CITY OF TALLAHASSEE
OFFICE OF THE CITY AUDITOR

T. Bert Fletcher, CPA, CGMA
City Auditor

HIGHLIGHTS

Highlights of City Auditor Report #1604, a report to the City Commission and City management

January 12, 2016

AUDIT OF PUBLIC WORKS – SELECTED PROCUREMENT PRACTICES

Overall, we determined estimated quantities of goods and services provided in past bid solicitations and used in the bid evaluation and contract award decision process for asphalt, concrete, and sod were not comparable to and reflective of actual usage.

WHY THIS AUDIT WAS CONDUCTED

The primary objective of this audit was to evaluate the methods and processes Public Works uses to acquire major goods and services for which estimated quantities impact bid evaluations, and determine if those methods and processes are efficient, reasonable, and the most beneficial to the City.

The scope of this audit included contracts and related solicitations initiated through Public Works for which material and/or service quantities impact the bid evaluation scores, which, in turn, impacts which vendor is awarded the resulting contract. Applicable materials and services as determined by the audit included asphalt and related milling/paving services, concrete, and sod.

WHAT WE RECOMMENDED

1. Public Works, with assistance from Procurement Services, should utilize the PeopleSoft Financials System to record and track by contract item the quantities of asphalt, concrete, and sod acquired under the respective contracts.
2. Public Works should use the quantities tracked in the PeopleSoft Financials System (see previous recommendation) to develop better quantity estimates for future bid solicitations and contracts for asphalt, concrete, and sod.
3. Public Works should apply the most appropriate procurement process for future purchases to help ensure asphaltic materials and services are acquired at the best and lowest costs to the City and in a manner that is more favorable to vendors.
4. Public Works should request the applicable vendor for concrete materials to provide additional detail on delivery tickets as to the specific type of concrete delivered to City work sites; and, Public Works staff should use that information to better document correct prices were paid for delivered concrete.
5. To help ensure the City is properly and consistently billed for materials and services, Public Works should ensure future bid solicitations and contracts include appropriate terms defining what constitutes an individual order of concrete.

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WHAT WE CONCLUDED

1. Estimated quantities of goods and services provided in bid solicitations by Public Works, which impact the contract award (vendor selection) process for asphalt, concrete, and sod, were not comparable to and reflective of actual quantities subsequently purchased by the City. Such inaccurate quantity estimates increase the risk that contracts for those services are not awarded to the vendor that will provide the services at the lowest overall costs to the City. Furthermore, because vendors often consider the quantity of anticipated business in establishing and quoting unit prices for materials and services, such inaccurate quantity estimates also do not provide those vendors adequate information on which to determine their best bid prices and consequently, result in quotations of unit prices that are different from the unit prices that would be quoted based on more realistic estimates.
2. While Public Works has initiated a process to track quantities of asphaltic services acquired under the current contract (in part, as a means to determine better estimates for future contract solicitations), no such process has been initiated for asphaltic materials, concrete, or sod. Additionally, our audit identified a more efficient process for tracking purchased quantities.
3. For some prior bid solicitations for asphaltic materials and services, a second inappropriate "weighting factor" was applied in the evaluation of bids. The City was fortunate that circumstance did not result in an inappropriate contract award for the three prior solicitations to which it was applied. Public Works has since revised its acquisition process so that inappropriate second weighting factor is no longer applied.
4. Public Works revised its procedures for the most recent process of acquiring asphaltic materials and services such that all individual items are considered during the bid evaluation and vendor selection process. We commend Public Works for that change. We also noted that Public Works uses that same process for concrete and sod. However, we identified an alternative procurement process that may help ensure Public Works obtains asphaltic materials and services, and sod at the best and lowest overall costs in a manner that is more favorable to vendors.
5. Delivery tickets (invoices) provided by the contractor for concrete deliverables do not include adequate descriptions of the specific materials provided, thereby making it difficult for Public Works staff to clearly demonstrate amounts paid pursuant to those invoices are in accordance with applicable contractual terms (pricing).

We would like to thank and acknowledge the cooperation and support of Public Works and Procurement Services during this audit.

Office of the City Auditor

Audit of Public Works – Selected Procurement Practices

Report #1604
January 12, 2016

CITY OF TALLAHASSEE
OFFICE OF THE CITY AUDITOR

Copies of this audit report #1604 may be obtained from the City Auditor's web site (http://www.talgov.com/auditing/auditing-auditreports.aspx), by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail (auditors@talgov.com).

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Audit of Public Works – Selected Procurement Practices

T. Bert Fletcher, CPA, CGMA
City Auditor

Report #1604 ***January 12, 2016***

Executive Summary

Overall, we determined estimated quantities of goods and services provided in past bid solicitations and used in the bid evaluation and contract award decision process for asphalt, concrete, and sod were not comparable to and reflective of actual usage. Such inaccurate quantity estimates increase the risk that (1) prospective contractors are not provided adequate information on which to determine and bid their best prices, and (2) the City could pay more for materials and services. Recommendations were made to enhance the procurement process for asphalt, concrete, and sod so as to help ensure those materials and services are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to vendors.

Audit procedures performed to meet our objective included, but were not limited to, comparing the estimated quantities used for the bid evaluation process to actual quantities subsequently purchased/used.

The primary objective of this audit was to evaluate the methods and processes Public Works uses to acquire major goods and services for which estimated quantities impact bid evaluations, and determine if those methods and processes are efficient, reasonable, and the most beneficial to the City. Audit procedures performed to meet that objective included, but were not limited to, comparing the estimated quantities used for the bid evaluation process to actual quantities subsequently purchased/used.

The scope of this audit included contracts and related solicitations initiated through Public Works for which material and/or service quantities impact the bid evaluation scores (which, in turn, impacts which vendor is awarded the resulting contract). Applicable materials and services as determined by the audit included asphalt and related milling/paving services, concrete, and sod. We judgmentally selected for review the five most recent competitive solicitations for asphalt materials and related services and the resulting contracts. Those five contracts were with Peavy & Sons Construction Company, Inc. (three contracts), Capital Asphalt, Inc.,

and Mitchell Brothers, Inc. We also reviewed the most recent competitive solicitations and resulting contracts awarded for concrete (A Materials Group, Inc.) and sod (Panther Creek Sod Farms, LLC).

The following amounts were expended under the reviewed contracts to date:

Table 1
Expenditures per Contract

Asphalt and Related Services		
Peavy	Former contract for materials and services	$2,557,086 (1)
Peavy	Current contract for services	$599,924 (2)
Peavy	Current contract for materials	$89,385 (3)
Capital Asphalt	Former contract for services	$2,031,005 (4)
Mitchell Brothers	Former contract for materials	$1,008,022 (5)
Concrete and Sod		
A Materials	Current contract for concrete	$580,141 (6)
Panther Creek	Current contract for sod	$155,482 (7)

NOTE 1: Contract 2501 Covering October 2011 through September 2012
2: Contract 3363 Covering January 2015 through January 2018 (as of July 2015)
3: Contract 3352 Covering January 2015 through January 2018 (as of July 2015)
4: Contract 2801 Covering December 2012 through December 2014
5: Contract 2802 Covering December 2012 through December 2014
6: Contract 2945 Covering April 2013 through July 31, 2015
7: Contract 3066 Covering December 2013 through December 2015 (as of July 2015)

The results of our audit procedures showed the following:

Estimated quantities of goods and services provided in bid solicitations by Public Works, which impact the contract award (vendor selection) process for asphalt, concrete, and sod, were not comparable to and reflective of actual quantities subsequently purchased by the City.

1. Estimated quantities of goods and services provided in bid solicitations by Public Works, which impact the contract award (vendor selection) process for asphalt, concrete, and sod, were not reflective of actual quantities subsequently purchased by the City. Such inaccurate quantity estimates increase the risk that contracts for those services are not awarded to the vendor that will provide the services at the lowest overall costs to the City. Furthermore, because vendors often consider the quantity of anticipated business in establishing and quoting unit prices for materials and services, such inaccurate quantity estimates also do not provide those vendors adequate information on which to determine their best bid prices and consequently, result in quotations of unit prices that are different from the unit prices that would be quoted based on more realistic estimates. *(ISSUE*

#1 on page 24, ISSUE #1 on page 33, and ISSUE #1 on page 39.)

2. While Public Works has initiated a process to track quantities of asphaltic services acquired under the current contract (in part, as a means to determine better estimates for future contract solicitations), no such process has been initiated for asphaltic materials, concrete, or sod. Additionally, our audit identified a more efficient process for tracking purchased quantities. Specifically, rather than using Excel documents to track acquired quantities, functionality within the City's PeopleSoft Financials System could be used thereby eliminating some of the manual effort required for tracking quantities using Excel. *(See ISSUE #1 and #2 on pages 24-26, ISSUE #1 on page 33, and ISSUE #1 on page 39.)*

For some prior bid solicitations for asphaltic materials and services, a second inappropriate "weighting factor" was applied in the evaluation of bids.

3. For some prior bid solicitations for asphaltic materials and services, a second inappropriate "weighting factor" was applied in the evaluation of bids. The City was fortunate that circumstance did not result in an inappropriate contract award for the three prior solicitations to which it was applied. Public Works has since revised its acquisition process so that inappropriate second weighting factor is no longer applied. *(See ISSUE #3 on page 26.)*

Public Works revised its procedures for the most recent process of acquiring asphaltic materials and services such that all individual items are considered during the bid evaluation and vendor selection process.

4. Public Works revised its procedures for the most recent process of acquiring asphaltic materials and services such that all individual items are considered during the bid evaluation and vendor selection process. We commend Public Works for that change. We also noted that Public Works uses that same process for concrete and sod. However, we identified an alternative procurement process that may help ensure Public Works obtains asphaltic materials and services and sod at the best and lowest overall costs in a manner that is more favorable to vendors. *(See ISSUES #4 and #5 on page 27 and ISSUE #2 on page 40.)*

5. Delivery tickets (invoices) provided by the contractor for concrete deliverables do not include adequate descriptions of the specific materials provided, thereby making it difficult for Public Works staff to clearly demonstrate amounts paid pursuant to those invoices are in accordance with applicable contractual terms (pricing). *(See ISSUE #2 on page 34.)*

The contract for concrete did not contain clear terms specifying when price discounts were applicable based on purchase volumes.

