



**METROPOLITAN GOVERNMENT OF
NASHVILLE AND DAVIDSON COUNTY
OFFICE OF INTERNAL AUDIT**

Professional Audit and Advisory Service

FINAL REPORT

**Audit of the Contract Monitoring Process at
Metro Nashville Public Works**

Date Issued: October 2, 2012

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*The Metropolitan Nashville Office of Internal Audit is an independent audit agency
reporting directly to the Metropolitan Nashville Audit Committee*

EXECUTIVE SUMMARY

October 2, 2012

Results in Brief	Background and Recommendations						
<p>An audit of the contract monitoring process for Metro Nashville Public Works was performed. Audit objectives and conclusions were as follows:</p> <ol style="list-style-type: none"> 1. <i>Were contracts awarded in conformance with the Procurement Code?</i> Generally yes. However, some variations were noted such as not obtaining cost and price data on contract modifications over \$100,000 and contract advertisements without the best available information. 2. <i>Did invoice amounts conform to terms of the contract?</i> Generally yes. However, some solid waste truck tare weights were understated. 3. <i>Have goods and/or services been delivered on expired contracts?</i> No. Goods and/or services were noted as being invoiced on current contracts. 4. <i>Were contract terms such as prevailing wage rates, payments to subcontractors, insurance, bond requirements etc. being monitored?</i> Generally yes; but, (1) Wage rates on locally financed contracts were not monitored, (2) an annual solid waste reconciliation was not performed, and (3) work was performed before change orders were approved. 	<div style="text-align: center; font-weight: bold; margin-bottom: 10px;"> <p>Metro Nashville Public Works July 1, 2009 to December 31, 2011</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="padding: 2px;">Vendors with Contracts Greater than \$400,000</td> <td style="text-align: center; padding: 2px;">37</td> </tr> <tr> <td style="padding: 2px;">Vendors Reviewed in Audit</td> <td style="text-align: center; padding: 2px;">4</td> </tr> <tr> <td style="padding: 2px;">Percent of Vendors Reviewed</td> <td style="text-align: center; padding: 2px;">11%</td> </tr> </table> <p>For the four vendors reviewed for the audit, the total payment for services or goods during this period was \$21,185,264.</p> <p>Key recommendations were for Metro Nashville Public Works management to:</p> <ul style="list-style-type: none"> • Verify contractor compliance with prevailing wage rates on locally financed contracts¹ • Confirm the accuracy of solid waste vehicle tare weights • Conduct and document required solid waste annual reconciliations • Use best available information of quantities when advertising indefinite quantity contracts • Ensure cost or pricing data is obtained for contracts and change orders greater than \$100,000 <p>The Procurement Division should:</p> <ul style="list-style-type: none"> • Appoint a single lead contract proponent for multi-division contracts 	Vendors with Contracts Greater than \$400,000	37	Vendors Reviewed in Audit	4	Percent of Vendors Reviewed	11%
Vendors with Contracts Greater than \$400,000	37						
Vendors Reviewed in Audit	4						
Percent of Vendors Reviewed	11%						

¹ Contracts financed with federal and state funds have additional reporting and audit requirements; thus a different process

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INTRODUCTION

Audit Initiation

The Metropolitan Nashville Office of Internal Audit's approved annual audit work plan included an audit of the contract monitoring process for Metro Nashville Public Works (hereinafter referred to as "Public Works"). The audit was initiated due to the length of time (in excess of five years) that has elapsed since the last internal audit was performed of this process.

Background

The mission of Public Works is "to provide professional expertise, transportation infrastructure, and neighborhood environmental products to people who live, work, travel through or play in Metro Nashville so they can experience clean neighborhoods and safe and efficient transportation." To accomplish its broad mission, Public Works utilizes a \$76 million dollar budget and employs approximately 370 full time employees.

Public Works utilizes the services of various vendors. A list of the top ten vendors in relation to the amounts paid is presented in Exhibit A below:

Exhibit A – Public Works Vendor Payments July 1, 2009, through December 31, 2011

Vendor Name	Amount
Nashville Electric Service	\$15,908,526
Red River Service Corporation	15,151,208
Browning Ferris Industries Waste Services, LLC	11,733,973
Roy T. Goodwin Contractor, Inc.	10,163,276
Collier Engineering Company, Inc.	9,255,472
Community Title Company, LLC	6,260,592
Lojac Enterprises, Inc.	5,957,321
Miller & Martin PLLC	5,613,018
Civic Engineering and Information Technology, Inc.	5,123,696
Stansell Electric Company	4,943,714

Source: Metro Nashville's EnterpriseOne Financial System

The Metropolitan Nashville Office of Internal Audit judgmentally selected the following eight contracts awarded to four vendors for review.

