



**PUBLIC WORKS
DEPARTMENT**

PERFORMANCE AUDIT

MAY 2011 TO JUNE 2012

**CITY OF CHESAPEAKE, VIRGINIA
AUDIT SERVICES DEPARTMENT**

August 17, 2012

The Honorable Alan P. Krasnoff and
Members of the City Council
City of Chesapeake
City Hall – 6th Floor
Chesapeake, Virginia 23328

Dear Mayor Krasnoff and Members of the City Council:

We have completed our review of the City of Chesapeake (City) Department of Public Works (Department) for the period May 2011 to June 2012. Our review was conducted for the purpose of determining whether the Department was providing services in an economical, efficient, and effective manner, whether its goals and objectives were being achieved, and whether it was complying with applicable City and Departmental procedures related to its resource management and customer service, engineering, operations, street and bridge maintenance, traffic operations, contractual services, stormwater management and drainage, waste management, facilities management, and Chesapeake Expressway activities and operations.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusion based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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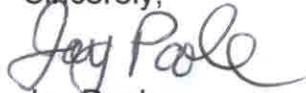
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To conduct this audit, we reviewed and evaluated City and Department policies, procedures, operations documents, and reports, both internal and external. We also reviewed the Department's Self-Assessment and evaluated various aspects of departmental operations. We conducted extensive site visits to obtain a general understanding of various departmental processes. We discussed these audit areas and conducted interviews with departmental management and various other personnel.

Based on our review, we determined the Department had accomplished its overall mission of providing a variety of services that were critical to the operations of the City. However, we did identify several areas of concern that needed to be addressed. Those areas included oversight of facilities construction and maintenance projects, utilization of Maximo and other software packages and support staff, citywide stormwater planning, inventory control, and other items.

This report, in draft, was provided to Department officials for review and response and their comments have been considered in the preparation of this report. These comments have been included in the Managerial Summary, the Audit Report, and Appendix A. Department management, supervisors, and staffs were very helpful throughout the course of this audit. We appreciated their courtesy and cooperation on this assignment.

Sincerely,



Jay Poole

City Auditor

City of Chesapeake, Virginia

C: Amar Dwarkanath, Interim City Manager
Eric J. Martin, Acting Deputy City Manager
Earl Sorey, Acting Director of Public Works

Managerial Summary

A. Objectives, Scope, and Methodology

We have completed our review of the City of Chesapeake (City) Department of Public Works (Department) for the period May 2011 to June 2012. Our review was conducted for the purpose of determining whether the Department was providing services in an economical, efficient, and effective manner, whether its goals and objectives were being achieved, and whether it was complying with applicable City and Departmental procedures related to its resource management and customer service, engineering, operations, street and bridge maintenance, traffic operations, contractual services, stormwater management and drainage, waste management, facilities management, and Chesapeake Expressway activities and operations.

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B. Performance Information

Public Works had eight divisions which provided a wide variety of different citizen and City services. These divisions included Resource Management/Customer Service, Engineering, Operations, Streets and Bridges (which reported to Operations), Stormwater Management/Drainage (which also reported to Operations), Facilities Management, Waste Management, Traffic Operations, Contractual Services, and the Chesapeake Expressway.

1. Resource Management/Customer Service Division (Customer Service, Accounting, and Safety)

The Resource Management Division was comprised of three major components: Customer Service, Accounting, and the Safety Program. Customer Service processed Public Works-related calls received by the City's Customer Contact Center. Accounting processed over \$13 million in invoices annually, coordinated and tracked the Department's operating and capital improvement budgets, and managed the payroll for full and part-time employees. Safety ensured that procedures were followed to minimize work-related accidents, and was also responsible for coordinating the activities of the Safety Board.

2. Engineering Division

The Engineering Division consisted of seven sections including Environmental, Survey, Traffic Engineering, a partial section of Stormwater Management, Right-of-Way, Design/Construction Services, and an Administrative staff person. The professional engineering services provided were quite extensive with differing areas of expertise. Because the City was continuously developing and revitalizing, Engineering was hard pressed to keep pace with the growing workload. Much of the design and construction services and inspections were outsourced and administered through Design/Construction Services (DCS). A large pool of vehicles was also assigned to Engineering for fieldwork.

3. Operations Divisions

Operations provided oversight and technical support to several divisions and budgetary sections of Public Works including Street Maintenance/Bridges and Structures, Traffic Operations, Contractual Services, and Stormwater Management/Drainage. Operations had primary responsibility for managing the Department's APWA accreditation program. The APWA's accreditation program provided a means of formally recognizing and verifying public works agencies compliance with the recommended practices set forth in the Public Works Management Practices Manual.

4. Street Maintenance/Bridges and Structures (Operations Division)

The Street Maintenance/Bridges and Structures Division reported to Operations and maintained and repaired the City's right-of-way, which included more than 2,300 lane miles. It also maintained 96 bridges and overpasses and four movable span draw bridges. These bridges opened approximately 30,000 times a year for water vessels.

5. Traffic Operations (Operations Division)

The Traffic Operations section was separately identified in the City's operating budget, but was functionally part of Operations. It provided for the safe, efficient, and convenient movement of vehicles and cargo on the City's roadways in accordance with state and federal guidelines through the installation, maintenance, and repair of traffic signals, signs, and pavement markings. It maintained road markings in accordance with state and federal standards; operated and maintained traffic signals and signs; and ensured traffic control measures were in place.

6. Contractual Services (Operations Division)

Contractual Services, also a separately identified section in the City's budget that was functionally part of Operations, procured and administered contracts for Street Maintenance/Bridges, Traffic Operations, Stormwater Management/Drainage, and other functions within Public Works.

7. Stormwater Management/Drainage (Operations Division)

Stormwater Management, which also reported to Operations, was a mandated federal and state program that required the City to regulate stormwater runoff in an effort to reduce pollution. Since neither the federal or state government provided funding, the revenues needed to support the program were provided through a Stormwater Utility fee, which was the primary source of revenue for the Stormwater Management Enterprise Fund. Owners of developed property (property that contained impervious areas), both residential and non-residential, were billed this fee. Residential property owners were billed a flat rate. In addition to the enterprise fund activities, Stormwater Management also provided oversight for drainage activities and projects funded through the City's general fund.