6. The contract for concrete did not contain clear terms specifying when price discounts were applicable based on purchase volumes. Specifically, the contract provided that price discounts were to be applied when the City ordered (acquired) more than six cubic yards (measurement of concrete). However, the contract did not define what constituted an "order" of concrete. For example, it was not clear whether an individual order, on which the discount determination would be made, was based on a single request from the City for potentially multiple work sites and jobs, a single delivery of concrete to one work site, or all concrete deliveries made in a single day. In practice, we found the vendor was billing the City based on an individual order being represented by a single delivery of concrete to one work site. The lack of an adequate contractual definition of an individual order of concrete increases the risk of improper and/or inconsistent billing and payment for those materials. *(See ISSUE #3 on page 34.)*

To address these issues, we recommend:

We made several recommendations to address issues identified during our audit.

1. Public Works, with assistance from Procurement Services, utilize to the extent possible the PeopleSoft Financials System to record and track by contract item the quantities of asphalt, concrete, and sod acquired under the respective contracts. In the event Public Works determines PeopleSoft is not going to provide a practical means for tracking purchases, they should develop an alternative tracking process. *(See Items #1 and #2 above.)*

2. Public Works use the tracked quantities (see previous recommendation) to develop better quantity estimates for future bid solicitations and contracts for asphalt, concrete, and sod. *(See Items #1 and #2 above.)*

3. Public Works apply the most appropriate procurement process for future purchases to help ensure asphaltic materials and services are acquired at the best and lowest costs to the City and in a manner that is more favorable to vendors. *(See Items #3 and #4 above.)*

4. Public Works request the applicable vendor for concrete materials to provide additional detail on delivery tickets as to the specific type of concrete delivered to City work sites; and, Public Works staff use that information to better document correct prices were paid for delivered concrete. *(See Item #5 above.)* NOTE: *Subsequent to the end of the fieldwork portion of this audit, Public Works initiated the process of requesting the vendor for concrete materials to provide additional details on their delivery tickets.*

5. To help ensure the City is properly and consistently billed for materials and services, Public Works should ensure future bid solicitations and contracts include appropriate terms defining what constitutes an individual order of concrete. *(See Item #6 above.)*

We would like to thank and acknowledge the full and complete cooperation and support of management and staff from Public Works and Procurement Services during this audit.

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Audit of Public Works – Selected Procurement Practices

CITY OF TALLAHASSEE
OFFICE OF THE CITY AUDITOR

T. Bert Fletcher, CPA, CGMA
City Auditor

Report #1604 ***January 12, 2016***

Scope, Objectives, and Methodology

The objective of this audit was to evaluate Public Works procurement practices for major goods and services for which estimated quantities impact the bid evaluation and vendor selection process, and determine if those practices (processes) are efficient, reasonable, and the most beneficial to the City.

The scope of this audit included contracts and related solicitations initiated through Public Works for which material and/or service quantities impact the bid evaluation scores (which, in turn, impacts which vendor is awarded the resulting contract). Applicable materials and services as determined by the audit included asphalt and related milling/paving services, concrete, and sod. We judgmentally selected for review the five most recent competitive solicitations for asphalt materials and related services and the resulting contracts. Those five contracts were with Peavy & Sons Construction Company, Inc. (three contracts), Capital Asphalt, Inc., and Mitchell Brothers, Inc. We also reviewed the most recent competitive solicitations and resulting contracts awarded for concrete (A Materials Group, Inc.) and sod (Panther Creek Sod Farms, LLC).

We judgmentally selected for review competitive solicitations for asphalt materials and related services, concrete, and sod.

We conducted this audit in accordance with the International Standards for the Professional Practice of Internal Auditing and Generally Accepted Government Auditing Standards. Those standards require 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Overview

As indicated previously, our audit addressed Public Work's competitive procurement processes where estimates of quantities of items to be purchased under the resulting contracts had a direct impact on the bid/proposal evaluation process, thereby directly impacting the selection of a vendor to whom the resulting contract was awarded. As discussed in the following sections, we determined there were three commodities and related services for which that process was used.

Asphalt

Repair and Maintenance Processes. Public Works reported the City is responsible for maintaining 2,159 roads that cover 673 centerline miles. The two most common processes used to repair and maintain those roads are (1) milling and resurfacing and (2) overlay. *Milling and resurfacing* is a process where a milling machine grinds down and removes the existing asphalt pavement which is then hauled offsite. A new layer of asphalt is placed on the roadway after completion of the milling operation. *Overlay* is a process where a layer (typically one inch) of asphalt is placed on top of the existing asphalt. No milling is performed during the overlay process. It takes less time and resources to complete an overlay compared to a milling and resurfacing.

The City is responsible for maintaining 2,159 roads that cover 673 centerline miles. The two most common processes used to repair and maintain those roads are (1) milling and resurfacing and (2) overlay.

Public Works also reported that over the last four years, the milling and resurfacing and overlay processes have been used to repair/maintain approximately 60 miles of City maintained roads, which represents approximately 64% of all roadway miles repaired/maintained during that four-year period. The remaining 34 miles (36%) were repaired using other processes, to include (1) cold-in-place recycling, (2) hot-in-place recycling, and (3) micro-surfacing.

The *cold-in-place recycling* process both involves milling of the existing surface and placement of a new layer of asphalt, similar to that of the milling and resurfacing process described in the previous paragraph. It is used when there is a problem with the road base, such as poor soil condition or high water content. The *hot-in-place recycling* process is similar to milling and resurfacing as it removes, heats, and replaces (rejuvenates) the top portion of the existing asphalt and then places a new layer on top of that rejuvenated layer. *Micro-surfacing* is similar to the overlay process and is the least

invasive of all methods; it involves placing a relatively thin layer of new asphalt on top of an existing road to temporarily extend the service life of the road. The determination as to which process is used by Public Works depends on the condition and circumstances of the roadway being repaired and maintained, as well as other factors (e.g., available funds) as discussed subsequently in this report. The scope of this audit did not extend to a determination as to which process should be used in different situations.

Table 2 below shows the different processes and related repair and maintenance services provided over the last four years.

Table 2
City Maintained Lane Miles Repaired by Fiscal Year
(Note 1)

Type of Repair	2012	2013	2014	2015	Total	%
Cold-in-Place	0	0	2.5	0	2.5	3%
Hot-in-Place	0	9.7	0	4.6	14.3	15%
Micro-Surface	0	5.1	0	12.2	17.3	18%
Milling & Resurfacing	11	5.7	8.6	9.05	34.35	37%
Overlay	8.9	8.5	4.1	3.95	25.45	27%
Total	**19.9**	**29**	**15.2**	**29.8**	**93.9**	**100%**

Note 1: The figures in this table were provided by Public Works and have not been audited.

Public Works management estimates that approximately 99% of resurfacing work is performed by contractors, and 90% of the repair work is performed by Public Works staff using asphaltic materials acquired from vendors.

In-House versus Contracted Repair and Maintenance. Road repair and maintenance services are, for the most part, conducted by contractors hired by the City through competitive procurement practices as discussed in a subsequent part of this report. Specifically, Public Works management estimates that approximately 99% of the resurfacing work is performed by contractors, and 90% of the repair work is performed by Public Works staff using asphaltic materials acquired from vendors. Road repairs and maintenance performed directly by Public Works staff are relatively small jobs compared to services provided by contractors. Those small jobs are typically associated with repairs needed because of utility work and emergencies.

Planning Road Repairs and Maintenance. Public Works uses industry indexes and practices to help determine when City-maintained roads need significant repair and maintenance work. Specifically, an "Overall Condition Index" (OCI) based on standards set forth by the American Society for Testing and Materials (ASTM) is used to evaluate the condition of roads. While the condition assessment process is inherently subjective, ASTM

standards provide guidelines to make the decision process more objective. An OCI assessment is conducted for each City-maintained road on a three-year cycle.

An OCI assessment is conducted for each City-maintained road on a three-year cycle.

A newly constructed road is assigned a score of 100 under the OCI index. As a road ages and deteriorates over time, the periodic condition assessments made by Public Works result in points being deducted from the initial rating of 100. When the score reaches a certain level, Public Works starts developing plans for the resurfacing of that road. Factors in addition to the OCI rating that impact when a road will be resurfaced include available budget, condition and priority of other roads, and available techniques to repair and maintain the road. As an example of the latter (available techniques), Public Works may determine at a point in time because of budget constraints that it is more cost-beneficial to apply a less costly technique to temporarily extend the service life of a specific road (e.g., overlay or micro-surfacing) until a more extensive resurfacing (e.g., milling and resurfacing) is performed.

As part of its process in planning when to schedule roads for repair and maintenance, Public Works also coordinates with Underground Utilities to determine if that department has planned maintenance activities that may impact resurfacing projects.

As part of the process in planning when to schedule road resurfacing, Public Works also coordinates with the City's Underground Utilities Department to determine if that department has planned maintenance activities (i.e., water, sewer, or natural gas line repairs, replacements, or upgrades) that may impact resurfacing projects.

Procurement Methods. Competitive procurement processes are used by Public Works to select capable vendors to perform needed road resurfacing and to provide asphaltic materials for work done in-house by Public Works staff.

Because the need to perform cold-in-place recycling is infrequent (See Table 2 on page 9 of this report), each job using that process is competitively procured in a separate process (i.e., bids are solicited for each project). However, for the other four processes (milling and resurfacing, overlay, hot-in-place recycling, and micro-surfacing) that may be used for multiple road resurfacing jobs each year, Public Works through Procurement Services solicits bids for the purpose of awarding a contract to a vendor that will perform those services for all jobs during a defined period (e.g., three years). Different bids are solicited and contracts awarded for those four processes.

Regarding asphaltic materials for maintenance and repair work done in-house, Public Works also solicits bids from potential vendors for the purpose of awarding a separate contract for provision of the materials to applicable job sites during the defined contract period.

Regarding asphaltic materials for maintenance and repair work done in-house, Public Works also solicits bids from potential vendors for the purpose of awarding a separate contract for provision of the materials to applicable job sites during the defined contract period.

Using the planning process described previously, Public Works staff estimates for each process (milling and resurfacing, overlay, hot-in-place recycling, and micro-surfacing) the quantities of different materials and services that will be needed on an annual basis during the planned contract period. The bid solicitations request the responding vendors to quote a price for each item (material and/or service) at the indicated quantities included in the bid solicitation. Some of the four processes involve more materials and services relative to the other processes. For example, the most recent bid solicitation for milling and resurfacing included 30 items while the most recent bid solicitation for micro-surfacing included only two items.

