and development, one of the inherent cost saving features of JOC contracts.

According to DHCD management, DPSM's open-ended JOC contract was utilized due to a reportedly tight construction/labor market. Management was concerned about obtaining an adequate response to an Information for Bid (IFB); consequently, Glenwood Mews was built through an RFP. The open-ended JOC contract was negotiated by (DPSM) in 2004 and considered unit prices in its competition and not

labor efficiencies. DHCD contract general conditions and cost controls were not included.

DHCD received an estimate that placed the JOC costs approximately 6% or about \$200,000 above the standard competitive process. We identified several contributing factors that potentially could add thousands of dollars over the cost of a competitively awarded contract issued under sealed bidding, i.e., quantity discounts, labor efficiencies, etc. Additionally, our analysis of selected unit prices included in the monthly billings indicates that the JOC contractor included an average 35% mark-up for overhead and profit on the direct costs of labor, material and equipment. DHCD's standard contract awarded through the competitive process provided for a 15% mark-up for overhead and profit on change orders. On typical competitively awarded contracts, contractor's invariably bid lower mark-up for overhead and profit in an attempt to remain competitive and win the contract award. Weak cost controls over the use of open-ended contracts for construction work increases the risk of greater costs for capital projects.

**Recommendation:** In the future, use of the county's (DPSM) open-ended JOC contract should be limited to minor construction projects (less than \$1,000,000) of indefinite delivery and indefinite quantity as indicated in the contract's scope of work.

**Management Response:** DHCD has stopped using the Job Service Contract that was negotiated by DPSM using R.S. Means. If DHCD ever uses this contract in the future, use of the open-ended JOC contract will be limited to minor construction projects such as bond release or punch list work, with a total construction cost of under \$1,000,000 of indefinite delivery and indefinite quantity as indicated in the contract's Scope of Work. This policy is effective immediately.

#### 4. Written Standard Operating Procedures

DHCD development officers did not have an updated written set of standard operating procedures (SOP) to follow in the construction/development of a project. Change orders were not being priced in conformity with contract general conditions Article 12 which details mark-ups for overhead and profit. Internal county business processes were inconsistent, not performed, or were dependent upon specific individual knowledge.

Documented business processes improve the likelihood of consistent work processes with appropriate controls/safeguards. Training for county staff also provides information and guidance to ensure complete and consistent work processes. For

consistency it is best practice to have well designed and written standard operating procedures for all development officers to follow.

Without written standard operating procedures documenting the procedures to follow in the design, development and construction of a project, there is a greater likelihood the

proper actions will not be followed uniformly or consistently resulting in potentially thousands of dollars invoiced and overpaid on construction contract change orders. Specific steps may be overlooked or just not performed.

During the course of our audit and prior to our final report DHCD has taken steps to develop a substantial portion of contract administration policies and procedures.

**Recommendation:** In order to provide for consistency and uniform contract administration procedures the Design, Development and Construction Division of the Housing Authority should develop standard operating procedures. In lieu of fully developing its own SOPs we encourage DHCD to consider adopting procedures over capital construction already being used by either DPWES or the Park Authority and if necessary make adjustments to meet the specific requirements at DHCD.

**Management Response:** DHCD is in the process of developing standard operating procedures (SOPs) for capital construction projects. The procedures are approximately 60% complete. DHCD is using the Fairfax County Park Authority's procedures as the main basis for new procedures. Additionally, several of DPWES's procedures will also be incorporated. DHCD's procedures will have a few unique features, driven by the type of financing that a project receives, such as federal funds, tax credits and private investors. Each has its own set of requirements and regulations for capital construction. DHCD is anticipating completion of the procedures by September 30, 2009. We will continue to seek advice and recommendations from IAO until the procedures are completed.

## 5. Contract Documentation/File Management

When reviewing the contract files for the Southgate Community Center and Glenwood Mews projects we noted that file management was not organized to maintain complete and accessible project records. Important contract documents (contract agreement, notice to proceed, substantial completion inspection and change orders) were not filed in an organized manner. We noted that change order documentation as well as the change order register was not organized or maintained. Retrieval of project documentation was difficult and time consuming.