Exhibit B – Contracts Selected for Audit

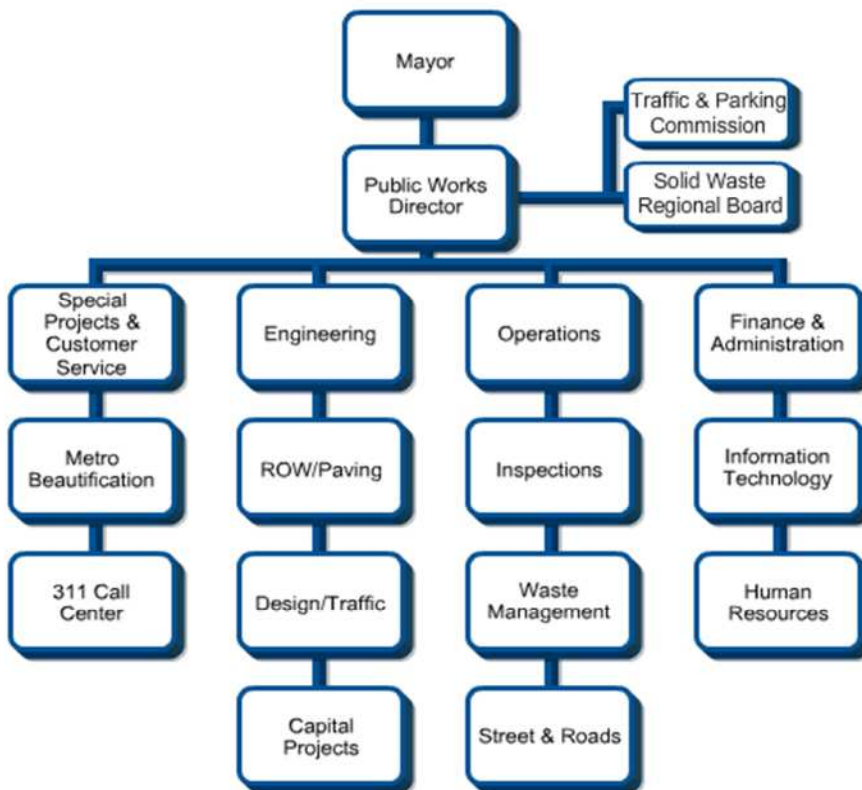
Contract Number	Vendor	Purpose
19150	Pavement Restorations, Inc.	Road Repair - Surface Sealent
19149	Pavement Restorations, Inc.	Road Repair - Crack Sealing
18126	Pavement Restorations, Inc.	Road Repair - Infrared Patching
14732	BFI Waste Services, LLC	Waste Management Services
15947	General Constructors, Inc.	Bridge Maintenance and Construction Services
18393	General Constructors, Inc.	Bridge Maintenance and Construction Services
18273	Blinker-Lite Safety, Inc.	Rental of barricades, flashers, and cones
16216	Blinker-Lite Safety, Inc.	Provide portable toilet service

Source: Metro Nashville's AX Web Extender

Organizational Structure

Public Works is comprised of four divisions: Special Projects and Customer Service, Engineering, Operations, and Finance & Administration. As shown in the organizational chart below, the Director of Public Works reports directly to the Mayor and also interfaces with the Solid Waste Regional Board and the Traffic and Parking Commission.

Exhibit C – Public Works Organizational Structure



Key Process Controls

This audit engagement focused on processes related to contractual compliance for significant vendors. A summary of key controls related to these processes is summarized below:

Selection of Vendors: The Metro Nashville Department of Finance, through its Procurement Division, supervises the selection of vendors for contracts. The intent is to ensure a fair, competitive process that provides assurance that the Metropolitan Nashville Government is obtaining the best value for delivery and quality of goods and services.

Vendors were obtained for the selected contracts through an *Invitation to Bid* (sometimes referred to simply as an ITB) process that begins with an open, public announcement of the goods or services to be contracted for. Those vendors registered with Metro Nashville will receive communication of the invitation and the information will be posted on the Metro Nashville Procurement website. Having the vendor selection process supervised by the Procurement Division helps ensure that contracts are awarded to legitimate vendors and that they possess indicators of a capability to perform.

Review and Approval Process: Public Works has executed a number of monitoring, review, and approval processes in relation to its contract compliance operations. All vendors awarded contracts must be reviewed and approved by several parties outside Public Works including the Department of Finance, Department of Law, and Mayor's Office. Secondly, all invoices are monitored and reviewed by respective process owners to ensure Public Works is obtaining the goods or services outlined in the contract for the correct price. For capital related expenditures, independent, third parties are procured to review the work performed to ensure construction/repairs are in accordance with standards. Finally, all invoices are entered into the EnterpriseOne financial system for accounts payable review and approval process.

Segregation of Duties: In addition to the various parties referred to above, in some instances, such as is the case with two of the contracts reviewed (Pavement Restoration Services, Inc. and General Constructors, Inc.) Public Works procured the services of a third party vendor to review all proposed and completed work. This additional oversight helps ensure the reasonableness of proposed work and that the work has been completed and billed properly.

Knowledgeable Staff: Public Works has experienced and knowledgeable staff who understand the various goods and services being procured and the processes that support them. Various division representatives monitor particular contracts according to the process involved. For example, engineering staff monitor roads and bridges contracts and operations personnel monitor refuse collection.

**Information
Technology**

EnterpriseOne: Metro Nashville's financial system used to account for all budget and expense related items.

BMMS: This database system is a repository of all bridges needing repair in Davidson County. Information is based on Bridge Maintenance Repair reports issued by the Tennessee Department of Transportation and Civic Engineering and Information Technology, Incorporated.

CityWorks Database System: System utilized by Public Works to record all tickets issued by Browning Ferris Industries after solid waste is delivered to one of Browning Ferris Industries' facilities. The amounts recorded in this system are reconciled to amounts invoiced.

OBJECTIVES AND CONCLUSIONS

1. *Were contracts awarded in conformance with the Procurement Code?*

Generally yes. Public Works communicates closely with the Procurement Division for the contracts it needs. Thus, Metro Nashville's procurement requirements were normally adhered to. However, in a small number of instances, actions could have more closely followed the procurement code.

Two indefinite delivery, indefinite quantity, contracts awarded to Blinker-lite Safety Company for use by various Metro Nashville departments were not described and advertised with the overall best available information regarding estimated quantities in the Invitation To Bid (see Observation D).

Two change orders, each being over \$100,000, were issued on a paving contract without cost or pricing data being obtained, a requirement of the Procurement Code (see observation E).