The primary purpose of competitive bid solicitations is to ensure services are obtained at prices (costs) that are the most favorable to the City. Accordingly, in the typical bid solicitation vendors (contractors) are requested to provide a price to which they are willing to commit for the sale of the listed goods and/or services. If more than one good or service is listed, the vendors provide a price for each item. The vendor that provides the "lowest overall costs" (prices) will be awarded the contract.

The primary purpose of competitive bid solicitations is to ensure services are obtained at prices (costs) that are the most favorable to the City.

Weighting factors. While the concept of awarding the contract to the vendor with the lowest overall costs is relatively simple, the manner in which the lowest overall prices (costs) are determined may vary. The variation is based on how different items and/or prices are weighted. Under the weighting concept, particular items may be weighted higher, such that the prices associated with those items influence the determination of the lowest overall costs more so than items that are weighted lower. The manner in which such weights are applied can also vary. Under the process previously used by Public Works, items and related prices have been weighted based on different factors, including the estimated quantities of the individual items to be purchased. Under that process, an item for which 100 units are estimated to be purchased at a unit price of $1 (total cost of $100) has the same weight as another item for which

only one unit is estimated at a unit price of $100 (also a total cost of $100).

In addition to weighting of individual items, certain items may be considered more important because of the higher estimated need for those items, such that the overall lowest costs determinations for a bid solicitation is based solely on those items. Under that method, prices were also quoted for other items with lower estimated needs in the event such items are also acquired. However, the associated costs for those lower need items did not factor into the determination of the lowest overall costs for purposes of selecting a vendor and awarding a contract.

To the extent accurate estimates of the quantities of each item to be purchased are available, a process that considers all items (high and "low need" items) is more appropriate as it considers all costs likely to be incurred under the awarded contract.

The processes described in the previous paragraphs have been used by Public Works in past purchases of asphaltic materials and services. However, to the extent accurate estimates of the quantities of each item to be purchased are available, the process currently being used considers all items (high and "low need" items) is more appropriate as it considers all costs likely to be incurred under the awarded contract.

Contract History: As stated previously in the scope section of this report, we addressed, in this audit, Public Work's five most recent acquisitions of asphaltic materials and services for road repair and maintenance. As also stated in the preceding paragraph, Public Works used different variations of the competitive procurement (bid) process for those acquisitions. Specifically:

The asphaltic materials and milling services bid solicitation covering FY 2012 provided that costs associated with only the four "high need" items would be considered.

1. **Asphaltic materials and milling services, covering fiscal year (FY) 2012**. The procurement solicitation for those services listed 30 separate items. Those 30 items were comprised of a combination of materials to be delivered for in-house work by Public Works staff and asphaltic milling and resurfacing and overlay services to be performed by the vendor awarded the contract. The bid solicitation requested prices for each of the 30 items. However, to determine the vendor with the lowest overall costs to the City for contract award purposes, this bid solicitation provided that costs associated with only the four "high need" items would be considered. In other words because of the higher estimated need for those four items, the overall lowest costs determinations was based solely on those items. Annual quantities were estimated for those four items in order to provide for a proper weighting of costs associated with those items.

However, contrary to a logical process, the bid solicitation provided for a "second weighting" of those four items in determining the lowest overall costs. That circumstance is addressed as an audit issue in a subsequent section of this audit report. The contract (#2501) for this solicitation was awarded to Peavy & Sons Construction Company, Inc.

The asphaltic milling services bid solicitation covering December 2012 through December 2014 provided that costs associated with only the two "high need" items would be considered.

2. **Asphaltic milling services, covering December 2012 through December 2014.** The procurement solicitation for those services listed 26 separate items. Those 26 items were comprised of asphaltic milling and resurfacing and overlay services to be performed by the vendor awarded the contract. (Asphaltic materials for delivery for in-house work during FY 2013 were addressed in a separate solicitation – see solicitation 3 that follows.) The bid solicitation requested prices for each of the 26 items. However, as similarly noted above for the previous solicitation, to determine the vendor with the lowest overall costs to the City for contract award purposes, this bid solicitation provided that costs associated with only the two "high need" items would be considered. Annual quantities were estimated for those two items in order to provide for a proper weighting of costs associated with those items. *As also noted in solicitation 1 above, contrary to a logical process, the bid solicitation provided for a "second weighting" of those two items in determining the lowest overall costs. That circumstance is addressed as an audit issue in a subsequent section of this audit report.* The contract (#2801) for this solicitation was awarded to Capital Asphalt, Inc.

The asphaltic materials bid solicitation covering December 2012 through December 2014 provided that costs associated with only the two "high need" items would be considered.

3. **Asphaltic materials, covering December 2012 through December 2014.** The procurement solicitation for those services listed 18 separate items. Those 18 items were comprised of asphaltic materials for delivery for in-house work by Public Works staff. The bid solicitation requested prices for each of the 18 items. However, as similarly noted above for the previous solicitations, to determine the vendor with the lowest overall costs to the City for contract award purposes, this bid solicitation provided that costs associated with only the two "high need" items would be considered. Annual quantities were estimated for those two items in order to provide for a proper weighting of costs associated with those items. *As also noted in solicitations 1 and 2 above, contrary to a logical process, the bid solicitation provided for a "second weighting" of those two items in*

determining the lowest overall costs. That circumstance is addressed as an audit issue in a subsequent section of this audit report. The contract (#2802) for this solicitation was awarded to Mitchell Brothers.

The asphaltic milling services bid solicitation covering January 2015 through January 2018 did not distinguish between "high-need" and "low-need" items.

4. **Asphaltic milling services, covering January 2015 through January 2018.** The procurement solicitation for those services listed 30 separate items. Those 30 items were comprised of asphaltic milling and resurfacing and overlay services to be performed by the vendor awarded the contract. (Asphaltic materials for delivery for in-house work during the same period were addressed in a separate solicitation – see solicitation 5 that follows.) Unlike the previous solicitations, Public Works did not distinguish between "high-need" and "low-need" items in this solicitation. As a result, annual needed quantities were estimated for <u>each</u> of the 30 items and the lowest estimated costs was based on the total projected costs for all 30 items. As previously stated in this report, to the extent the estimated quantities are accurate, this process provides for a more appropriate evaluation, as it considers all costs likely to be incurred under the awarded contract. The contract (#3363) for this solicitation was awarded to Peavy & Sons Construction Company, Inc.

The asphaltic materials bid solicitation covering January 2015 through January 2018 did not distinguish between "high-need" and "low-need" items.

5. **Asphaltic materials, covering January 2015 through January 2018.** The procurement solicitation for those services listed 11 separate items. Those 11 items were comprised of asphaltic materials for delivery for in-house work by Public Works staff. Similar to solicitation 4 above, Public Works did not distinguish between "high-need" and "low-need" items in this solicitation. As a result, annual needed quantities were estimated for <u>each</u> of the 11 items and the lowest estimated costs was based on the total projected costs for all 11 items. As previously stated in this report, to the extent the estimated quantities are accurate, this process provides for a more appropriate evaluation, as it considers all costs likely to be incurred under the awarded contract. The contract (#3352) for this solicitation was awarded to Peavy & Sons Construction Company, Inc.

Audit Analyses and Results - Asphalt

As explained in the background section of this report, three former contracts for asphaltic materials and/or services were awarded to the vendors (contractors) that presented the lowest overall costs in their bid proposals. (See solicitations 1, 2, and 3 on pages 12-13 of this report.) Those lowest overall costs were based solely on specific "high need" items, for which the proposed prices quoted by the vendors were weighted using estimated quantities as provided by Public Works in the bid solicitations. Because those estimated quantities directly impacted the determination of the lowest overall costs and resulting selection of a vendor, we determined the accuracy of those estimated quantities used in the bid solicitation and evaluation process by comparing to actual quantities acquired under those contracts (Analysis #1). We then used that information to complete two additional analyses for each of the three contracts. Specifically,

Using actual quantities from our audit results, we recalculated which proposing vendor had the lowest overall costs through two different methodologies.

1. We recalculated which proposing vendor had the lowest overall costs based on those actual quantities using Public Works' methodology at the time of the original bid evaluation and vendor selection process. Specifically, we only considered the costs associated with "high need" items on which the initial bids were evaluated. (As stated in solicitations 1, 2, and 3 on pages 12-13 of this report, Public Works only considered the costs associated with the predefined "high need" items in determining the vendor with the lowest overall costs.) (Analysis #2)

2. We recalculated which proposing vendor had the lowest overall costs based on those actual quantities using the current Public Works methodology, whereby the costs associated with all items (i.e., no distinction between "high need" and "low need" items) are considered in the bid evaluation and vendor selection process. (See solicitations 4 and 5 on page 14 of this report.) As stated in the background section of this report, to the extent the estimated quantities are accurate, this process provides for a more appropriate evaluation, as it considers all costs likely to be incurred under the awarded contract. (Analysis #3)

The results of our analyses for each contract are shown in the following report sections and tables.

Asphaltic materials and milling services, covering FY 2012 (Contract 2501)

Three of the four "high need" items in contract 2501 were significantly understated.

Analysis #1: In solicitation 1 under "Contract History" on page 12 of this report, we noted the bids for asphaltic materials and milling services for FY 2012 were evaluated based on four ("high need") of the 30 items for which prices were solicited. The resulting contract was awarded to Peavy & Sons Construction Company, Inc. Table 3 that follows shows the estimated quantities compared to actual quantities acquired under the resulting contract as determined through our audit. That table shows quantity estimates used in the bid evaluation process for three of the four items were significantly understated and significantly overstated for the fourth item.

Table 3
Contract 2501 Comparison of Actual Quantities to Estimated Quantities
"High Need" Items Only

	Milling 0"-3" (square yards)	**SP-9.5 Asphalt on City Trucks** (tons)	**SP-9.5 Asphalt Jobsite** (tons)	**SP-9.5 Asphalt In Place** (tons)
Actual Quantities	99,800	7,650	0	16,098
Bid Estimated Quantities	37,000	7,000	1,000	7,000
Over (Under) Estimate	62,800	650	(1,000)	9,098
Percent Over (Under)	170%	9%	Not Measurable	130%

The same vendor who won the original bid still had the lowest overall costs when recalculating the bid using the original bid methodology and actual quantities.