Organized file management supports effective contract administration. Standard contract documents should be maintained in specific sections of the file to assist in file retrieval.

A lack of organized contract documents reduces the overall effectiveness of contract administration efforts due to potential documentation loss, incomplete files, and or the inability to readily obtain project information in a timely manner. The potential cost to the county is more significant as the number of contract documents needed and researched increases.

**Recommendation:** We recommend that contract files be established and organized at DHCD whereby specific contract documents are maintained in standardized files (electronic or hardcopy as determined by DHCD). A manual and electronic change order register should be maintained that records each change order and keeps a contemporaneous record of the total value of change orders and a total percentage of base contract costs.

**Management Response:** DHCD is in the process of establishing an organized and standardized filing system for capital construction projects whereby specific correspondence and all contract documents are maintained in proper condition as either electronic or hardcopy or both. We are beginning to implement it as we go along with the Olley Glen project. The filing system include a manually and electronically kept change order register with a contemporaneous record of the total value of change orders and the total percentage of base contract costs. The anticipated completion date is December 31, 2009.

Fairfax County Internal Audit  
 Department of Housing – Contract Administration  
 Notes to Exhibit A

**Note 1 – Foreman:**

The contractor proposed and was paid for 60 hours of the foreman labor classification in change order No. 001. However, based on our review of the Job History Detail report, a “foreman” did not work on any of the Southgate contract change orders. Accordingly, we recommend disallowing the 60 foreman hours as follows:

	<u>Per Contractor</u>	<u>Audit Adjustments</u>	<u>Per Audit</u>
Foreman	60 hours	(60)	0 hours
Rate	\$ 45 / hr.	(\$45 / hr.)	\$0 / hr.
Totals	<b>\$2,700</b>	<b>(\$2,700)</b>	<b>\$ - 0 -</b>

We note that the contractor did have a salaried superintendent charged to the Southgate project; however, the superintendent was compensated in the mark-up for overhead and profit (OH+P) and was not considered an expense of performing the change order work.

**Note 2 – Laborer:**

The contractor proposed and was paid \$31,185 for 861 laborer hours at rates that varied from \$30 to \$45 per hour. The pay rates proposed by the contractor were fully burdened rates including payroll taxes and fringe benefits. Our analysis and review of the Job History Detail report indicated that the average fully-burdened laborer pay rate over the course of job performance was \$22.79. Consequently, we propose the following adjustments:

<u>Laborer</u>	<u>Per Contractor</u>	<u>Audit Adjustments</u>	<u>Per Audit</u>
Hours	861		861
Rate	\$ 36.22	(\$13.43)	\$22.79
Totals	<b>\$31,185</b>	<b>(\$11,563)</b>	<b>\$19,622</b>

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 Notes to Exhibit A

**Note 3 – Small Tools & Overhead and Profit:**

The contractor proposed and was paid \$23,985 in overhead and profit (OH&P) and small tools on the 12 Southgate contract change orders. We determined that the contractor charged \$245 small tools in change order No. 012. Since small tools was included in the 15% mark-up for OH&P, we recommend disallowing this cost as being duplicative. Additionally, the contractor charged \$7,413 in excess OH&P by applying a 20% factor when 15% should have been applied. Consequently, we recommend disallowing the \$7,413 excess OH&P in addition to disallowing the small tools as follows:

	<u>Per Contractor</u>	<u>Audit Adjustments</u>	<u>Per Audit</u>
Overhead and Profit	\$23,740	(\$7,413)	\$16,327
Small tools – c.o. #012	<u>\$ 245</u>	<u>(\$ 245)</u>	<u>\$ -0-</u>
Totals	<u><b>\$23,985</b></u>	<u><b>(\$7,658)</b></u>	<u><b>\$16,327</b></u>