2. *Did invoice amounts conform to the terms of the contract?*

Generally yes. With few exceptions, invoices conformed to terms of the contracts. However, based on our limited test of ten trucks delivering solid waste to a transfer station, the average truck tare weight was slightly understated resulting in an overstatement of charges for solid waste disposal (see Observation B).

3. *Have goods and/or services been delivered on expired contracts?*

No. Goods or services invoiced were in accordance with existing and current contracts.

4. *Were contract terms such as prevailing wage rates, payments to subcontractors, insurance, bond requirements etc. being monitored?*

Generally yes. A few noted exceptions are below:

- a. Prevailing Wage Rates – Although several of the locally financed Public Works contracts contain prevailing wage rate clauses, the wage rates paid by these contractors were not monitored by Public Works to ensure compliance with the applicable contractual requirements, required by the Metropolitan Nashville Code of Laws (see Observation A).
- b. Solid Waste Contract Annual Settlement – The solid waste contract specifies an annual “true-up” or reconciliation to correct any volume price variance if needed and to adjust escalation fees for the following period. No such reconciliation for this purpose was conducted according to the contract representative

at Public Works and there was no documentation of such. Depending on the actual volume of solid waste delivered, the contract could be in a significant underpaid status. The per ton rate decreases for increases in volume. Public Works was not fully aware that Water Services had significantly decreased their disposal volume (see Observation C).

- c. Change Order Work Performed Before Approval – The paving contractor changed the actual quantity provided on an invoice in order to match the new change order overall total for the same volume. By adjusting the volume upward to a fractional figure, the contractor achieved the same reimbursement they would have received under the new change order for a more expensive item even though the change order was not yet signed (see Observation F).

OBSERVATIONS AND RECOMMENDATIONS

A – Monitoring of Prevailing Wage Rates

Although several of the locally financed Public Works contracts contain prevailing wage rate clauses, the wage rates paid by these contractors were not monitored by the department to ensure compliance with applicable contractual requirements and Metropolitan Nashville Code of Laws.

A previous Metropolitan Nashville Office of Internal Audit engagement (AU2009-003) resulted in a similar observation regarding a construction contract with the Department of General Services. As a result, in 2010 the Procurement Division implemented a required affidavit for all prime contractors at contract signing stating that they were aware of and would pay prevailing wage rates. While this was a proactive approach by the Procurement Division, it does not alleviate a department from monitoring such requirements. Note: the contracts in question on this audit were executed prior to the 2010 Procurement Division implementation.

Specifically, five contracts we reviewed contain clauses for the contractor to not pay less than the prevailing wage rate for all types and classifications of work performed. The prevailing wage rates being those established for Davidson County by the United States Department of Labor under 42 U.S.C. § 276 (a) (Davis-Bacon Act). The contracts also require that rates must be posted at the project job site. Failure to pay the prevailing wage rate could be considered a breach of the contract. Exhibit D below provides the location for this provision for each contract.

Exhibit D – Contracts with Prevailing Wage Rate Requirements

Vendor	Contract	Provision in Contract
General Constructors, Inc.	15947	Section 5, Page 4
General Constructors, Inc.	18393	ITB Section 5, Exhibit D
Pavement Restoration, Inc.	19150	ITB Page 26-28
Pavement Restoration, Inc.	16684	ITB Section 012, Exhibit D
Pavement Restoration, Inc.	18126	ITB Section 5

Source: Metro Nashville Contracts AX Web

Criteria:

- Prevailing wage rates as specified in the individual contracts.
- Metropolitan Nashville Code of Laws § 4.20.080 mandates payment of prevailing wage rates as set by the Department of Labor for all construction contracts with Metro Nashville.

- Metropolitan Nashville Code of Laws § 4.20.090 requires that the rates be posted on the job site by the contractor.
- *COSO Internal Control - Integrated Framework* establishes a common definition of internal controls, standards, and criteria by which organizations can assess their internal control systems. Having adequate procedures in place to ensure contractor compliance is crucial in developing a strong internal control environment.

Risks:

- Negative image from non-compliance with Metropolitan Nashville Code of Laws.
- Potential legal conflicts between contractor and employees.

Recommendation:

Management of Procurement and/or Public Works should develop and implement a formalized methodology to verify contractor compliance with prevailing wage rates.

B – Testing of Tare Weights

Public Works did not confirm or obtain independent verification of vehicle tare weights used to calculate charges from solid waste landfill vendors. Vendor invoices were compared by Public Works to scale tonnage reports provided by the vendor. The department did not have other mitigating controls in place to validate tonnage accuracy but was responsible for all contract monitoring efforts.

For those vehicles whose weights affect contract payouts, the vendor checks the tare weight by weighing them twice per year. This was normally done in the middle of the day, when variances in fuel tank capacities were a factor. The tare weights can also change over time due to modifications such as new bed flooring, etc. The two yearly tare weight checks were performed during January and June. These were control procedures; however, they could be strengthened by independent confirmation of the contractor produced tare weights. Such actions reduce the risk that tare weights may be understated resulting in overbillings as described in Exhibit E.

Also, Public Works did not have a process in place to properly monitor weights used by vendors to calculate total tonnage. The department could not confirm vendors had the appropriate tare weights recorded in their scale systems. An unannounced site visit to test the truck tare weights recorded in Browning Ferris Industries' system was made. Exhibit E provides a summary of the results of the tests of the tare weights of the ten trucks tested.