Analysis #2: Table 4 that follows reflects our recalculation of the lowest overall costs using the actual quantities determined by audit and as shown in Table 3 above for the four "high need" items. The purpose of this analysis was to determine if a more accurate estimate of quantities would have impacted the vendor selection and contract award process. As shown in the table, although the quantities were significantly understated for three of the four "high need" items and overstated for the fourth item, the same vendor (Peavy & Sons Construction Company, Inc.) would have the lowest overall costs.

Table 4
Contract 2501 Lowest Overall Costs Determination Using Original Bid Evaluation Methodology and Actual Quantities

Weighting	Item	Actual Quantity	Peavy Per Unit Bid	Peavy $ Total	CW Roberts Per Unit Bid	CW Roberts $ Total
20%	Milling Asphalt 0" - 3" (square yards)	99,800	$3	$59,880	$3.90	$77,844
30%	SP 9.5 Asphalt on City Trucks (tons)	7,650	$71	$162,945	$76	$174,420
10%	SP 9.5 Asphalt job site (tons)	0	$77	$0	$88	$0
40%	SP 9.5 Asphalt in place (tons)	16,098	$100	$643,920	$104	$669,677
Total				**$866,745**		**$921,941**

The same vendor who won the original bid still had the lowest overall costs when recalculating the bid using the current bid methodology and actual quantities.

Analysis #3: Table 5 that follows shows our recalculation of the lowest overall costs using the actual quantities determined by the audit for all 30 items. The purpose of this analysis was to determine if the same vendor would have been awarded the contract under the current method used by Public Works where no distinction is made between "high need" and "low need" items. As shown in the table, the same vendor (Peavy & Sons Construction Company, Inc.) would have the lowest overall costs.

Table 5
Contract 2501 Lowest Overall Costs Determination Using Current Bid Evaluation Methodology and Actual Quantities

Item	Actual Quantity	Peavy Per Unit Bid	Peavy $ Total	CW Roberts Per Unit Bid	CW Roberts $ Total
Milling Asphalt 0" - 3" (square yards)	99,800	$3	$299,400	$3.90	$389,220
Manhole Adjustment	1	$2,000	$2,000	$1,000	$1,000
Spot Milling less than 175 (square yards)	1	$3,000	$3,000	$7,500	$7,500
SP-9.5 Asphalt on City Trucks (tons)	7,650	$71	$543,150	$76	$581,400
SP-9.5 Asphalt in place (tons)	16,098	$100	$1,609,800	$104	$1,674,192
SP-12.5 Asphalt in place (tons)	366	$102	$37,332	$104	$38,064
FC-9.5 Asphalt in place (tons)	110	$111	$12,210	$110	$12,100
Asphalt Tack Coat RS-1 in place (gallons)	5,787	$4	$23,148	$3.50	$20,255
Asphalt Tack Coat AEP-1 in place (gallons)	81	$4	$324	$3.50	$284
Spot Paving SP-9.5 Asphalt in place 0-50 tons	71	$165	$11,715	$250	$17,750
In-place Paving - Outside Normal Work Hours	5	$1,500	$7,500	$10,000	$50,000
Spot Milling 175 SY to 400 SY	0	$15	$0	$12	$0

Asphalt Milling During Non-Normal Hours	0	$1,500	$0	$10,000	$0
SP-9.5 Asphaltic Concrete "job site"	0	$77	$0	$88	$0
SP-12.5 Asphaltic Concrete on City Trucks	0	$75	$0	$75	$0
SP-12.5 Asphaltic Concrete "job site"	0	$81	$0	$88	$0
FC-9.5 Asphaltic Concrete on City Trucks	0	$84	$0	$88	$0
FC-9.5 Asphaltic Concrete "job site"	0	$90	$0	$98	$0
FC-5 Asphaltic Concrete on City Trucks	0	$91	$0	$108	$0
FC-5 Asphaltic Concrete "job site"	0	$97	$0	$115	$0
FC-5 Asphaltic Concrete "in place"	0	$118	$0	$130	$0
FC-12.5 Asphaltic Concrete on City Trucks	0	$81	$0	$88	$0
FC-12.5 Asphaltic Concrete "job site"	0	$90	$0	$98	$0
FC-12.5 Asphaltic Concrete "in place"	0	$111	$0	$114	$0
Type PM-2 Cold Plant mixed asphalt on City Trucks	0	$125	$0	None Provided	$0
Spot Paving SP-9.5 "in place" 50-100 tons	0	$145	$0	$150	$0
Spot Paving SP-12.5 "in place" 0-50 tons	0	$165	$0	$250	$0
Spot Paving SP-12.5 "in place" 50-100 tons	0	$145	$0	$150	$0
Spot Paving SP-FC-5 "in place" 0-50 tons	0	$180	$0	$300	$0
Spot Paving SP-FC-5 "in place" 50-100 tons	0	$165	$0	$200	$0
Total			**$2,549,579**		**$2,791,765**

Asphaltic milling services, covering December 2012 through December 2014 (Contract 2801)

Both of the "high need" items in contract 2801 were significantly understated.

Analysis #1: In solicitation 2 under "Contract History" on page 13 of this report, we noted that the bids for asphaltic milling services for December 2012 through December 2014 were evaluated based on two "high need") of the 26 items for which prices were solicited. The resulting contract was awarded to Capital Asphalt, Inc. Table 6 that follows shows the estimated quantities compared to actual quantities acquired under the resulting contract as determined through our audit. That table shows quantity estimates used in the bid evaluation process for both items were significantly understated.

Table 6
Contract 2801 Comparison of Actual Quantities to Estimated Quantities
"High Need" Items Only

	Milling 0"-3"(square yards)	**SP 9.5 Asphalt In Place** (tons)
Actual	99,404	17,092
Bid Estimate	37,000	7,000
Over (Under) Estimate	(62,404)	(10,092)
Percent Over (Under)	(169%)	(144%)

The same vendor who won the original bid still had the lowest overall costs when recalculating the bid using the original bid methodology and actual quantities.

Analysis #2: Table 7 that follows reflects our recalculation of the lowest overall costs using the actual quantities determined by the audit and as shown in Table 6 above for the two "high need" items. The purpose of this analysis was to determine if a more accurate estimate of quantities would have impacted the vendor selection and contract award process. As shown in the table below, although the quantities were significantly understated for both "high need" items, the same vendor (Capital Asphalt, Inc.) would have the lowest overall costs.

Table 7
Contract 2801 Lowest Overall Costs Determination Using Original Bid Evaluation Methodology and Actual Quantities

Weighting	**Item**	**Actual Quantity**	**Capital Asphalt Per Unit Bid**	**Capital Asphalt $ Total**	**Peavy Per Unit Bid**	**Peavy $ Total**	**CW Roberts Per Unit Bid**	**CW Roberts $ Total**
35%	Milling Asphalt 0" - 3" deep (square yards)	99,404	$3	$104,374	$3	$104,374	$4.25	$147,863
65%	SP-9.5 Asphalt in place RAP Mix (tons)	17,092	$96.86	$1,076,095	$102	$1,133,200	$105	$1,166,529
Total				**$1,180,469**		**$1,237,574**		**$1,314,392**

The same vendor who won the original bid still had the lowest overall costs when recalculating the bid using the current bid methodology and actual quantities.

Analysis #3: Table 8 that follows shows our recalculation of the lowest overall costs using the actual quantities determined by the audit for all 26 items. The purpose of this analysis was to determine if the same vendor would have been awarded the contract under the current method used by Public Works where no distinction is made between "high need" and "low need" items. As shown in the table, the same vendor (Capital Asphalt, Inc.) would have the lowest overall costs.

Table 8
Contract 2801 Lowest Overall Costs Determination Using Current Bid Evaluation Methodology and Actual Quantities

Item	Actual Quantity	Capital Asphalt Per Unit Bid	Capital Asphalt $ Total	Peavy Per Unit Bid	Peavy $ Total	CW Roberts Per Unit Bid	CW Roberts $ Total
Milling Asphalt 0" - 3" deep (square yards)	99,404	$3	$298,212	$3	$298,212	$4.25	$422,467
Spot Milling 175 to 400 (square yards)	314	$18.75	$5,888	$15	$4,710	$35	$10,990
SP-9.5 Asphalt in place RAP Mix (tons)	17,092	$96.86	$1,655,531	$102	$1,743,384	$105	$1,794,660
SP-4.75 Asphalt in place (tons)	141	$130	$18,330	$105	$14,805	$125	$17,625
Asphalt Tack Coat (emulsified RS-1) in place (gallons)	7,968	$5	$39,840	$4	$31,872	$6	$47,808
Spot Paving SP-9.5 Asphalt in place 0-50 tons (tons)	31	$206.25	$6,394	$165	$5,115	$300	$9,300
Spot Paving SP-9.5 Asphalt in place 50-100 tons (tons)	67	$150	$10,050	$145	$9,715	$200	$13,400
Manhole Adjustment	0	$2,000	$0	$2,500	$0	$1,500	$0
Spot Milling less than 175 SY	0	$3,750	$0	$3,000	$0	$8,500	$0
Asphalt Milling During Non-Normal Hours	0	$6,875	$0	$5,500	$0	$11,000	$0
SP-9.5 Asphalt in place (Non-RAP Mix)	0	$130	$0	$105	$0	$125	$0
SP-12.5 Asphalt in place (RAP Mix)	0	$105	$0	$102	$0	$105	$0
SP-12.5 Asphalt in place (Non-RAP Mix)	0	$130	$0	$105	$0	$125	$0
FC-9.5 Asphalt in place	0	$120	$0	$112	$0	$125	$0
FC-5 Asphalt in place	0	$145	$0	$121	$0	$150	$0
FC-12.5 Asphalt in place	0	$125	$0	$112	$0	$125	$0
Asphalt Tack Coat (emulsified AEP-1) in place	0	$5	$0	$4	$0	$6	$0

Asphalt Rubber Membrane Interlayer in place	0	$10	$0	$100	$0	$10	$0
Warm Mix Asphalt (WMA) in place (SP-9.5 Mix)	0	$120	$0	$105	$0	$125	$0
Spot Paving SP-12.5 in place 0-50 tons	0	$206.25	$0	$165	$0	$300	$0
Spot Paving SP-12.5 in place 50-100 tons	0	$150	$0	$145	$0	$200	$0
Spot Paving FC-5 in place 0-50 tons	0	$225	$0	$180	$0	$350	$0
Spot Paving FC-5 in place 50-100 tons	0	$200	$0	$165	$0	$250	$0
Spot Paving During Non-Normal Hours	0	$1,875	$0	$1,500	$0	$15,000	$0
Spot Paving SP-4.75 in place 0-50 tons	0	$250	$0	$200	$0	$300	$0
Spot Paving SP-4.75 in place 50-100 tons	0	$175	$0	$200	$0	$200	$0
Total			**$2,034,245**		**$2,107,813**		**$2,316,250**

Asphaltic materials, covering December 2012 through December 2014 (Contract 2802)

Both of the "high need" items in contract 2802 were significantly understated.