8. Waste Management

Waste Management provided refuse collection once every week for over 60,000 residences in Chesapeake. Over 100,000 tons of refuse was collected annually. The City's solid waste was transported to the Southeastern Public Service Authority (SPSA) transfer station on Greenbrier Parkway or the regional Refuse Derived Fuel Facility in Portsmouth. Waste Management was responsible for bulk trash pick-up, and they also managed the City's five-year contract with TFC Recycling, a recycling contractor. Waste Management had become more fuel efficient as a result of the City's purchase of approximately 25 trucks that ran on natural gas. Also, eleven grapple trucks had been outfitted with GPS technology for tracking purposes.

9. Facilities Management (Facilities Maintenance and Facilities Construction)

Facilities Management was the City's internal resource for constructing and maintaining City-owned facilities. It included two sections: Facilities Maintenance and Facilities Construction. In July 2010, these sections were transferred into Public Works from the General Services Department, which was eliminated. Although Public Works managed the two sections separately, they were still consolidated under Facilities Management in the City's operating budget.

10. Chesapeake Expressway (Expressway)

The Expressway, a 16 mile long, four lane divided highway, opened in 2001 and linked Interstate 64 to North Carolina and the Outer Banks. Expressway staff managed an electronic toll collection system which incorporated open-road technology. Vehicles equipped with an E-Z Pass transponder could pass through the "express lane" at the toll facility without stopping. The Expressway was built parallel to Battlefield Boulevard, which it crossed in three places. As many as 40,000 vehicles would pass through the toll plaza on a peak weekend day.

C. Facilities Construction and Maintenance

In reviewing Facilities Construction and Facilities Maintenance projects, we noted that they were not always planned and managed effectively and efficiently, particularly relative to planning and defining the scope of work. Based on our review of several projects, we identified issues related to the Temporary Inmate Housing project, the Overhaul/Renovation of the City Hall Elevators, operating policies and procedures, and project tracking.

1. Temporary Inmate Housing

Finding – Facilities Management did not always fully define the scope of work for contracts and did not always develop a comprehensive, executable plan for its construction projects, nor did it ensure that the contractor always obtained the compliance approvals necessary for the project. As a result, a temporary inmate housing facility project 1) experienced significant cost overruns and 2) could not be used for its intended purpose.

Recommendation – Facilities Construction should work with affected City departments on future projects to ensure that the projects are adequately planned and that the scope of work is fully developed. It should also ensure that all required approvals are obtained prior to initiating the contract.

Response – We concur with the recommendation, and as noted above, have already taken steps to ensure that future projects are adequately scoped and that appropriate cost controls and reporting procedures are in place.

The General Services section was reorganized in 2010 to separate the Purchasing Office, which now reports directly to a Deputy City Manager. The Facilities functions were broken into two divisions under Public Works – Facilities Construction and Facilities Maintenance. Public Works has been integrating the new divisions into Public Works and streamlining and standardizing their project management, purchasing and accounting practices into the APWA accredited PW department's well established policies and procedures. Minor updates to incorporate vertical construction and building maintenance IDIQ repair contracts are underway and will be completed in the next two months. (Note: the full text of the response is included in the body of the audit report.)

2. City Hall Elevator Overhaul Project

Finding – Facilities Maintenance did not develop an adequate scope of work definition that included vendor performance timelines and specifications for its emergency Overhaul/Renovation contract for the City Hall elevators.

Recommendation – For future projects, Facilities Maintenance should ensure that an adequate scope of work definition is developed for each emergency/overhaul/renovation contract. The scope definition should include vendor performance timelines and specifications.

Response – Facilities Maintenance will work more closely with the Purchasing Office to ensure that any emergency contracts include appropriate contract terms to include completion schedules and liquidated damages. Indefinite Delivery Indefinite Quantity (IDIQ) contracts such as that used for elevator maintenance and repair, continue to be essential vehicles to procure services that have highly variable scope or unknown or infrequent delivery dates. These contracts, which are competitively bid for basic labor costs or estimated unit prices, can save significant response time and still provide best value.

Working with the Purchasing office, Facilities Maintenance terminated the previous non-performing IDIQ elevator contractor and has put in place another qualified contractor to maintain, and repair if necessary, city elevators and escalators. While there are limited contractors performing these services in Tidewater, the City and Schools now share the same contractor. The previous contractor had performed well in previous years but due to circumstances beyond the City's control was unable to prosecute the repair work on the City Hall elevators on a reasonable schedule.

3. Operating Policies and Procedures

Finding – Facilities Management's sections had not developed written operating policies and procedures for managing projects. Also, checklists were not frequently used to assist with the project management process.

Recommendation – Facilities Management's sections should develop written operating policies and procedures for the management of facilities construction and maintenance projects. These procedures should include checklists to assist in the project management and oversight process.

Response – Facilities Construction and Facilities Maintenance are continuing the process of integrating all procedures and policies of the Public Works Department. Specifically, the two divisions are adapting project administration, programming, design, construction, monitoring, and close-out procedures to align with the User Guide. Where checklists and other project administration tools exist, they will be standardized to the User Guide format; where they do not exist or are deemed inadequate, they will be developed/modified. Many processes and procedures have already been changed within the last two years to conform to Public Works standards (change order routing/approval, contract execution, budget development, project reporting to chain-of-command, etc.). All recent repair project contract documents have included firm schedules and liquidated damages clauses – discussion also has been initiated between Public Works and

Purchasing on the best way to incorporate these elements into IDIQ maintenance contracts when task orders are particularly critical and/or reach a certain dollar threshold. In other areas such as safety, yard inspections/environmental stewardship, training (to name a few), Facilities' two divisions are already fully integrated into Public Works procedures.

4. Project Tracking

Finding – Facilities Construction did not always track construction projects in compliance with City policies and best practices.

Recommendation – Facilities Construction should develop a more effective tracking procedure for its construction projects.