Exhibit E – Tare Weight Testing on Solid Waste Trucks

Test Number	Truck No.	Tare Weight in System	Outgoing Actual Scale Weight	Difference Between Tare and Actual	Percent Difference Between Tare and Actual
1	08C2404	36,240	36,220	20	0.06
2	RR120	36,000	35,960	40	0.11
3	RR306	11,660	11,620	40	0.34
4	RR115	36,380	36,220	160	0.44
5	08C2405	36,340	37,140	-800	-2.15
6	RR118*	35,960	35,940	20	0.06
7	RR116*	35,700	35,800	-100	-0.28
8	08C1567	38,640	38,640	0	0.00
9	RR106*	36,600	36,880	-280	-0.76
10	RR125*	36,500	36,160	340	0.94
Total for Test			340,580	-560	-0.16
Percent of one ton				28	
Price per ton				\$32.10	
Price Overstatement Per Test				\$8.99	

Source: Office of Internal Audit Generated Test Data and Browning Ferris Industries Tare Weights

*Incoming total weights taken with driver still in vehicle (see discussion below)

As shown in the schedule above, based on a limited test of ten vehicles, there was an overbilled amount of \$8.99. Although small, this amount would increase to a daily amount of approximately \$50 based on the number of deliveries. Correspondingly, annual overcharges would be approximately \$10,000.

As may be noticed from the “Difference” column, some of the variations in truck tare weights netted against each other since seven trucks were over (totaling 620 lbs.) and three trucks were under (totaling -1,180 lbs.) resulting in a negative 560 pounds net difference but an absolute value difference of 1,800 pounds with a standard deviation or average distance from the mean of 306 pounds.

Another potentially significant observation was made during the site visit and observation of the weighing process on June 19, 2012. Four of ten trucks had their total tonnage weights calculated with the driver seated behind the wheel, six weights were taken without the driver in the vehicle. Using an average weight of 180 pounds for each driver, Metro Nashville was additionally charged for 720 pounds of garbage not delivered (36 percent of one ton), an even greater amount than the tare weight difference above.

Criteria:

COSO *Internal Control - Integrated Framework* establishes a common definition of internal controls, standards, and criteria by which organizations can assess their internal control systems. Contract compliance monitoring policies and procedures will help ensure payments for services are in accordance with contract terms.

Risk:

Without internal controls to ensure accuracy of tare weights and tonnage, Metro Nashville is subject to overbillings.

Recommendations:

Management of Public Works should:

1. Develop procedures to independently confirm and reconcile the accuracy of truck tare weights recorded in the contractor's system.
2. Document regular unannounced site visits to the transfer stations in order to validate waste delivered to the facility.
3. Develop specific written requirements to integrate with contract requirements on how weights must be conducted that address, driver in or out of vehicle, how and when tare weights are conducted, etc.

C –Annual Settlement of Solid Waste

The solid waste contract required an annual settlement statement from the contractor within sixty days of year's end; and, an annual reconciliation between Metro Nashville and contractor Browning Ferris Industries to determine the actual aggregate tonnage of solid waste delivered and the applicable respective rates. Neither of these requirements were performed.

Public Works shares a 20-year contract with Metro Water Services with rates per ton based on volume that must be periodically reconciled to the rates and volume. Per the contract yearly higher volume tonnage results in lower rates per ton. Since the actual tonnage was unknown until year end, invoices were computed using the lowest rate throughout the year. An annual reconciliation should be performed in order to adjust the rates to actual volume.

Section 4.02 of the contract states:

“Within 60 days after the end of each Contract Year during the Interim Service Period and the Long Term Service Period, the Contractor shall provide to Metro an annual settlement statement setting forth (i) the actual aggregate tonnage of Contract Waste delivered by Metro and Metro contracted Collectors with respect to such Contract Year and (ii) a reconciliation of such amount.”

Further:

“To the extent the Service Charge paid by Metro during such Contract Year is less than the amount of the Service Charge owed by Metro for that Contract Year, such shortfall shall be paid by Metro during the next billing period.”

The contract specifies that tonnage prices charged are at the lowest rate when tonnages are greater than 250,000. Historically since 2002, tonnages were greater than 250,000 each year resulting in the lowest rate being applicable (even though no annual settlement was performed). However, beginning in 2008 tonnages significantly decreased due to the new Metro Water Service bio-solids facility that decreased their solid waste disposal. The tonnage decrease would have changed the rates by two rate categories as shown below.

Exhibit F – Applicable Rate Categories for Solid Waste
(excludes other fees and taxes)

Year	Tonnage	-----Applicable Rate Category-----			
		26.00	26.25	26.50	26.75
2006	281,619	X			
2007	250,181	X			
2008	201,560			X	
2009	182,297			X	
2010	206,163			X	

Source: Metro Nashville Solid Waste Contract Number 14732

According to interviews with Public Works personnel, they were unaware of the volume decreases in delivered waste because Metro Water Services operates independently of Public Works and receives separate invoices, which were unseen by Public Works. Management at Public Works stated they were unaware of exactly what rate Metro Water Services paid the contractor but they believed it was different than what they were paying during the same period. Interviews also indicated that Public Works personnel did not seek out the contractor for the annual settlement (true-up) meetings. Public Works personnel stated that they were unaware of lower tonnage totals due to the change in operations at Metro Water Service. Such meetings, if held, would have resulted in higher rates for solid waste at Public Works.

As a result of the sharing of the contract between the two departments, there was no single point of contact or coordinated effort from Metro Nashville in its dealing with contractor Browning Ferris Industries. Complicating the matter further was the escalation clause in the contract requiring an annual 2.5 percent rate increase and the fact that ownership of the contractor operations changed hands twice since the contract was initiated. The ownership change has apparently resulted in current ownership being unaware of previous communications with Metro Nashville and not being in possession of some previous negotiated documents. Their letter of February 12, 2012, indicates they believed the yearly 2.5 percent price escalation

had not been factored into the invoices since no annual settlement had taken place. Further review by Public Works showed that it had been factored in; however, the issue is still subject to ongoing debate between the two parties.