Analysis #1: In solicitation 3 under "Contract History" on page 13 of this report, we noted that the bids for asphaltic materials for December 2012 through December 2014 were evaluated based on two ("high need") of the 18 items for which prices were solicited. The resulting contract was awarded to Mitchell Brothers. Table 9 that follows shows the estimated quantities compared to actual quantities acquired under the resulting contract as determined through our audit. That table shows that the quantity estimates used in the bid evaluation process for both items were significantly understated.

Table 9
Contract 2802 Comparison of Actual Quantities to Estimated Quantities
"High Need" Items Only

	SP 9.5 Asphalt on City Trucks (tons)	**SP 9.5 Asphalt Job Site** (tons)
Actual	10,869	3,933
Bid Estimate	7,000	1,000
Over (Under) Estimate	(3,869)	(2,933)
Percent Over (Under)	(55%)	(293%)

Analysis #2: Table 10 that follows reflects our recalculation of the lowest overall costs using the actual quantities determined by the audit and as shown in Table 9 above for the two "high need" items. The purpose of this analysis was to determine if a more accurate estimate of quantities would have impacted the vendor selection and contract award process. As shown in the table, although the quantities were significantly understated for both "high need" items, the same vendor (Mitchell Brothers) would have the lowest overall costs.

Table 10
Contract 2802 Lowest Overall Costs Determination Using
Original Bid Evaluation Methodology and Actual Quantities

Weighting	**Item**	**Actual Quantity**	**Mitchell Brothers Per Unit Bid**	**Mitchell Brothers $ Total**	**Peavy Per Unit Bid**	**Peavy $ Total**	**CW Roberts Per Unit Bid**	**CW Roberts $ Total**
80%	SP-9.5 Asphalt on City Trucks RAP Mix (tons)	10,869	$70.93	$616,751	$72	$626,054	$80	$695,616
20%	SP-9.5 Asphalt Jobsite RAP Mix (tons)	3,933	$76	$59,782	$77	$60,568	$90	$70,794
Total				**$676,533**		**$686,622**		**$766,410**

The same vendor who won the original bid still had the lowest overall costs when recalculating the bid using the current bid methodology and actual quantities.

Analysis #3: Table 11 that follows shows our recalculation of the lowest overall costs using the actual quantities determined by the audit for all 18 items. The purpose of this analysis was to determine if the same vendor would have been awarded the contract under the current method used by Public Works where no distinction is made between "high need" and "low need" items. As shown in the table, the same vendor (Mitchell Brothers) would have the lowest overall costs.

Table 11
Contract 2802 Lowest Overall Costs Determination Using Current Methodology and Actual Quantities

Item	Actual Quantity	Mitchell Brothers Per Unit Bid	Mitchell Brothers $ Total	Peavy Per Unit Bid	Peavy $ Total	CW Roberts Per Unit Bid	CW Roberts $ Total
SP-9.5 Asphalt on City Trucks RAP Mix (tons)	10,869	$70.93	$770,938	$72	$782,568	$80	$869,520
SP-9.5 Asphalt Jobsite RAP Mix (tons)	3,933	$76	$298,908	$77	$302,841	$90	$353,970
Type PM-2 Cold Plant mixed asphalt on City Trucks (tons)	48	$125	$6,000	$125	$6,000	$5,000	$240,000
Jobsite Delivery During Non-Normal Work Hours – Weekend (per occurrence)	25	$450	$11,250	$400	$10,000	$7,000	$175,000
Pick-up During Non-Normal Hours on City Trucks (per occurrence)	21	$325	$6,825	$300	$6,300	$7,000	$147,000
SP-9.5 Asphalt on City Trucks - Non-RAP Mix (tons)	0	88	$0	$77	$0	$105	$0
SP-9.5 Asphalt Jobsite - Non-RAP Mix (tons)	0	94	$0	$83	$0	$115	$0
SP12.5 Asphalt on City Trucks - RAP Mix (tons)	0	78	$0	$74	$0	$80	$0
SP12.5 Asphalt Jobsite - RAP Mix (tons)	0	88	$0	$80	$0	$90	$0
SP12.5 Asphalt on City Trucks - Non-RAP Mix (tons)	0	89	$0	$77	$0	$105	$0
SP12.5 Asphalt Jobsite - Non-RAP Mix (tons)	0	97	$0	$83	$0	$115	$0
FC-9.5 Asphalt on City Trucks (tons)	0	88	$0	$85	$0	$105	$0
FC-9.5 Asphalt Jobsite (tons)	0	95	$0	$93	$0	$115	$0
FC-5 Asphalt on City Trucks (tons)	0	114	$0	$92	$0	$120	$0
FC-5 Asphalt Jobsite (tons)	0	120	$0	$98	$0	$130	$0
FC-12.5 Asphalt on City Trucks (tons)	0	95	$0	$85	$0	$105	$0
FC-12.5 Asphalt Jobsite (tons)	0	98	$0	$93	$0	$115	$0
Jobsite Delivery During Non-Normal Weekday Hours (tons)	0	325	$0	$300	$0	$7,000	$0
Total			**$1,093,921**		**$1,107,709**		**$1,785,490**

Asphaltic materials and milling services, covering January 2015 through January 2018 (Contracts 3352 and 3363)

Public Works indicated a historical analysis of invoices and payments under the previous recent contracts had been performed to determine annual usage for the two current contracts.

Similar audit analyses were not performed for the most recent contracts executed for asphaltic materials and services (see solicitations 4 and 5 on page 14 of this report), as sufficient time has not elapsed to determine the actual quantities of items that will be purchased under those contracts. However, in response to our inquiry as to how the quantity estimates for those two solicitations were determined, Public Works indicated a historical analysis of invoices and payments under the previous recent contracts had been performed to determine annual usage. That annual usage was then adjusted based on anticipated demand for asphaltic materials and services based on planned road improvements for the contract period. While some documentation was available to substantiate those quantity determinations (e.g., estimated historical usage), adequate records were not prepared and retained to substantiate adjustments to those amounts based on anticipated repairs and maintenance for the contract period.

Issues and Conclusion - Asphalt

Several issues and conclusions were derived from our analyses as described above. These are each addressed below.

Estimated quantities used in prior bid solicitations that impacted the vendor selection decisions have not been accurate.

ISSUE #1: Estimated quantities used in prior bid solicitations that impacted the vendor selection decisions have not been accurate. For the most part, based on actual quantities purchased under the resulting contracts, those quantity estimates have been significantly understated and in other instances significantly overstated. Notwithstanding those circumstances our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors (i.e., the inaccurate estimates did not change the vendor with the lowest overall costs at the quoted per unit prices). Inaccurate quantity estimates significantly increase the risk that the City did or will pay more for the contracted services for the following two reasons:

- Because each responding vendor quotes unit prices for each item contained in the bid solicitation, it is mathematically possible that different quantity levels could directly impact which vendor would provide the contracted services to the City at the lowest costs. In simple terms, the total costs associated with just a few items could result in one vendor being the best response (lowest overall costs) at one quantity level while resulting in a different vendor being the best response at a different quantity level. As noted above, this circumstance fortunately did not occur for the solicitations reviewed but, a significant risk of occurrence did exist because of the inaccurate estimates.

- It is common for vendors to quote unit prices based on the anticipated quantity (volume) of work anticipated to be awarded. Generally, due to economies of scale, vendors will quote a lower per unit price for a large quantity of work compared to a small quantity of work. Accordingly, it is likely that per unit prices quoted by the vendors will be different based on significantly different quantities. Because we do not know what the responding vendors would have quoted for the per unit prices based on the actual quantities used, a determination cannot be made in hindsight as to whether the significantly inaccurate quantity estimates resulted in the City paying more for the contracted services than it should have.

Public Works has started a process to track actual quantities of services acquired to use as reference for better estimating future needs (and bid solicitations).

The primary reason for the inaccurate quantity estimates has been that, until recently, Public Works has not tracked quantities acquired in order to determine better estimates for subsequent contracts. To determine quantities to include in past bid solicitations (see solicitations 1, 2, and 3 on pages 12-13 of this report), Public Works relied on quantities included in the previous solicitations and adjusted for anticipated demand in the applicable period. Documentation substantiating those quantity determinations was not available. Based on discussions and concerns regarding the procurement process expressed by vendors that submitted bids in response to the most recent solicitations for asphaltic milling services (see solicitation 4 on page 14 of this report), Public Works has started a process to track actual quantities of services acquired to use as reference for better estimating future needs (and bid solicitations). We commend Public Works for those actions. In addition to those actions and to make useful information available

for future solicitations, we recommend Public Works also start a process to track actual quantities for asphaltic materials. Furthermore, Public Works should prepare and retain appropriate documentation to support how quantity estimates are determined. Such documentation will not only be useful for analyses and future bid solicitations, but also will provide the City support to defend against vendor bid protests and other potential actions.

We recommend Public Works also start a process to track actual quantities for asphaltic materials.

ISSUE #2: As noted in ISSUE #1 above, Public Works has initiated a process to track quantities of asphaltic milling services acquired under the current contract (i.e., as a means to determine better estimates for future contract solicitations). To date, Public Works has used Microsoft Excel to track acquired quantities. In ISSUE #1, we recommended such a process should also be initiated for asphaltic materials. As part of our audit, we identified a more efficient process for tracking purchased quantities. Specifically, rather than using Excel documents to track acquired quantities, functionality within the City's PeopleSoft Financials System could be used thereby eliminating some of the manual effort required for tracking quantities using Excel. Accordingly, we recommend Public Works use the PeopleSoft Financials System to track quantities of asphaltic materials and supplies acquired under applicable and future contracts.

Attributes within the City's PeopleSoft Financials System could be used to track quantities, thereby eliminating some of the manual effort required for tracking quantities using Excel.