Response – Some deficiencies have resulted from the excessive project workload of the Facilities divisions and lack of support staff. For instance, both division managers have been managing several projects each (including multiple multi-million dollar projects) due to insufficient project officer and support staffing. This has worsened over the last few years as the project load has increased and has diverted critical time away from strategic and management oversight duties. Public Works is in the process of assigning additional resources to the Facilities divisions, but more direct project support may be needed. The Facilities divisions will continue working with Public Works accounting and Budget/Finance to allocate funding for non-capitalizable project items, improve spending controls and improve overall financial management of project budgets/finances. Some of this work has already taken place over the past year as Facilities Project Managers have become more familiar with Public Works procedures and accounting personnel. Public Works will work Purchasing to clarify confusing issues related to IDIQ contracts and rewrite/rebid contracts to improve efficiency and repair project delivery times and quality. (For instance, the “value” of an IDIQ contract cannot be related solely to bid labor costs. In many instances, the equipment/materials costs are the majority of a repair project’s cost and must be taken into account when establishing a reasonable annual “cap” on the IDIQ contract.) Facilities does utilize a tracking board for permits, but this has not been standardized across all projects. Both divisions will develop a common checklist to be used by all Project Managers and management personnel to improve code compliance oversight.

D. Technology Issues

Public Works utilized several different software packages to help it accomplish its assigned tasks. We identified a number of issues with the utilization (or lack thereof) of several software packages including the Maximo Asset Management System, SharePoint software and RouteSmart software within the Department as a whole, as well as lack of utilization of Global Positioning Software (GPS) within the Waste Management Division.

1. Maximo System

Finding –The Maximo Asset Management system was not being utilized to its fullest potential by the Department.

Recommendation – The Department should take a more active role in ensuring that the Maximo system is utilized to its fullest potential, with sufficient support as required from Information Technology (IT)

Response – The general characterization of the Department’s use of Maximo as presented does not adequately reflect the significant efforts or the progress made since implementation. The department is very large with multiple functions and Maximo use continues to be phased in across our various divisions. Some smaller divisions have easily accommodated the new system while large divisions with less computer literate users have required additional support. As detailed below, the system purchased was not optimized for Public Works activities and significant modification of the latest version of the IBM software was required. Furthermore, integration with the existing Customer Service request system, Munis/Kronos payroll systems and PeopleSoft accounting systems did not exist and is being phased in to allow automation of many manual processes that have reduced the functionality and efficiency of using the system. (Note: the full text of the response is included in the body of the audit report.)

2. Workflow Process Deficiencies

Finding – The Department was using a manual, inefficient document routing workflow process and tracking system to capture budgetary approvals for projects instead of the SharePoint software available on the CityPoint intranet.

Recommendation – Public Works and IT should continue to develop a tracking system, using SharePoint to create a centralized document management system.

Response – Public Works has been partnering with the Information Technology Department to implement an automated document routing and approval system. Issues of electronic signatures need to be resolved for the project to advance. Additionally further discussions need to occur on delegation of approval authority and purchasing limits that require director and/or City Manager approval. Often relatively small but time-sensitive actions are unnecessarily delayed by the approval requirements on relatively low cost items. Additional PeopleSoft modules are being implemented which may also improve efficiency and tracking of contracts and modifications.

3. RouteSmart Software

Finding – The Department was not utilizing its RouteSmart routing system software to its fullest potential.

Recommendation – The Department should locate the RouteSmart software, properly complete the implementation, and train the staff on its use.

Response – The RouteSmart program was originally installed on a Public Works Operations computer. It has since been transferred to another user who is GIS trained and will be the point of contact for RouteSmart updating and the technical aspects of the program. Training is projected to begin in September.

4. GPS Technology

Finding – The Waste Management Division (Division) did not have the ability to track and monitor the location and progress of its Grapple and Rear Loader trucks on an automated basis.

Recommendation – Public Works should attempt to identify funding to allow the Waste Management Division to install GPS tracking devices on at least the Grapple and Rear Loader trucks, so that the location and progress of the trucks can be monitored on an automated basis.

Response – Funding has been identified for this project. Due to contract stipulations with the proposed GPS vendor, the current procurement has been delayed and we are working with Purchasing and a new supplier. A pilot demonstration project for our grapple trucks will occur this fall. GPS for use in our rearloaders and remaining grapple trucks will be initiated if the pilot with this vendor is successful. Following that pilot we intend to outfit street sweepers and eventually snow plow and sanding trucks.

E. Stormwater Management/Drainage

In reviewing Stormwater Management and Drainage operations, we noted that a citywide comprehensive plan to manage the operations had not been fully implemented. We also noted that the Stormwater Enterprise Fund was funding salaries for non-Stormwater activities in some instances. Finally, pending regulatory changes had the potential to impact Stormwater Management operations.

1. Preventative Maintenance

Finding – The Stormwater Management/Drainage Division had not fully implemented a comprehensive maintenance plan to maintain the City's stormwater/drainage systems.

Recommendation – Stormwater Management/Drainage should fully implement a comprehensive preventive maintenance plan for the City.

Response – Within the past two years, the Stormwater Management/Drainage operations group has reduced the backlog of service requests to such an extent that they were able to begin implementing a program of preventative maintenance for the City's drainage infrastructure.

A regular schedule for street sweeping was set up in Maximo by the Operations Planner/Scheduler prior to the transfer of sweeping operations from the Division of Streets and Highways to Stormwater Management. This schedule has been maintained after the transfer. Operations improved sweeping cycles from one to four on residential streets and began publishing the sweeping schedules on the City website three years ago. (Note: the full text of the response is included in the body of the audit report.)

2. Stormwater Enterprise Fund

Finding – The Stormwater Enterprise Fund was used to pay selected employee salaries for time that was not spent on stormwater activities.

Recommendation – To comply with Section 26-372 of the Chesapeake City Code, the Department should apportion the use of the Stormwater Enterprise Fund to pay employee salaries depending on the percentage of work actually performed on stormwater activities.

Response – The Department continues to apportion the time spent by select employees and manually make subsequent transfers to/from the General Fund. However, the current PeopleSoft, Maximo and Munis systems do not support detailed time accounting and apportionment based on hours worked per a particular function. The 27 employees identified in the audit do spend a majority of their time on stormwater functions. The Stormwater division also makes a significant contribution to the City's General fund for support services whose cost allocation is determined annually by the Maximus Study conducted by the Finance Department.

3. Pending Federal/State Stormwater Regulations

Finding – Implementation of upcoming federal and state mandates may require additional Stormwater Management resources.

Recommendation – Stormwater Management should have a contingency plan ready to be executed in the event that additional resources are required to comply with the upcoming mandates.

Response – Stormwater Management has developed an Action Item list with all tasks, due dates, leads, and current status shown for all of the expected requirements. The Public Works Director has reorganized the Stormwater Management team to respond most effectively to the new mandates. (Note: the full text of the response is included in the body of the audit report.)