An inspection of correspondence also revealed that Metro Nashville was due a credit of \$324,000 from the contractor as of November 19, 2002. In writing, the contractor agreed to credit Metro Nashville invoices for \$13,500 each month for 24 consecutive months. This was approved by the previous Metro Nashville Director of Finance. However, further correspondence indicates that in December 2003, 12 months after the agreement was signed, Browning Ferris Industries indicated they would instead defer the 2.5 percent rate escalation for six months ending July 1, 2004, and not pay the \$13,500 monthly payments. It was unknown if or why Metro Nashville agreed to this change or if the previous agreed to credits had been applied to the 12 Metro Nashville invoices processed as of the December 2003 correspondence. The delayed escalation of roughly \$0.60 per ton for a six month period would have resulted in less than a \$90,000 credit at best during the period. Current Public Works Management was unable to explain what actually took place. Documented yearly annual settlements would alleviate these unknown conditions and miscommunications concerning escalation charges and fees.

Criteria:

- Contract Section 4.02: Annual Settlement.
- Prudent Business Practices.

Risks:

- Under or overpayment of contract requirements.
- Unforeseen legal ramifications.
- Uncoordinated, wasteful and time consuming actions.
- Unexpected liabilities.
- Undocumented agreements of contract corrective actions.

Recommendations:

Management of Public Works should:

1. Conduct an evaluation of previous year payments with respect to tonnage rates and take corresponding actions if required.
2. Begin an annual reconciliation process with the contractor as required by the contract to ensure all parties are communicating and agreeing to rates, escalations charges, overpayments, credits, etc. Ensure reconciliation details are documented and included in the contract file.
3. Appoint a single responsible party who will frequently interface with Metro Water Services and represent Metro Nashville as a whole in their dealings with the contractor.

The Department of Finance Procurement Division should:

4. For contracts for use by multiple departments, appoint one individual, in whatever department is the best fit (Procurement, Public Works, etc.), as the primary lead contract proponent for all future actions with respect to the contract.

D – Best Available Information in Contract Advertisement

Best available information was not used in some Invitations to Bid (ITB) contract advertisements. For indefinite quantity contracts, the Procurement Code states that an “approximate quantity or the best information available as to quantity is stated in the solicitation” should be used.

Contract 18273 (Invitations to Bid Number 52334NDM) advertised an “Estimated Value per Year” of \$15,343 for traffic barricades, flashers and cones. The contract became effective December 13, 2008, and was awarded to Blinker-lite Safety, Incorporated for a five-year period. An inspection of one randomly chosen month’s invoices indicated that actual invoice charges for barricades were \$4,891 for the one sample month alone (November 2009). Note: these purchases did originate from more than one Metro Nashville department.

Similarly, an April 2006, five-year contract for portable toilets (contract 16216), also awarded to Blinker-lite Inc. provided quantities for bid evaluation resulted in a contractor bid of \$1,870. However, the Invitations to Bid did describe various special events when an unspecified number of portable toilets might be needed. An inspection of actual invoices indicates that single monthly invoices were frequently found between \$1,000 and \$3,000 and sometimes higher and were also from various Metro Nashville departments.

Between the two contracts, actual invoices indicate that Metro Nashville paid Blinker-lite \$485,174 for services during calendar years 2009 through 2011, a period when both contracts were in effect. A review of both contract advertisement Invitations to Bid would not indicate that together these contracts would result in payments of this size. Note: The final amounts were inflated by the June 2010, historic Nashville flood, which would not explain monthly billings prior to the flood dates. Average monthly payments for the 36 month period were \$13,477 while June and July 2010 were \$17,032 and \$24,353 respectively.

The Procurement Division has been hampered by the lack of an effective contract management system for many years². This has resulted in the inability to view payments by contract when a vendor has more than one contract or has participated in other purchase orders with Metro Nashville. Currently, without scanning through

² iProcurement has since been implemented in 2012.

images of hundreds of contract invoices during each of the previous years it is not possible to determine how much has been paid on each contract.

The Procurement Division has responded that estimates are based on the projections provided by the requesting departments; and, “without history, which we will soon be collecting with our new system, we rely on the department’s projection.” Further, “Based on the estimated quantity (market basket), we get unit pricing. As demand occurs and budgets are available, the departments purchase at the rate provided in the contract. Obviously, if the estimates are well researched and history is available, we can better estimate the demand and, in theory, get better pricing. That is one of the driving motivations for the system change for *iProcurement*.”

Since the Procurement Division relied on the requesting department to obtain estimated quantities and “best available information” as per the Procurement Code, it was dependent on Public Works to provide the best information that would result in bids for the lowest prices. Looking at the two contracts taken as a whole, the quantities listed in the advertisements together with the descriptions for other possible needs fall substantially short of the actual amounts ordered. With only the *Enterprise One* financial system to look at invoices, Public Works was at a disadvantage to determine what other departments may have been ordering since they had view access only to Public Works documents.

In a number of months, other departments ordered more from the Blinker-lite contracts than Public Works did. This does not alter the fact that nothing in the solicitations came close to indicating the approximate quantities.

Criteria:

- Good business practices dictate that lower costs be encouraged through intensive price competition.
- Procurement Code section R4.12.140.09.02: Indefinite Quantity.

Risks:

- Loss of potential bidders due to disinterest from low indicated volumes.
- Prices will be higher due to advertisement of only small volumes.
- Public perception of favoritism of contractors.