ISSUE #3: For some of the previous bid solicitations, an inappropriate "second weighting" factor was applied in evaluating submitted bids. Specifically, in addition to weighting the bids based on quantity of items as explained on pages 12-13 of this report for solicitations 1, 2, and 3, those solicitations also provided that items considered in the calculation would be also weighted higher or lower relative to the other "high need" items. For example, for one bid solicitation with two "high need" items, the solicitation provided one of those two items would be assigned a weight of 65% and the other assigned a weight of 35%. As those second weights were being applied to monetary values (i.e., estimated quantities multiplied by the associated unit price proposed by the responding vendors), that process, in essence, provided that one monetary value was more important than the other. As it is not logical that one anticipated monetary value (representing the amounts the City anticipated paying for the associated materials or services) is more important that another monetary value (representing the amounts the City will pay for a different material or service), that process

was not appropriate. Fortunately, our analysis showed this inappropriate second weighting factor did not result in an inappropriate contract award for the three solicitations to which it was applied. Also, this inappropriate second weighting factor was not applied in the most recent bid solicitations and evaluation (solicitations 4 and 5 on page 14 of this report). Notwithstanding those circumstances, we recommend Public Works ensure weighting factors are applied logically and appropriately for future solicitations and bid evaluations.

We recommend Public Works ensure weighting factors are applied logically and appropriately for future solicitations and bid evaluations.

ISSUE #4: As stated on page 12 of this report, when adequate information is available to determine accurate quantity estimates for all items to be procured under a contract, it is more appropriate to solicit bids that will consider prices and costs for all items, opposed to just evaluating prices and costs for selected "high need" items. The underlying reasoning is that process considers all costs likely to be incurred under the awarded contract and not just costs associated with selected items. As noted on page 14 of this report, Public Works did revise its process to consider all items anticipated to be procured in the most recent bid solicitations and evaluations (solicitations 4 and 5). We commend Public Works for revision of that process. However, as stated above, using this revised process makes accurate quantity estimates more critical. If an alternative solicitation and bid evaluation process is not applied (See ISSUE #5 that follows), we recommend Public Works continue with the revised process to the extent accurate quantity estimates are determinable.

We commend Public Works for revising their bid solicitation process to consider all items anticipated instead of a few "high need" items.

ISSUE #5: As part of this audit, we compared Public Works acquisition methods for asphaltic materials and supplies to acquisition methods used by three other municipalities, including Orlando, Gainesville, and Pensacola. It is our understanding based on discussions with staff in those governments that Pensacola uses a process similar to the process used by Public Works in the most recent solicitations (solicitations 4 and 5). Orlando staff indicated they piggy back off of other government contracts and otherwise solicit bids for specific jobs instead of all jobs during a specified period. Gainesville, however, uses a different process from that used by Public Works in regard to acquisition of asphaltic materials and services.

Gainesville requests vendors to provide quotes for different size jobs in their bid solicitation process.

Specifically, similar to Public Works, Gainesville solicits bids for asphaltic materials services during a specified period (e.g., one, two, or three years). However, unlike Public Works, vendors are requested to provide quotes for different job sizes (e.g., jobs requiring up to 150 tons of asphaltic materials and milling, 151 to 250 tons, 251 to 500 tons, 501 to 1,000 tons, and over 1,000 tons). Vendors are then evaluated and selected based on the lowest overall costs for each job size. As a result, more than one vendor may be selected to provide the needed services in the event the same vendor does not provide the lowest quote for all job sizes. Using the ranges noted above, if one vendor provides the lowest quote for the first two job sizes but a second vendor provides the lowest quote for the other job sizes, Gainesville will execute contracts with both vendors for the applicable job sizes. This process is logical and should help ensure the best and lowest overall costs are incurred. Additionally, this competitive process provides the opportunity for more than one contractor to be selected. We recommend Public Works management consider this method for its future acquisitions of asphaltic materials and services.

Conclusions: In summary, Public Works has used traditional competitive procurement methods for acquisitions of asphaltic materials and supplies in recent years. Additionally, some enhancements to application of those methods were made in the most recent acquisitions. However, further enhancements are needed to help ensure those materials and services are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to bidding vendors. Recommendations were made to address those needed enhancements.

Audit Analyses and Results - Concrete

Concrete Uses and Planning. Public Works uses concrete for maintenance tasks in the Street Preservation and Drainage Operations Units. In the Street Preservation Unit, concrete is used in the repair and replacement of sidewalks, curbs and gutters, and ADA ramps along roads. In the Drainage Operations Unit concrete is used in the construction or maintenance of stormwater pond spillways, headwalls, drainage ditch lining enclosed pipe system structures, and around the openings of culverts that carry stormwater underneath roadways. Anticipated annual demand is

based on funding and applicable projects, and to some extent, weather.

Procurement Methods and Contract. Competitive procurement methods are used by Public Works to select capable vendors to provide the needed concrete. The current contract is with A Materials Group, Inc., and covers the three-period April 2013 through March 2016. The procurement solicitation for that contract listed various concrete types, with several types split into two bid items (for example, one for less than or equal to six cubic yards and one for greater than six cubic yards). As a result, the solicitation requested prices for 18 items. As similarly described for the purchases of asphaltic materials and services, bids were weighted based on anticipated (estimated) annual quantities of each item to be purchased. Also, in accordance with good practices, each of the 18 items was considered as part of the bid evaluation process (i.e., these 18 items were not classified as "high need" or "low need" with only "high need" items considered in the evaluation process). *(Note: The bid did solicit fixed fee quotes for certain relatively small services that were not used in determining the bid with the lowest overall costs; however, those services and fees were verified as relatively insignificant to estimated and actual contract costs.)*

As similarly described for the purchases of asphaltic materials and services, bids for concrete materials were weighted based on anticipated (estimated) annual quantities of each item to be purchased.

Audit Analyses and Results – Concrete

As explained above, the recent contract for concrete was awarded to the vendor that submitted a bid with the lowest overall costs for all 18 items for which the solicitation requested quotes. As also noted above, those quotes (bids) were weighted based on the estimated annual quantities to be acquired for each item. Because those estimated quantities directly impacted the determination of the lowest overall costs and resulting selection of a vendor, we determined the accuracy of those estimated quantities by comparing to actual quantities used to date under that contract. To complete that comparison, we had to make certain adjustments to the underlying data as explained in the next paragraph.

We determined the accuracy of those estimated quantities by comparing to actual quantities used to date under the contract.

Because in four instances the contract delivery tickets (invoices) for a certain item did not provide sufficient information to distinguish that item from a different, but closely related, item, the estimated and actual quantities for those paired items were combined for this analysis. For example, in one instance 3000 PSI mix with #57 rock was paired with 3000 PSI #67 rock. That resulted in an analysis of

14 items; with 4 of those 14 items each representing a combination of two different but closely-related items. Additionally, since we only had data for two complete years as of the date of our audit (i.e., contract was in the early-to-middle of the third year), our analysis is based on average annual actual quantities for the first two years of the three-year contract. Our analysis is shown below in Table 12.

Table 12
Concrete: Comparison of Estimated Quantities to Actual Quantities

Item	Actual Quantity Used - First Two Years of Contract	Annual Average Quantities Used	Annual Estimated Quantities for Bid Solicitation	Difference	
				Over (Under)	%
Ready mix concrete, 3000 psi mix w/ #67 or #57 rock, 6 CY or less (NOTE 1)	34	17	850	833	98%
Ready mix concrete, 3000 psi mix w/ #89 rock, 6 CY or less	316	158	100	(58)	(58%)
Ready mix concrete, 3000 psi pump mix with #89 rock, 6 CY or less	1058	529	200	(329)	(164%)
Ready mix concrete, 4000 psi pump or no pump mix with #89 rock, 6 CY or less (NOTE 1)	34	17	200	183	92%
Flowable fill, excavateable, 6 CY or less	11	5.5	175	170	97%
Flowable fill, non-excavateable, 6 CY or less	12	6	100	94	94%
Ready mix concrete, Class NS 2500 psi mix with #89 rock, 6 CY or less	0	0	100	100	100%
Ready mix concrete, 3000 psi mix with #67 or #57 rock, >6 CY (NOTE 1)	163	81.5	1450	1,369	94%
Ready mix concrete, 3000 psi mix w/ #89 rock, >6 CY	926	463	150	(313)	(209%)
Ready mix concrete, 3000 psi pump mix with #89 rock, >6 CY	2388	1194	400	(794)	(198%)
Ready mix concrete, 4000 psi pump or no pump mix with #89 rock, >6 CY (NOTE 1)	364	182	300	118	39%
Flowable fill, excavateable, >6 CY	24	12	350	338	97%
Flowable fill, non-excavateable, >6 CY	32	16	350	334	95%
Ready mix concrete, Class NS 2500 psi mix with #89 rock, >6 CY	0	0	100	100	100%

NOTE 1: These “items” represent a combination of two different but closely related items.

Ten concrete items were significantly understated and four items were significantly overstated.

Table 12 shows estimated quantities used in the bid evaluation process differed significantly from actual quantities for all items, with ten items being significantly understated and four items being significantly overstated.

To determine the impact the inaccurate estimates had on vendor selection, we recalculated each proposing vendors' overall costs based on their quoted per unit prices and actual quantities as shown above. The results, which are reflected below in Table 13, show that the same vendor (A Materials Group, Inc.) would have the lowest overall costs.

Table 13
Concrete: Lowest Overall Costs Determination Using Actual Quantities

Item	Actual Quantity Used	A Materials Per Unit Bid	A Materials $ Total	Ready Mix Per Unit Bid	Ready Mix $ Total
Ready mix concrete, 3000 psi mix w/ #67 or #57 rock, 6 CY or less (NOTE 1)	33.75	$104	$3,510.00	$100	$3,375
Ready mix concrete, 3000 psi mix w/ #89 rock, 6 CY or less	315.75	$105.50	$33,311.63	$105	$33,153.75
Ready mix concrete, 3000 psi pump mix with #89 rock, 6 CY or less	1,057.75	$107	$113,179.25	$105	$111,063.75
Ready mix concrete, 4000 psi pump or no pump mix with #89 rock, 6 CY or less (NOTE 1)	33.75	$110	$3,712.50	$110	$3,712.50
Flowable fill, excavateable, 6 CY or less	11	$82	$902	$80	$880
Flowable fill, non-excavateable, 6 CY or less	12	$91	$1,092	$90	$1,080
Ready mix concrete, Class NS 2500 psi mix with #89 rock, 6 CY or less	0	$105	$0	$100	$0
Ready mix concrete, 3000 psi mix with #67 or #57 rock, >6 CY (NOTE 1)	163	$84	$13,692	$85	$13,855
Ready mix concrete, 3000 psi mix w/ #89 rock, >6 CY	926	$85.50	$79,173	$90	$83,340
Ready mix concrete, 3000 psi pump mix with #89 rock, >6 CY	2,387.50	$87	$207,712.50	$90	$214,875
Ready mix concrete, 4000 psi pump or no pump mix with #89 rock, >6 CY (NOTE 1)	363.50	$90	$32,715	$95	$34,532.50
Flowable fill, excavateable, >6 CY	24	$62	$1,488	$70	$1,680
Flowable fill, non-excavateable, >6 CY	32	$71	$2,272	$75	$2,400
Ready mix concrete, Class NS 2500 psi mix with #89 rock, >6 CY	0	$85	$0	$88	$0
Total			**$492,759.88**		**$503,947.50**

NOTE 1: These "items" represent a combination of two different but closely related items.