F. Inventories

Public Works inventories had a value of \$1,130,542 according to FY 2011 data in the City's financial system. Several of our previous Public Works audits had identified issues with inventory controls. Since we continued to identify inventory control issues on this audit, we have prepared a more detailed analysis of these findings and recommendations, to better assist the Department in addressing them.

1. Inventory Controls

Finding – Public Works' inventory processes needs to be improved to enhance inventory security, inventory controls, record keeping, and reporting accuracy.

Recommendation – Public Works should strengthen departmental inventory operating processes to improve and enhance access controls, security, accuracy of records and accountability over the various inventories.

Response – Public Works Operations has consolidated its storeroom for the most part and is developing a road map, attached. Additionally a study of best management practices and other localities and local DoD facilities will be undertaken and recommendation implemented. We will evaluate each of the detailed suggestions recommended in the Audit for implementation. Several actions outlined in the detailed recommendations have already been taken by the Department, and we will further evaluate each of the detailed suggestions recommended in the Audit for implementation.

G. Other Items

We made observations in several other areas that we believe will assist the department in enhancing its operations and practices. These items included safety monitoring, pothole repair guidelines, ID/IQ contract access, and Monthly Progress Report reconciliations.

1. Safety Monitoring

Finding – The Safety Handbook did not require documentation of ongoing safety monitoring inspections.

Recommendation – The Safety Office should develop (1) a schedule for monitoring safety procedures during routine inspections, and (2) a safety checklist customized for use by Department supervisors for the purpose of documenting the supervisor's inspections.

Response – Currently all safety inspections are conducted without prior notice (surprise inspections). We will consider developing a schedule for routine

inspections. The Supervisors currently record their findings in their daily log books. The Safety Office uses a checklist that can be shared with the Supervisors.

2. Safety and Security Procedures- Chesapeake Expressway

Finding – We identified safety and security procedures at the Chesapeake Expressway (Expressway) that could be enhanced.

Recommendation – Pull alarms should be installed, facility access should be restricted to staff only, and the Expressway should discontinue the use of cones and use a more automated process for lane closure.

Response – The Expressway Staff have taken the following action on the suggested findings:

A complete Security upgrade is currently being installed with expected completion to be by the end of the Summer 2012. The Security upgrade includes a new pull alarm system to all Toll Booths and the EZPass Customer Service Counter. The number of Security cameras has been nearly doubled to 71 with a new Video Recording System and Intercom System.

Facility Access has been restricted to only Expressway Personnel. Access for the Armored Courier has been deactivated.

A review of the suggestion to discontinue the use of cones and to install an automated lane closure device has been found to be cost prohibitive and that the current process is within industry standards. (Note: the full text of the response is included in the body of the audit report.)

3. Potholes

Finding – Although the Operations Division completed pothole repairs within the guidelines established in its Service Level Agreement (SLA), the Division did not consistently complete potholes repairs within 48-hours after notification as required by Public Works regulations.

Recommendation – Public Works should revisit its regulation 609 to create consistency with the Division's SLA.

Response – PW will discuss service goal expectations with regard to potholes and the various classifications of streets and recommend revisions to the PW regulation accordingly. Pothole repair response is heavily dependent on weather/temperature, workload, and availability of materials and can be very seasonal. The original intent of the 48 hour response was for primary and major roadways only; emergency repairs are handled the same day.

4. Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts

Finding – Public Works did not have access to sufficient details of the specific terms of ID/IQ contracts, except for the general ID/IQ list provided on CityPoint. As a result, staff could not verify contract expiration dates, accuracy of vendor invoices, or other specific commodity types offered by ID/IQ vendors.

Recommendation – Public Works should work with Public Procurement and Information Technology to get full actual details of ID/IQ contracts posted on SharePoint for all user departments to see.

Response – Public Works offered this initiative to Purchasing in 2009 but was unable to move forward due to staffing shortages in Purchasing. Purchasing is now implementing a new PeopleSoft module that will partially address this tracking issue by establishing notifications to the buyer of contract limits approaching maximums and for upcoming expirations of contracts. Public Works remains committed to providing administrative support for the scanning and posting of contracts for citywide accessibility. Public Works internal regulations will reinforce the requirement to use existing IDIQ contracts.

5. Monthly Progress Reports - Division of Construction Services (DCS)

Finding – DCS and Public Works Accounting did not reconcile Monthly Progress Reports against the City's PeopleSoft expenditure reports.

Recommendation – A periodic reconciliation should be performed between the DCS's design/construction Monthly Progress reports and the PeopleSoft Expenditure Reports.

Response – Project managers receive detailed expenditure reports (ME Reports) twice a week on their projects. They will periodically review and communicate to PW Accounting any discrepancies. Currently ME reports have a limited number of staff that receive the reports. If they could be placed on share point other non-PeopleSoft users would have access (Eng. Techs etc.)

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APRIL 1, 2011 TO MAY 31, 2012

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A. Objectives, Scope, and Methodology