Recommendations:

Management of Public Works should:

1. Work with the Procurement Division to encourage competition in the procurement process by ensuring initial estimates included in any invitation to bid are based on the best available information, such as: computation of previous year’s submitted invoices,

detailed projections of events and circumstances, or any other logical methodology.

2. Work with the Procurement Division to encourage sharing of ideas, information, and quantity projections and computations in instances where other departments will definitely be a participant in the contract requirements.

The Department of Finance Procurement Division should:

See Recommendation C. 4 above.

E – Cost Data or Price Data and Analysis

In some cases certified cost or pricing data was not obtained and analyzed as required for change orders over \$100,000.

The purpose of Pavement Restorations contract (contract number 18126) was to provide infrared patching for the Metro Nashville paving program. The contract period was November 1, 2008, through May 31, 2009. The initial contract amount was \$535,500. There were three offers with the award going to the lowest bidder. The contract contained three changes as follows:

- Change order number one dated May 4, 2009, adjusted the contract upward by \$126,000 to \$661,500. This change order added plastic pavement markings for \$1,500, plastic x-walk for \$4,500 and infrared bike lane symbols for \$120,000.
- Amendment number two was issued on February 22, 2010, to extend the contract for an additional 360 calendar days, “or until June 15, 2010.”
- Change order number three dated June 2, 2010, was issued to adjust the contract upward by \$149,500 to \$881,000 for additional infrared patching, \$49,500 for green premark thermoplastic bike symbols and other miscellaneous markings, and other costs of \$13,625.

Procurement Code R4.12.130.02.1 states:

“cost or pricing data is required to be submitted in support of a proposal when adjusting the price of any contract, including a contract awarded by competitive sealed bidding, whether or not cost or pricing data were required in connection with the initial pricing of the contract, if the adjustment involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000.”

- Procurement Code R4.12.130.04.1: *Time and Manner*
“When cost or pricing data are required, they shall be submitted to the Purchasing Agent prior to beginning price negotiations at

any reasonable time and in any reasonable manner prescribed by the Purchasing Agent.”

Although change orders one and three were each over \$100,000, there was no documentation that the contractor was requested to submit cost or pricing data prior to the change order negotiations as required by the Procurement Code and there was no documentation that the contractor submitted a certificate of current cost or pricing data for these two change orders. Since through this process no other contractors submitted quotes, without data on the cost to the contractor or a price comparison of like products, it is not possible to conclude that Metro Nashville didn't pay far more than the going rate with exceedingly large mark-ups by the contractor.

Criteria:

- Procurement Code R4.12.130.02.1: *Submission of Cost or Pricing Data.*
- Procurement Code R4.12.130.04.1: *Time and Manner.*

Risks:

- Increased cost to Metro Nashville.
- Perception of favoritism to current contractor.
- Contractor strategy to increase reimbursement costs.

Recommendations:

Management of Public Works should:

1. Ensure that cost or pricing data is obtained when required.
2. When cost or pricing data are required, require that it be submitted to the Purchasing Agent *prior to* beginning price negotiations for the contract or change order.
3. Require the offeror or contractor to certify as soon as practicable after agreement is reached on price that the cost or pricing data submitted are accurate, complete, and current as of a mutually determined date prior to reaching agreement.

F –Change Order Work Performed Before Approval

Contract change order items not previously listed on prior contracts were included on the vendors invoice and paid by Metro Nashville before approval of the change order. The pricing was obtained by placing an odd quantity for a non-delivered item on the invoice.

Pavement Restorations, contract number 18126, Change Order three, was signed by the Metropolitan Clerk and took effect on August 12, 2010. The change order added SP-3 Green Premark Thermoplastic Bike Symbols at a unit price of \$1,100. The added bike symbols of this type were not listed on the previous contract and change orders. Other standard bike symbols were included at a price of \$400 each.

Pavement Restoration's, April 26, 2010, invoice number 715, included charges for the application of Green Premark Thermoplastic Bike Symbols. The \$1,100 unit price was obtained by using 2.75 units of the \$400 symbol. Thirteen SP-3 green symbols were installed for a total charge of \$14,300 as included on the invoice. However, the quantity installed was recorded on the invoice as 35.75 at \$400 each in order to make the amount equal the \$1,100 proposed change order unit price and \$14,300 total.

Vendor invoices were first approved by the engineering firm who inspects work performed for Public Works, and then the invoices were approved by the engineering technician at Public Works. Finally, they were reviewed by the paving/right-of-way manager before going to the Public Works Finance Division for processing and payment.

Criteria:

- Section 19, *Change Orders*, details a signature page for the individuals who must sign the Change Order before it is official and before any work described in the Change Order is authorized and can be performed or paid for.
- *COSO Internal Control - Integrated Framework* establishes a common definition of internal controls, standards, and criteria by which organizations can assess their internal control systems. Internal control is defined as a process effected by an entity's management to provide reasonable assurance that the organization complies with applicable laws and regulations.
- *Division of Municipal Audit Internal Control and Compliance Manual for Tennessee Municipalities – Title 5, Chapter 1:* Municipal officials should ensure that all disbursements are accurately recorded and that all disbursements are authorized.

Risk:

- Encouragement of inaccurate information on invoices.
- Encouragement of failing to follow contracts.
- Contract disputes between parties.

Recommendations:

Management of Public Works should:

1. Invoice quantities should be compared to engineering daily report quantities to confirm that the amounts agree.
2. Items included on invoices should be compared with contracts and contract change orders to confirm that the items are included on approved change orders.
3. Use emergency procedures in cases where change orders are urgent, if that is the case.