Our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors.

Notwithstanding that our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors (i.e., the inaccurate estimates did not change the vendor with the lowest overall costs at the quoted per unit prices), inaccurate quantity estimates significantly increase the risk that the City did or will pay more for the contracted services for the following two reasons:

- As stated previously for asphaltic materials and services, because each responding vendor quotes unit prices for each item contained in the bid solicitation, it is mathematically possible that different quantity levels could directly impact which vendor would provide the contracted services to the City at the lowest costs. In simple terms, the total costs associated with just a few items could result in one vendor being the best response (lowest overall costs) at one quantity level while resulting in a different vendor being the best response at a different quantity level. As noted above, this circumstance fortunately did not occur for the solicitations reviewed but, a significant risk of occurrence did exist because of the inaccurate estimates.

Because vendors often consider the quantity of anticipated business in establishing and quoting unit prices for materials and services, such inaccurate quantity estimates result in quotations of unit prices that are different from the unit prices that would be quoted based on more realistic estimates.

- As previously stated in this report in regard to asphaltic materials and services, because vendors often consider the quantity of anticipated business in establishing and quoting unit prices for materials and services, such inaccurate quantity estimates may not provide those vendors adequate information on which to determine their best bid prices and consequently, result in quotations of unit prices that are different from the unit prices that would be quoted based on more realistic estimates. Because we do not know what the responding vendors would have quoted for the per unit prices based on the actual quantities used, a determination cannot be made in hindsight as to whether the significantly inaccurate quantity estimates resulted in the City paying more for the contracted services than it should have.

Issues and Conclusions

Several issues and conclusions were derived from our analyses as described above. These are each addressed below.

ISSUE #1: As explained above, estimated quantities used in the bid solicitation for the current contract that impacted the vendor selection decision were not accurate. For the most part, based on actual quantities purchased under the resulting contract, those quantity estimates have been significantly understated and in other instances significantly overstated. Notwithstanding that our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors (i.e., the inaccurate estimates did not change the vendor with the lowest overall costs at the quoted per unit prices), inaccurate quantity estimates significantly increase the risk that the City did or will pay more for the contracted services for the two reasons stated previously on page 24.

The primary reason for the inaccurate quantity estimates has been that Public Works has not tracked quantities acquired in order to determine better estimates for subsequent contracts. To determine quantities to include in the reviewed bid solicitation, Public Works reported they relied on quantities included in the previous solicitations adjusted for anticipated demand in the applicable period. Documentation substantiating those quantity determinations was not available.

We recommend Public Works and other users start a process to track actual quantities for concrete acquired under the contract.

We recommend Public Works and other users of this contract start a process to track actual quantities for concrete acquired under the contract. To the extent possible, Public Works and other users should use the PeopleSoft Financials System for that purpose. In the event Public Works determines the upcoming PeopleSoft upgrade is not going to provide a practical means for tracking concrete purchases, they should develop an alternative tracking process. (Note: The City is in the process of upgrading the PeopleSoft Financials System, which has the potential to enhance the tracking of quantities purchased through City Purchase Cards (PCard). Most concrete purchases are made using PCards, and unlike acquisitions made through purchase orders, the current version of PeopleSoft Financials the City is using does not have a process in place to automatically track quantities acquired through PCards.) Furthermore, Public Works and other users should prepare and retain appropriate documentation to support how quantity estimates are determined. Such documentation will not only be useful for analyses and future bid solicitations, but also will provide the City support to defend against vendor bid protests and other potential actions. *(NOTE: Other City departments are allowed to piggy back*

off this contract for their respective concrete needs. Our analysis showed over 80% of the total purchases to date has been made by Public Works. To determine and track usage, Public Works and Procurement will also need assistance from other user departments.)

ISSUE #2: Delivery tickets (invoices) provided by the contractor for concrete deliverables do not include adequate descriptions of the specific materials provided, thereby making it difficult for Public Works staff to clearly demonstrate amounts paid pursuant to those invoices are in accordance with applicable contractual terms (pricing). We recommend Public Works request the applicable vendor for concrete materials to provide additional detail on delivery tickets as to the specific type of concrete delivered to City work sites. Public Works staff should use that information to better document correct prices were paid for delivered concrete. (NOTE: *Subsequent to the end of the fieldwork portion of this audit, Public Works initiated the process of requesting the vendor for concrete materials to provide additional details on their delivery tickets.*)

We recommend Public Works ensure future bid solicitations and contracts include appropriate terms defining what constitutes an individual order of concrete.

ISSUE #3: The contract for concrete did not contain clear terms specifying when price discounts were applicable based on purchase volumes. Specifically, the contract provided that price discounts were to be applied when the City ordered (acquired) more than six cubic yards (measurement of concrete). However, the contract did not define what constituted an "order" of concrete. For example, it was not clear whether an individual order, on which the discount determination would be made, was based on a single request from the City for potentially multiple work sites and jobs, a single delivery of concrete to one work site, or all concrete deliveries made in a single day. In practice, we found the vendor was billing the City based on an individual order being represented by a single delivery of concrete to one work site. The lack of an adequate contractual definition of an individual order of concrete increases the risk of improper and/or inconsistent billing and payment for those materials. To help ensure the City is properly and consistently billed for materials and services, we recommend Public Works ensure future bid solicitations and contracts include appropriate terms defining what constitutes an individual order of concrete.

As noted above, Public Works has selected concrete vendors for contracting purposes based on determinations of the lowest overall costs after considering the aggregate total cost for all items. Similar

to our recommendations made in ISSUE #5 on page 27 for asphaltic materials and supplies, we considered whether vendors should be requested to provide quotes for different job sizes in order to evaluate and select vendors based on the lowest overall costs for each job size. However, because concrete typically involves smaller per unit orders, it is unlikely that awarding multiple contracts based on job size would save the City enough money over the term of the contracts to justify the added work of staff managing multiple contracts.

Enhancements are needed to help ensure concrete materials are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to bidding vendors.

Conclusions: In summary, Public Works used traditional competitive procurement methods for acquisitions of concrete in the most recent acquisition. However, enhancements are needed to help ensure concrete materials are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to bidding vendors. Recommendations were made to address those needed enhancements.

Audit Analyses and Results - Sod

Sod Uses and Planning. Public Works uses sod primarily for erosion control and to stabilize areas disturbed during drainage system and road and sidewalk repair and maintenance. Two primary types of sod are purchased, Centipede and St. Augustine. While multiple City departments piggy back off the citywide contract to acquire sod for similar purposes and needs within their respective departments, the majority of sod (almost 80%) is purchased by Public Works.

Public Works uses sod primarily for erosion control and to stabilize areas disturbed during road and sidewalk repair and maintenance. Two primary types of sod are purchased, Centipede and St. Augustine.

Procurement Methods and Contract. Competitive procurement methods are used by Public Works to select capable vendors to provide the needed sod. The current contract is with Panther Creek Sod Farms, LLC, and covers the two-year period December 2013 through December 2015. The current contract provides for (1) delivery and installation by the contractor, (2) delivery by the contractor and installation by City staff, and (3) pick up from the vendor by the City for installation by City staff. Prices vary based on the level of service and type of sod. The contract also provides separate prices based on the quantity (square feet) purchased, with higher quantity purchases often receiving a lower per unit price. The vast majority of purchases (91%) made to date under the current contract have been pick up from the contractor for installation by City staff.

As similarly described for the purchases of asphaltic materials and services and concrete, bids were weighted based on anticipated (estimated) annual quantities of each item to be purchased. Also, in accordance with good practices, each of the primary sod types, service levels, and quantity levels were considered as part of the bid evaluation process (i.e., 10 items were not classified as "high need" or "low need" with only "high need" items considered in the evaluation process). *(Note: The bid did solicit fixed fee quotes for three relatively small additional services that were not used in determining the bid with the lowest overall costs; however, those services and fees were verified as relatively insignificant to estimated and actual contract costs.)*

Audit Analyses and Results – Sod

We determined the accuracy of those estimated quantities by comparing to actual quantities used during the first year of that contract.

The current contract for sod was awarded to the vendor that submitted a bid with the lowest overall costs for all items for which the solicitation requested quotes. As also noted above, those quotes (bids) were weighted based on the estimated annual quantities to be acquired for each item. Because those estimated quantities directly impacted the determination of the lowest overall costs and resulting selection of a vendor, we determined the accuracy of those estimated quantities by comparing to actual quantities used during the first year of that contract. Our analysis is shown below in Table 14.

Table 14
Sod: Comparison of Estimated Quantities to Actual Quantities

Item	Year 1 Quantity	Annual Bid Quantities	Difference	
			Over(Under)	%
Centipede Sod 500-3000 SF Delivered & Unloaded (500@$95)	1,000	100,000	99,000	99%
Centipede Sod 500-3000 SF Picked up on City Trucks (500@$85)	305,000	75,000	(230,000)	(307%)
Centipede Sod 500-3000 SF Delivered & Installed (500@$145)	0	300,000	300,000	100%
Centipede Sod > 3000 SF Delivered & Unloaded (500@$90)	0	50,000	50,000	100%
Centipede Sod > 3000 SF Delivered & Installed (500@$140)	41,000	50,000	9,000	18%
St. Augustine Sod 450-3000 SF Delivered & Unloaded (450@$153)	450	15,000	14,550	97%
St. Augustine Sod 450-3000 SF Picked up on City Trucks (450@$144)	68,625	25,000	(43,625)	(175%)
St. Augustine Sod 450-3000 SF Delivered & Installed (450@$198)	0	45,000	45,000	100%
St. Augustine Sod > 3000 SF Delivered & Unloaded (450@$153)	0	10,000	10,000	100%
St. Augustine Sod > 3000 SF Delivered & Installed (450@$189)	0	10,000	10,000	100%

Table 14 shows estimated quantities used in the bid evaluation process differed significantly from actual quantities for all items, with two items being significantly understated and seven items being significantly overstated.