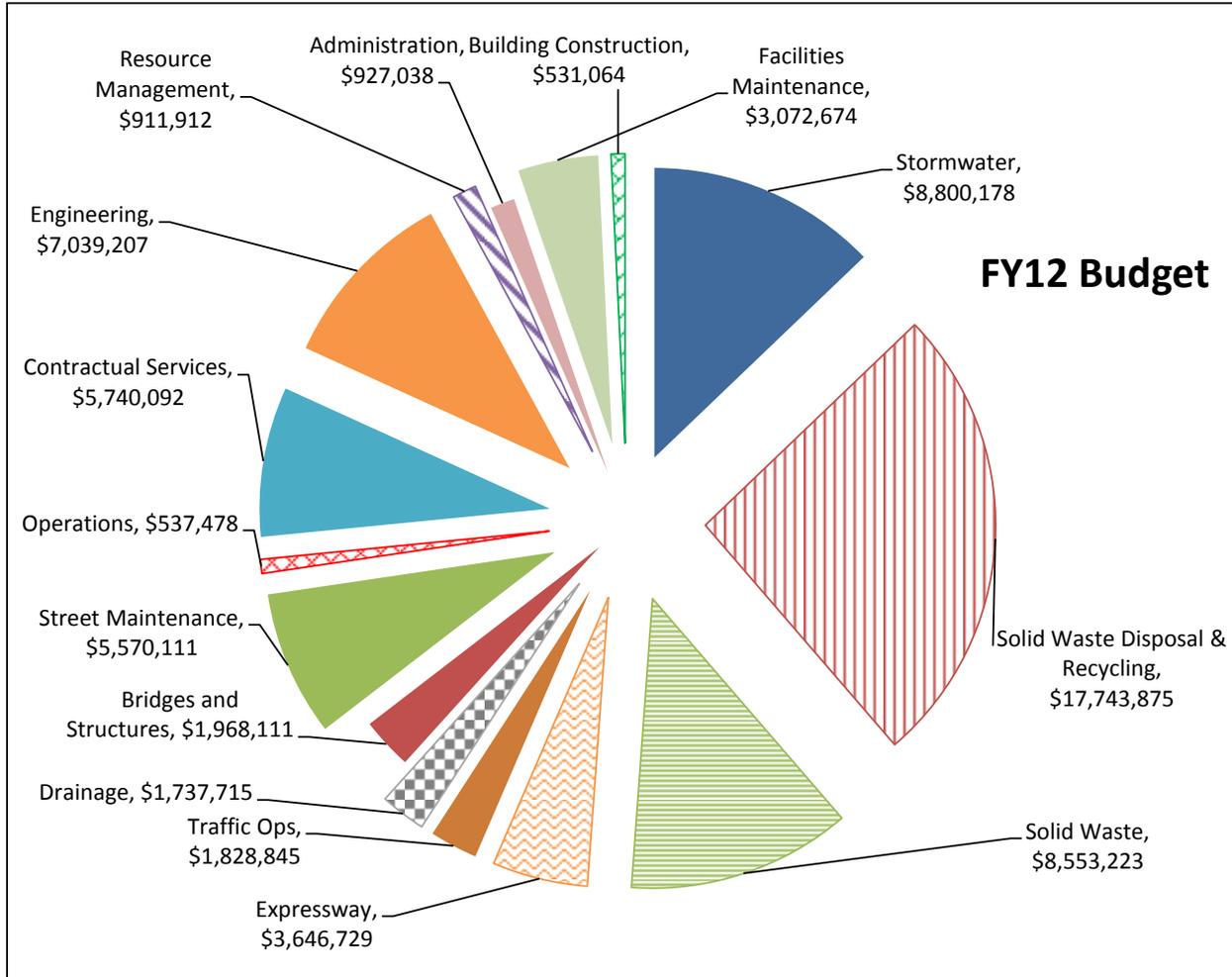
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Exhibit #1 - Public Works Budget for FY 2011/12



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Methodology

To conduct this audit, we reviewed various aspects of the Department's divisional practices. The specific steps in each area are highlighted below:

1. Public Works Resource Management Division

a. Accounting

- Obtained a general understanding of departmental budgetary procedures.
- Discussed interdepartmental procedures and efficiency issues brought to our attention by departmental accounting staff.
- Worked with Information Technology and Public Works to evaluate the use of SharePoint software within the Department.

b. Safety

- Compared departmental safety procedures to actual practices.
- Conducted site visits to observe operating conditions and safety equipment.
- Reviewed Risk Management records on accidents to evaluate trends.
- Observed a Public Works Accident Investigation Panel.
- Conducted interviews with Safety staff.
- Reviewed Federal Occupational Health and Safety Administration (OSHA) directives and Virginia OSHA requirements.
- Reviewed OSHA violation and OSHA injury summaries.

2. Engineering

- Reviewed divisional regulations, policies and procedures.
- Evaluated accountability over project activity and funds.
- Reviewed safeguards over the authorization of funds.
- Evaluated the efficiency and effectiveness of resources.
- Reviewed personnel safety practices.

3. Operations Divisions

a. Street Maintenance/Bridges

- Reviewed Streets-related regulations and procedures.
- Toured Streets and Highway facilities.
- Interviewed accounts payable staff concerning processing of payments.
- Reviewed state reimbursement procedures for road repairs.
- Verified inventory data.
- Reviewed expenditures for trends and anomalies.
- Reviewed division and departmental procedures for pothole and road repairs.

b. Traffic Operations

- Reviewed parts inventory.
- Reviewed work order process.

c. Contractual Services

- Reviewed divisional spreadsheets used for monitoring expenses.
- Interviewed divisional staff on divisional procedures.
- Reviewed various contracts for compliance.

d. Stormwater Management/Drainage

- Reviewed management plans and operations
- Reviewed staffing charged against the enterprise fund
- Reviewed selected fund expenditures.
- Observed Stormwater Management/Drainage field operations

4. Waste Management

- Interviewed Waste Management Administrator and Operations Superintendent.
- Reviewed GPS contract.
- Toured staging area for recycling bins and trash bins.
- Reviewed forms used by Waste Management.
- Obtained operating cost data for Solid Waste vehicles.

5. Facilities Management. (*Facilities Maintenance and Facilities Construction*)

a. Facilities Maintenance

- Evaluated scope of work and expenditure controls on selected projects.
- Observed maintenance, work area conditions and safety practices.
- Interviewed Facilities Management managers, supervisors, and technicians to understand processes and operations.
- Reviewed Facilities Maintenance use of Maximo (software) and Parks & Recreation's Work Order system.
- Reviewed PeopleSoft data and compared project information to voucher records and contract information.
- Surveyed facility tenants on quality of facility management services.

b. Facilities Construction

- Evaluated scope of work and expenditure controls on selected projects.
- Reviewed divisional spreadsheets used to monitor project expenses.
- Interviewed Facilities Construction staff regarding procedures.
- Compared PeopleSoft expenditures to spreadsheets.
- Compared agreed versus actual expenditures on various contracts.

6. Chesapeake Expressway

- Reviewed cash handling and deposit procedures
- Reviewed toll revenue collections both prior to and subsequent to the May 2011 toll increase.
- Reviewed safety and security procedures at the facility.

B. Performance Information

Public Works had eight divisions which provided a wide variety of different citizen and City services. These divisions included Resource Management/Customer Service, Engineering, Operations, Streets and Bridges (which reported to Operations), Stormwater Management/Drainage (which also reported to Operations), Facilities Management, Waste Management, Traffic Operations, Contractual Services, and the Chesapeake Expressway.

1. Resource Management/Customer Service Division (Customer Service, Accounting, and Safety)

The Resource Management Division was comprised of three major components: Customer Service, Accounting, and the Safety Program. Customer Service processed Public Works-related calls received by the City's Customer Contact Center. Calls were logged and distributed to the various divisions to be addressed.