GENERAL AUDIT INFORMATION

Statement of Compliance with GAGAS

The Metropolitan Nashville Office of Internal Audit conducted this compliance audit between March 2012 and July 2012 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 observations and conclusions based on our audit objectives. The Office of Internal Audit believes that the evidence obtained provides a reasonable basis for our observations and conclusions based on our audit objectives.

Scope and Methodology

The audit period focused primarily on the period July 1, 2009, through December 31, 2011, financial balances, transactions, and compliance of the processes in place during the time of the audit. The methodology employed throughout this audit was one of objectively reviewing various forms of documentation, including written policies and procedures, financial information and various forms of data, reports and information maintained by Public Works.

Criteria

In conducting this audit, the existing Public Works operations and processes were compared with the following criteria:

- *Division of Municipal Audit Internal Control and Compliance Manual for Tennessee Municipalities, June 2010.*
- *COSO Internal Control - Integrated Framework.*
- *Metropolitan Nashville Procurement Code.*
- Contract documents with Metropolitan Government of Nashville and Davidson County.
- Good Business Practices.

Audit Project Staff

Bill Walker, CPA, CIA, In Charge Auditor
Jack Henry, CPA, CGFM, Auditor
Carlos Holt, CPA, CFF, CIA, CFE, CGAP, Quality Assurance

APPENDIX A. MANAGEMENT RESPONSE

- Management's Responses Start on Next Page -

CARL E. DEAN
MAYOR



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF PUBLIC WORKS
775 HILLSBORO BLVD
NASHVILLE, TENNESSEE 37203

September 13, 2012

Mark Swann
Metropolitan Auditor
Office of Internal Audit
223 3rd Avenue North, Suite 401
Nashville, TN 37201

RE: Audit of the Contract Monitoring Process at Metro Nashville Public Works

Dear Mr. Swann:

This letter acknowledges that Metro Public Works received the contract monitoring process audit report and has reviewed the audit comments and recommendations. Metro Public Works is already in the process of implementing a majority of your recommendations and will continue to implement the remaining recommended process improvements as appropriate.

We appreciate your recommendations and look forward to the opportunity to improve our processes here at Public Works in coordination with the Procurement Department.

Sincerely,

A handwritten signature in cursive script that reads "Randy Lovett".

Randy Lovett
Acting Director, Metro Public Works

**Metropolitan Nashville Public Works Department
Management Response to Audit Recommendations**

Audit Recommendation	Response to Recommendation / Action Plan	Assigned Responsibility	Estimated Completion
<p>A. Management of Procurement and/or Public Works should develop and implement a formalized methodology to verify contractor compliance with prevailing wage rates.</p>	<p>Accept. Metropolitan Code of Laws sub-section 4.20 lays out requirements for monitoring prevailing wage rates and lists the Procurement Department as the primary for much of this responsibility. Per code, Agencies in contract with the vendor may request certified payroll documents but the code is silent on any necessary procedures. Public Works requests that the Procurement Department develop a formalized procedure for all Metro Agencies to follow to ensure compliance with prevailing wage rates. Public Works will implement any procedures developed by Procurement but may need to request extra personnel depending on the amount of time necessary to comply with the procedures.</p> <p><u>Procurement Division Comments:</u></p> <p>Procurement will convene representation from PW, MWS, General Services, Parks, and Department of Law to draft a Metro-wide Policy for monitoring prevailing wage rates on Construction Projects.</p> <p>Est. Completion 3rd Quarter FY 13</p>	<p>Procurement - develop formalized methodology to verify contractor compliance with prevailing wage rates.</p> <p>Public Works - implement Procurement procedures.</p>	<p>2nd Quarter FY13</p>
<p>B. Management of Public Works should:</p> <p>1. Develop procedures to independently confirm and reconcile the accuracy of truck tare weights recorded in the contractor's system.</p>	<p>Accept. Public Works, in conjunction with the contractor, will continue to weigh trucks twice annually shortly after the scales are verified by state inspectors. These weights will be used in the system for approximately six months. Going forward, Public Works will assign an employee to be present at all future tare weight events and have this employee independently document the tare weights. This documentation will then be used to reconcile tare weights on tickets and invoices.</p>	<p>Solid Waste Supervision</p>	<p>2nd Quarter FY13</p>

**Audit of the Metropolitan Nashville Public Works Department
Management Response to Audit Recommendations**

Audit Recommendation	Response to Recommendation / Action Plan	Assigned Responsibility	Estimated Completion
<p>2. Document regular unannounced site visits to the transfer stations in order to validate waste delivered to the facility.</p>	<p>Partially Accept. Solid Waste Supervisors are currently making unannounced visits to the transfer station. Public Works will develop a form for the supervisors to use going forward that will formally document their visits and what items were observed.</p> <p>Waste delivery is currently validated through the use of weigh tickets that are handed to the driver at each visit. These tickets are turned in to Public Works personnel to use in reconciling monthly invoices. Public Works will continue this process.</p>	<p>Solid Waste Supervision in conjunction with Public Works Finance Staff.</p>	<p>2nd Quarter FY13</p>
<p>3. Develop specific written requirements to integrate with contract requirements on how weights must be conducted that address, driver in or out of vehicle, how and when tare weights are conducted, etc.</p>	<p>Accept. Public Works will develop written procedures to be followed by the contractor and PW designee detailing how tare weights are to be established.</p>	<p>Solid Waste Supervision, Contractor and Public Works Finance Staff.</p>	<p>2nd Quarter FY13</p>
<p>C. Management of Public Works should:</p> <p>1. Conduct an evaluation of previous year payments with respect to tonnage rates and take corresponding actions if required.</p>	<p>Accept. Public Works, Water, and Procurement have done this together and Procurement is currently issuing a letter to the Contractor.</p> <p><u>Procurement Division Comments:</u> Procurement will provide this service. Estimated completion 1st Quarter, FY 13</p>	<p>Procurement</p>	<p>1st Quarter FY13</p>
<p>2. Begin an annual reconciliation process with the contractor as required by the contract to ensure all parties are communicating and agreeing to rates, escalations charges, overpayments, credits, etc. Ensure reconciliations details are documented and included in the contract file.</p>	<p>Accept. Public Works will begin an annual process to reconcile the previous year and review rates, escalations, charges, overpayments, credits, etc. Public Works asks that Procurement coordinate this effort for PW and Water combined and Procurement</p>	<p>Public Works Finance Staff, Water Finance Staff, Procurement Agent</p>	<p>2nd Quarter FY13</p>