To determine the impact inaccurate estimates had on vendor selection, we recalculated each proposing vendors' overall costs based on their quoted per unit prices and actual quantities as shown above. The results, which are reflected in Table 15 below, show the same vendor (Panther Creek Sod Farms, LLC) would have the lowest overall costs.

Table 15
Sod: Lowest Overall Costs Determination Using Actual Quantities

Item (per square feet)	Year 1 Actual Quantities	Panther Creek Per Unit Bid	Panther Creek $ Total	Watt Mizer Per Unit Bid	Watt Mizer $ Total
Centipede Sod 500-3000 SF Delivered & Unloaded	1,000	$0.19	$190	$0.215	$215
Centipede Sod 500-3000 SF Picked up on City Trucks	305,000	$0.17	$51,850	$0.167	$50,935
Centipede Sod 500-3000 SF Delivered & Installed	0	$0.29	$0	$0.349	$0
Centipede Sod > 3000 SF Delivered & Unloaded	0	$0.18	$0	$0.188	$0
Centipede Sod > 3000 SF Delivered & Installed	41,000	$0.28	$11,480	$0.321	$13,161
St. Augustine Sod 450-3000 SF Delivered & Unloaded	450	$0.34	$153	$0.555	$250
St. Augustine Sod 450-3000 SF Picked up on City Trucks	6,8625	$0.32	$21,960	$0.555	$38,087
St. Augustine Sod 450-3000 SF Delivered & Installed	0	$0.44	$0	$0.735	$0
St. Augustine Sod > 3000 SF Delivered & Unloaded	0	$0.34	$0	$0.452	$0
St. Augustine Sod > 3000 SF Delivered & Installed	0	$0.42	$0	$0.631	$0
Total			**$85,633**		**$102,648**

Notwithstanding that our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors, inaccurate quantity estimates significantly increase the risk that the City did or will pay more.

Notwithstanding that our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors (i.e., the inaccurate estimates did not change the vendor with the lowest overall costs at the quoted per unit prices), inaccurate quantity estimates significantly increase the risk that the City did or will pay more for the contracted services for the following two reasons:

- As stated previously for asphaltic materials and services and concrete, because each responding vendor quotes unit prices for each item contained in the bid solicitation, it is mathematically possible that different quantity levels could directly impact which vendor would provide the contracted services to the City at the lowest costs. In simple terms, the total costs associated

with just a few items could result in one vendor being the best response (lowest overall costs) at one quantity level while resulting in a different vendor being the best response at a different quantity level. As noted above, this circumstance fortunately did not occur for the solicitations reviewed but, a risk of occurrence did exist because of the inaccurate estimates.

- As previously stated in this report in regard to asphaltic materials and services, because vendors often consider the quantity of anticipated business in establishing and quoting unit prices for materials and services, such inaccurate quantity estimates may not provide those vendors adequate information on which to determine their best bid prices and consequently, result in quotations of unit prices that are different from the unit prices that would be quoted based on more realistic estimates. Because we do not know what the responding vendors would have quoted for the per unit prices based on the actual quantities used, a determination cannot be made in hindsight as to whether the significantly inaccurate quantity estimates resulted in the City paying more for the contracted services than it should have.

Issues and Conclusions

Several issues and conclusions were derived from our analyses as described above. These are each addressed below.

For the most part, based on actual sod quantities purchased in the first year under the resulting contract, those quantity estimates have been significantly understated and in other instances significantly overstated.

ISSUE #1: As explained above, estimated quantities used in the bid solicitation for the current contract that impacted the vendor selection decision were not accurate. For the most part, based on actual quantities purchased in the first year under the resulting contract, those quantity estimates have been significantly understated and in other instances significantly overstated. Notwithstanding that our analyses showed that the same vendor would have had the lowest overall cost if accurate estimates had been used at the unit prices quoted by the responding vendors (i.e., the inaccurate estimates did not change the vendor with the lowest overall costs at the quoted per unit prices), inaccurate quantity estimates significantly increase the risk that the City did or will pay more for the contracted services for the two reasons stated previously on page 24 of this report.

The primary reason for the inaccurate quantity estimates has been that Public Works has not tracked quantities acquired in order to determine better estimates for subsequent contracts. In the most recent solicitation, Public Works relied on quantities included in the previous solicitations, and added two new pay items. Documentation substantiating those quantity determinations was not available.

We recommend Public Works and other users start a process to track actual quantities for sod acquired under the contract.

We recommend Public Works and other users start a process to track actual quantities for sod acquired under the contract. To the extent possible, Public Works should use the PeopleSoft Financials System for that purpose. In the event Public Works determines the upcoming PeopleSoft upgrade is not going to provide a practical means for tracking sod purchases, they should develop an alternative tracking process. (Note: The City is in the process of upgrading the PeopleSoft Financials System, which has the potential to enhance the tracking of quantities purchased through City Purchase Cards (PCard). Most sod purchases are made using PCards, and unlike acquisitions made through purchase orders, the current version of PeopleSoft Financials the City is using does not have a process in place to track quantities acquired through PCards.) Furthermore, Public Works should prepare and retain appropriate documentation to support how quantity estimates are determined. Such documentation will not only be useful for analyses and future bid solicitations, but also will provide the City support to defend against vendor bid protests and other potential actions. *(NOTE: As stated earlier in this report, other City departments are allowed to piggy back off this contract for their respective concrete needs. Our analysis showed almost 80% of the total purchases to date have been made by Public Works. To determine and track usage, Public Works and Procurement will also need assistance from other user departments.)*

We recommend Public Works consider requesting sod vendors provide quotes for different job sizes. Vendors could then be evaluated and selected based on the lowest overall costs for each job size.

ISSUE #2: As noted above, Public Works selected sod vendors for contracting purposes based on determinations of the lowest overall costs after considering the aggregate total cost for all items. Similar to our recommendations made previously for asphaltic materials and services, we recommend Public Works consider requesting sod vendors provide quotes for different job sizes. Vendors could then be evaluated and selected based on the lowest overall costs for each job size. As a result, more than one vendor may be selected to provide the needed services in the event the same vendor does not

provide the lowest quote for all job sizes. If one vendor provides the lowest quote for the first job size but a second vendor provides the lowest quote for a different job size, separate contracts could be executed with each vendor for the applicable job sizes. This process is logical and could help ensure the City pays the best and lowest overall costs. Additionally, this competitive process provides the opportunity for more than one contractor to be selected. We recommend Public Works management consider this method for its future acquisitions of sod.

Conclusions: In summary, Public Works used traditional competitive procurement methods for acquisitions of sod in the most recent acquisition. However, enhancements are needed to help ensure those items are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to bidding vendors. Recommendations were made to address those needed enhancements.

Overall Conclusion

Overall, we determined estimated quantities of goods and services provided in past bid solicitations and used in the bid evaluation and contract award decision process for asphalt, concrete, and sod were not comparable to and reflective of actual usage. Such inaccurate quantity estimates increase the risk that (1) prospective contractors are not provided adequate information on which to determine and bid their best prices, and (2) the City could pay more for materials and services. Recommendations were made to enhance the procurement process for asphalt, concrete, and sod so as to help ensure those materials and services are acquired at the most favorable (best and lowest) costs to the City and in a manner that is more favorable to vendors. Recommendations were also made to address other issues identified during the audit.

Appointed Official's Response

City Manager Response:

We appreciate the thorough job the City Auditor's Office did in examining Public Works Selected Procurement Practices for asphalt, concrete, and sod. We recognize and understand the importance of accurate quantity estimates in obtaining favorable prices for the various materials and services provided by area vendors. We are pleased that some of the actions steps have already been effectuated and are confident that the implementation of the remaining action steps will enhance the accuracy of the estimated quantities used for the future procurement of asphalt, concrete, and sod.

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Appendix A: Management Action Plan

Action Steps	Responsible Employee	Target Date
1) Public Works will work with Procurement to utilize PeopleSoft Financials to record and track by contract item the quantities of asphalt materials and services acquired.	Mike Scheiner	January 2016
2) Public Works will work with Procurement and utilize PeopleSoft Financials to record and track by contract item the quantities of concrete acquired, or Public Works will develop an alternative tracking solution if the upgrades to PeopleSoft do not provide a practical way to track concrete purchases.	Mike Scheiner	December 2015 (Note 1)
3) Public Works will work with Procurement and utilize PeopleSoft Financials to record and track by contract item the quantities of sod acquired, or Public Works will develop an alternative tracking solution if the upgrades to PeopleSoft do not provide a practical way to track sod purchases.	Mike Scheiner	January 2016
4) Public Works will use the quantities tracked in PeopleSoft Financials to develop better quantity estimates for future bid solicitations for asphalt materials and services and in the process continue with the current process of providing estimates for all items within the bid solicitation.	Mike Scheiner	October 2017
5) Public Works will use the tracked quantities to develop better quantity estimates for future concrete bid solicitations.	Mike Scheiner	October 2017
6) Public Works will use the tracked quantities to develop better quantity estimates for future sod bid solicitations.	Mike Scheiner	February 2016
7) Public Works will consider awarding multiple contracts and apply the most appropriate procurement process for future purchases to help ensure asphalt materials and services are acquired at the best and lowest cost to the City and in a manner that is more favorable to the vendors.	Mike Scheiner	October 2017
8) Public Works will consider awarding multiple contracts and apply the most appropriate procurement process for future purchases to help ensure sod is acquired at the best and lowest cost to the City and in a manner that is more favorable to the vendors.	Mike Scheiner	February 2016

Action Steps	Responsible Employee	Target Date
9) Public Works will continue working with Procurement to request the concrete vendor provide additional detail on delivery tickets as to the specific type of concrete delivered to City work sites.	Mike Scheiner	December 2015 (Note 1)
10) Public Works will ensure future bid solicitations and contracts include appropriate terms defining what constitutes and individual order of concrete.	Mike Scheiner	October 2017

Note 1: Action plan step completed as of indicated date per Public Works. Completion will be verified during the audit follow-up process.