Accounting processed over \$13 million in invoices annually, coordinated and tracked the Department's operating and capital improvement budgets, and managed the payroll for full and part-time employees. Accounting was also responsible for the maintenance of the Peoplesoft Project Management accounting records for all Public Works divisions.

Safety ensured that procedures were followed to minimize work-related accidents and was also responsible for coordinating the activities of the Safety Board. Department employees followed rigorous safety guidelines. In addition, Safety was responsible for administering the Safe Driving Program (designed to increase driver proficiency and skill), updating safety regulations, and training employees on safety procedures. Safety also administered the Safety Award Recognition Program that recognized employees with small tokens of appreciation when they were observed following appropriate safety procedures and practices.



Safety Award Recognition Program Gift Incentives

2. Engineering Division

The Engineering Division consisted of seven sections including Environmental, Survey, Traffic Engineering, a partial section of Stormwater Management, Right-of-Way, Design/Construction Services, and an Administrative staff person. The professional engineering services provided were quite extensive with differing areas of expertise. Because the City was continuously developing and revitalizing, Engineering was hard pressed to keep pace with the growing workload. Much of the design and construction services and inspections were outsourced and administered through Design/Construction Services (DCS). A large pool of vehicles was also assigned to Engineering for fieldwork. The Divisions projects and services included the following:

a. Dominion Boulevard Project. On January 18, 2012, Governor Robert F. McDonnell announced that the Dominion Boulevard project, a significant transportation improvement to ease congestion and improve safety, would be funded through financing provided by the Virginia Transportation Infrastructure Bank (VTIB). The VTIB was part of the Governor's \$4 billion transportation package approved in 2011 by the Virginia General Assembly. It issued low-interest loans to fast-track high priority projects.

"The Virginia Transportation Infrastructure Bank allows critical transportation projects to be built now instead of waiting for years to happen," said Governor McDonnell. "The bank provides a resource that public and private-sector entities can use to finance projects and accelerate construction. This plays a major role in driving the economic vitality of Virginia and getting citizens back to work. The Dominion Boulevard improvements have the potential of creating more than 13,000 jobs as a result of better transportation and access."

The 3.8-mile project will widen Dominion Boulevard from two to four lanes from Cedar Road to Great Bridge Boulevard, replace the two-lane drawbridge over the Elizabeth River with a four-lane, fixed-span, high-rise bridge, and provide improved connection between the I-64/464 interchange and the southernmost portion of U.S. Route 17. The total project estimate was \$468 million. Funding was to be provided by toll revenue bonds, previously committed funds, and a \$152 million loan from the VTIB.



Dominion Boulevard Corridor Improvement Project (Concept Drawing)

b. Gilmerton Bridge Project. The Gilmerton Bridge replacement project on Military Highway will provide a new lift span over the Southern Branch of the Elizabeth River and replace the existing double-leaf bascule bridge that was constructed in 1938. Construction started on November 1, 2009, and substantial completion was expected by October 2013. Estimated project cost was \$158 million, with VDOT providing 98 percent of the funding. The new bridge will be 1908 feet long with a vertical clearance of 35 feet in the closed position and up to 135 feet when the lift span is opened, and the new width of 85 feet accommodated future widening of Military Highway from four lanes to six.

c. Other Projects. Other bridge and road projects that were under construction and managed under the direction of the Engineering Division included the following:

- Bells Mill Bridge
- Centerville Turnpike/Blue Ridge Traffic Signal
- George Washington Highway widening
- Poindexter Street Improvements, Phase III & IV
- Volvo/Independence Traffic Signal and Tintern Connection

d. Survey. Survey used City crews to gather information needed to plan and design City projects or improve existing facilities. Surveyors recorded geographic conditions and man-made features as they existed, and placed stakes on property to be used for future planning purposes. The surveyors' record contained information on the topology such as terrain, drainage, property boundaries and ownership, soil condition, and other physical features. The survey information was maintained on Chesapeake's network of over 250 horizontal and vertical reference points.

d. Traffic Engineering. Traffic Engineering was responsible for planning and designing a safe and efficient roadway network to protect both pedestrians and drivers. It designed traffic signals and control devices, maintained a computerized traffic control system, studied traffic patterns, provided site impact analysis, regulated speed limits, investigated neighborhood traffic concerns, oversaw work zone traffic control, and reviewed subdivision and construction plans.

e. Right-of-Way. To construct efficient transportation, drainage, and utility systems, parcels of privately owned land were often needed. State Code authorized the City to acquire needed right-of-way and easements for both City and State highway and City water and sewer projects. An independent, state-licensed fee appraiser was used to determine the fair-market value of the acquired property, to ensure fair and equitable treatment for both property owners and the City.

f. Design/Construction Services (DCS). DCS provided professional engineering design and construction management and inspection services on all Public Works construction projects within the City including bridges, drainage, and other public facilities. They also coordinated with the Federal Highway Administration (FHWA), the U.S. Army Corps of Engineers, and the Virginia Department of Transportation (VDOT) on City-related federal and state highway projects. In addition, DCS investigated public inquiries and contracted for street resurfacing and mowing throughout the City.

3. Operations Divisions

Operations provided oversight and technical support to several divisions and budgetary sections of Public Works including Street Maintenance/Bridges and Structures, Traffic Operations, Contractual Services, and Stormwater Management/Drainage. The Operations Group was led by an Operations Manager who was responsible for supervision and oversight of all of these divisions. Separate from these divisions, Operations included two Customer Support Technicians, an Administrative Assistant, an Engineering Technician, an Engineering Specialist, a GIS Analyst and a Storekeeping Supervisor, all of whom provided support services to the other divisions as well. In addition, Operations was responsible for managing emergency operations, with all divisions collectively responding to clearing roadways and drainage facilities during snow, ice, hurricane, tornado, and flooding events.

Operations had primary responsibility for managing the Department's APWA accreditation program. The APWA's accreditation program provided a means of formally recognizing and verifying public works agencies compliance with the recommended practices set forth in the Public Works Management Practices Manual. The accreditation program determined how an agency's policies, procedures, and practices compared to recommended practices identified by nationally recognized experts in the field of public works. The objectives of the accreditation program were to:

- Create impetus for organization self-improvement and stimulate general raising of standards.
- Offer a voluntary evaluation and education program rather than government regulated activity.
- Recognize good performance and provide motivation to maintain and improve performance.
- Improve public works performance and the provision of services.
- Increase professionalism.
- Instill pride among agency staff, elected officials, and the local community.