**Audit of the Metropolitan Nashville Public Works Department
Management Response to Audit Recommendations**

Audit Recommendation	Response to Recommendation / Action Plan	Assigned Responsibility	Estimated Completion
	<p>initiate/provide the formal documentation with the Contractor as is being done this year.</p> <p><u>Procurement Division Comments:</u> Procurement will coordinate with PW and MWS and document. Est. Completion 2nd Quarter FY 13</p>		
<p>3. Appoint a single responsible party who will frequently interface with Metro Water Services and represent Metro Nashville as a whole in their dealings with the contractor.</p>	<p>Accept. Public Works will appoint a single responsible party who will interface with Water Services but believes that Procurement should represent Metro Nashville as a whole.</p> <p><u>Procurement Division Comments:</u> Procurement will provide this service.</p> <p>Est. Completion 1st Quarter FY 13</p>	<p>Public Works Finance Staff, Water Finance Staff, Procurement Agent</p>	<p>1st Quarter FY13</p>
<p>The Department of Finance Procurement Division should:</p> <p>4. For contracts for use by multiple departments, appoint one individual, in whatever department is the best fit (Procurement, Public Works, etc.), as the primary lead contract proponent for all future actions with respect to the contract.</p>	<p>Accept. Procurement assigns a staff member to each contract and will identify a lead department as well.</p>	<p>Procurement will provide this service</p>	<p>1st Quarter FY13</p>

**Audit of the Metropolitan Nashville Public Works Department
Management Response to Audit Recommendations**

Audit Recommendation	Response to Recommendation / Action Plan	Assigned Responsibility	Estimated Completion
<p>D. Management of Public Works should:</p> <p>1. Work with the Procurement Division to encourage competition in the procurement process by ensuring initial estimates included in any invitation to bid are based on the best available information, such as: computation of previous year's submitted invoices, detailed projections of events and circumstances, or any other logical methodology.</p>	<p>Partially Accept. Public Works will work with the Procurement Division by providing the best information available to the Public Works Department. Public Works will depend on the Procurement Department to enlist other departments to provide their best available information since Public Works does not have the manpower or time to drill several screens down into the system to access other department's information.</p> <p><u>Procurement Division Comments:</u> Procurement will attempt to engage all interested departments but has no authority over them to force this engagement. However, we have requested that departments not only see the amounts but the actual invoices of other depts.</p>	<p>Public Works Staff and Procurement Staff</p>	<p>Ongoing</p>
<p>2. Work with the Procurement Division to encourage sharing of ideas, information, and quantity projections and computations in instances where other departments will definitely be a participant in the contract requirements.</p>	<p>Accept. Public Works will coordinate efforts with the Procurement Division to enlist sharing of information between departments.</p> <p><u>Procurement Division Comments:</u> Procurement depends on the participation of other departments</p>	<p>Public Works Staff and Procurement Staff</p>	<p>Ongoing</p>
<p>E. Management of Public Works should:</p> <p>1. Ensure that cost or pricing data is obtained when required.</p>	<p>Accept. Public Works will obtain manufacturing, construction or other service provider cost data when required.</p>	<p>Public Works Staff initiating the change order.</p>	<p>Ongoing</p>

**Audit of the Metropolitan Nashville Public Works Department
Management Response to Audit Recommendations**

Audit Recommendation	Response to Recommendation / Action Plan	Assigned Responsibility	Estimated Completion
2. When cost or pricing data are required, require that it be submitted to the Purchasing Agent prior to beginning price negotiations for the contract or change order.	Accept. Public Works will submit pricing data, when required, to Purchasing prior to beginning price negotiations.	Public Works Staff initiating the change order.	Ongoing
3. Require the offeror or contractor to certify as soon as practicable after agreement is reached on price that the cost or pricing data submitted are accurate, complete, and current as of a mutually determined date prior to reaching agreement.	Accept. Public Works will require the offeror or contractor to certify as soon as practicable after agreement is reached on price that the cost or pricing data submitted are accurate, complete, and current as of a mutually determined date prior to reaching agreement.	Public Works Staff initiating the change order.	Ongoing
F. Management of Public Works should: 1. Invoice quantities should be compared to engineering daily report quantities to confirm that the amounts agree.	Accept. Public Works will compare invoice quantities to engineering daily report quantities to confirm that the amounts agree.	Public Works engineering staff	Ongoing
2. Items included on invoices should be compared with contracts and contract change orders to confirm that the items are included on approved change orders.	Accept. Public Works will compare items included on invoices to contracts and approved contract change orders to confirm that the items are included.	Public Works Finance Staff	Ongoing
3. Use emergency procedures in cases where change orders are urgent, if that is the case.	Accept. Public Works will request that Procurement initiate emergency procedures in cases where change orders are urgent. <u>Procurement Division Comments:</u> Agreed, Procurement routinely processes both emergency purchases and conducts change order meetings.	Public Works change order initiator.	Ongoing