In the original 2006 accreditation, the Department received national peer recognition as a result of becoming an accredited public works agency through the APWA. The exercise recognized Chesapeake Public Works as a well-organized operating department which met national criteria for excellence. Evaluators from the APWA reviewed 389 practices and procedures and determined that Chesapeake was fully compliant in each area, making the Department the first in North America to be found fully compliant during its initial assessment review. Two portions of Chesapeake's evaluation were highlighted as "model practices" to be used as exemplary practices by the APWA: Engineering's Growth Management Practices, and the Stormwater Education Program. The Department was reaccredited in December 2010. Model practices cited included Hiring Process, Disciplinary Procedures, Communication with the Public, Emergency Operations Manual, Environmental Compliance, Traffic Signal Timing, and Through Truck Routes.

4. Street Maintenance/Bridges and Structures (Operations Division)

The Street Maintenance/Bridges and Structures Division reported to Operations and maintained and repaired the City's right-of-way, which included more than 2,300 lane miles. It also maintained 96 bridges and overpasses and four movable span draw bridges. These bridges opened approximately 30,000 times a year for water vessels. A summary of the Division's activities follows:

a. Pothole Inspections and Maintenance. Street Maintenance was proactive in patrolling the streets for potholes. As part of their maintenance plan, supervisors were required to look for potholes (identified as "self-discovered"), report them, and/or create work orders. The division also planned to program the Maximo system to automatically produce work orders for newly identified potholes. Separate work orders would then be generated for each pothole or cave-in discovered during the patrol process. The complexity of the repair(s) varied depending on whether a sewer or utility line was involved. Street Maintenance coordinated its pothole repair work with Contractual Services, which was responsible for resurfacing streets. Cave-ins related to either Public Utilities or Stormwater Management were transferred as appropriate.

b. Inspections and Maintenance. Bridge Inspectors were responsible for ongoing maintenance of bridge structures. On average, Bridge Inspectors performed four bridge inspections a month. Sweepers were used to remove any debris from the lane being inspected, and Snooper trucks were used to hold up platforms under bridges. During inspections, inspectors looked for cracks in concrete pilings that supported the bridge structures to determine if there were any issues with construction, such as a piling that had been overdriven, or aging issues. They also inspected under and over the cap of pilings for loose concrete or debris removal to prevent water buildup on bridge structures.

c. Jordan Bridge. In January 2009, the City Council unanimously approved plans submitted by a private entity, Figg Bridge Developers, for a new Jordan Bridge. Working with a private entity provided a means to accomplish the City's goal of re-opening a major artery linking Chesapeake and the City of Portsmouth without using City funds. An opening for the new Jordan Bridge was scheduled for the summer of 2012. The new 5,375' long bridge was designed as a two-lane, fixed span, high-rise toll bridge over the Southern Branch of the Elizabeth River. The new bridge will feature two 12' wide traffic lanes, two 8' wide shoulders, and an 8' wide pedestrian sidewalk separated by a concrete barrier that meets the Americans with Disabilities Act (ADA) requirements. The fully electronic tolling system will use E-Z Pass to maximize convenience for users. It should be noted that, since the bridge was being built and operated entirely by a private entity, it will not be maintained or inspected by City forces after it opens.



“ When the South Norfolk Jordan Bridge opens in 2012, it will once again serve as a vital transportation link across the Elizabeth River. But more importantly, this new bridge has the potential to transform communities on both sides of the water, and give citizens in Chesapeake and Portsmouth alike new opportunities to grow and prosper.

— Mayor Alan P. Krasnoff
City of Chesapeake

New Jordan Bridge Project

5. Traffic Operations (Operations Division)

The Traffic Operations section was separately identified in the City’s operating budget, but was functionally part of Operations. It provided for the safe, efficient, and convenient movement of vehicles and cargo on the City’s roadways in accordance with state and federal guidelines through the installation, maintenance, and repair of traffic signals, signs, and pavement markings. It maintained road markings in accordance with state and federal standards; operated and maintained traffic signals and signs; and ensured traffic control measures were in place.

At the time of our audit, Traffic Operations functioned as two separate units. The Traffic Signal Shop maintained the City’s signalized intersections and worked with the Smart Traffic Center. Traffic Signal Shop staff reported directly to the Smart Traffic Center Manager and the City Traffic Engineer. The other unit of Traffic Operations, which reported to the Traffic Operations Superintendent, maintained all pavement markings and signage, and provided emergency traffic control in conjunction with other departments. Both units of Traffic Operations worked in a cooperative/complimentary fashion and were responsible for:

- Remarking major roads and minor roads as needed.
- Repairing or Replacing damaged stop signs immediately upon notification.
- Replacing or repairing other damaged signs upon notification.
- Updating signal timings as necessary.
- Operating the signal repair system 24 hours/day.
- Conducting continuous preventative maintenance on signal and control systems.
- Inspecting project traffic control measures.
- Responding to motorist requests on projects.
- Providing Traffic Control in emergency situations.

6. Contractual Services (Operations Division)

Contractual Services, also a separately identified section in the City's budget that was functionally part of Operations, procured and administered contracts for Street Maintenance/Bridges, Traffic Operations, Stormwater Management/Drainage, and other functions within Public Works. Its responsibilities included:

- Administering the mowing contract and coordinating activities with Street Maintenance and the Sheriff's Inmate Crew Program.
- Mowing approximately 7,200 shoulder miles, 2,300 open space or acres, and 950 ditch miles utilizing vendor contracts.
- Procuring and administering the cave-in contract under which approximately 75 to 100 cave-in locations were repaired annually.
- Administering a tree removal contract on behalf of Stormwater Management and Street Maintenance.
- Administering the asphalt resurfacing contract and coordinating with other divisions.
- Administering various right-of-way contracts.
- Procuring an IDIQ contract for typical traffic operation needs.
- Ensuring staff obtained the appropriate VDOT certifications and accounts receivable training.
- Investigating public inquiries on resurfacing and mowing.
- Administering 'snag & drag' contracts.
- Administering the annual landscaping IDIQ contract.

7. Stormwater Management/Drainage (Operations Division)

Stormwater Management, which also reported to Operations, was a mandated federal and state program that required the City to regulate stormwater runoff in an effort to reduce pollution. Since neither the federal or state government provided funding, the revenues needed to support the program were provided through a Stormwater Utility fee, which was the primary source of revenue for the Stormwater Management Enterprise Fund. Owners of developed property (property that contained impervious areas), both residential and non-residential, were billed this fee. Residential property owners were billed a flat rate. In addition to the enterprise fund activities, Stormwater Management also provided oversight for drainage activities and projects funded through the City's general fund.

Stormwater Management was responsible for maintaining more than 2,700 miles of public ditches, 1,100 miles of pipe, and 38,000 inlets and manholes. As the City continued to acquire and construct more storm drain pipes, ditches, and channels, the City was expected to maintain those newly constructed systems and address "nuisance flooding" caused by poor or congested drainage. New environmental regulations for runoff quality were pending. Stormwater projects in progress at the time of our audit included the Dunedin Area Drainage Improvements, Murry Drive/Greenhaven Area Outfall Improvements, and the West Munden/Vincent Street Drainage Improvements.

a. Drain and Ditch Maintenance. A ranking criterion was used to assess the condition of lead ditches. The ranking criterion was developed based on history of complaints, environmental issues, access, and vegetative condition. The scope of work included improving the conveyance capabilities of the system to include clearing, cleaning, removing blockages, minor re-grading, and establishing a pilot channel. These ditches (approximately 300 miles) were scheduled to be maintained on a six-year cycle. Combining the Streets & Stormwater Management inmate crews under one supervisor provided the additional resources needed by Operations to meet this schedule.



**Stormwater Drainage
Ditch**



Stormwater Retention Pond

b. Cave-Ins. Stormwater Management was also responsible for cave-in repairs. In general, cave-ins that were less than four feet deep and in not difficult-to-reach locations were repaired by City crews. Larger cave-ins, cave-ins located in high traffic areas, or cave-ins under building foundations were outsourced to private contractors.

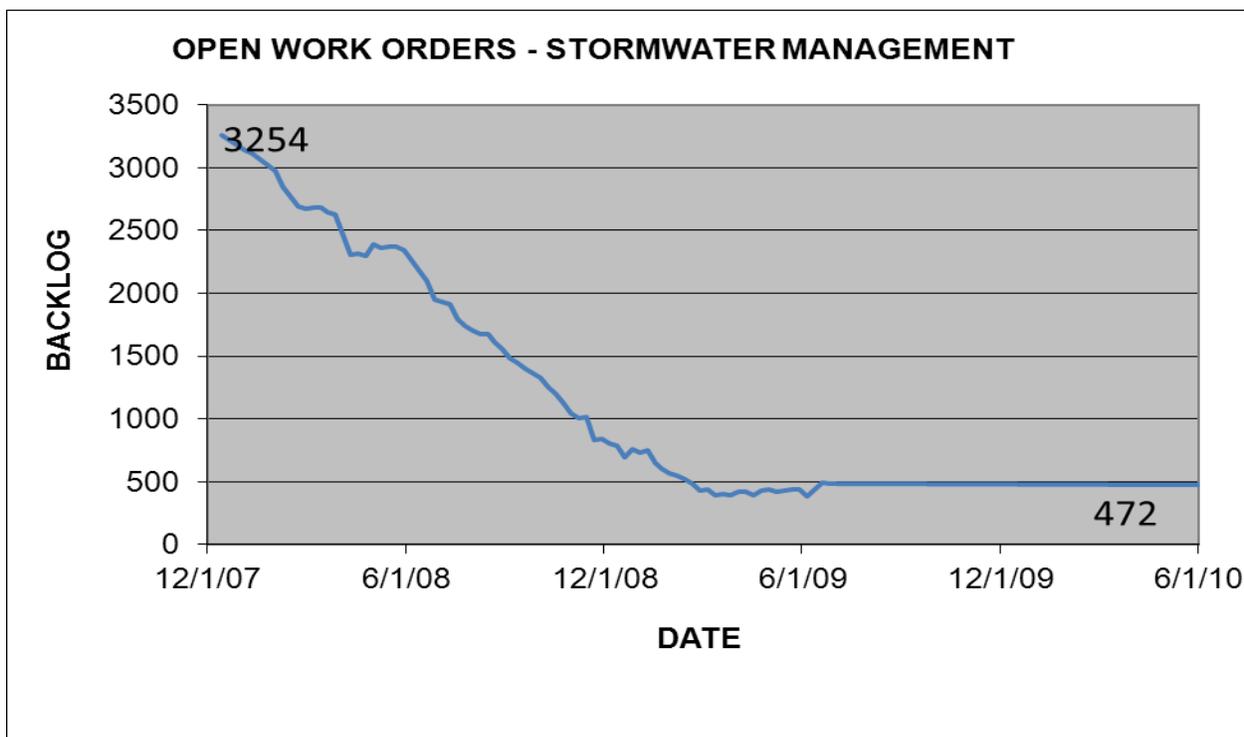
c. Stormwater Pollution Awareness Program. The City participated in a regional committee formed to pool resources and work collectively to enhance the public's awareness and understanding of stormwater runoff issues. Through in-person presentations to schools, community groups and civic organizations, public displays at local events, and informational brochures and pamphlets, Public Works raised awareness of the effects of stormwater pollution and educated citizens on how they could be part of the solution.

d. Street Sweeping. Prior to the transfer of street sweeping operations from Streets to Stormwater Management, the Operations Planner/Scheduler set up a schedule of street sweeping. Stormwater Management was able to sweep each street on the list four to five times per year. The sweeping schedule is published on City website.

e. Chesapeake Stormwater Advisory Committee. The Chesapeake Stormwater Advisory Committee was made up of 11 City Council-appointed representatives and three ex-officio members from the City staff. Their duties included reviewing rates and providing utility rate recommendations to the City Manager; preparing drainage and stormwater utility-related recommendations; serving as a “sounding board” for citizens concerned about drainage in neighborhoods and subdivisions; reviewing recommendations from Public Works to improve drainage and maintenance operations; providing recommendations on changes to capital improvement projects and levels of service; and reviewing the status of City-wide drainage projects, study areas, maintenance operations, and issues of wetlands permitting. They also heard appeals by interested parties from any stormwater-related interpretation, ruling, or decision made by the Director of Public Works.

f. Backlog Reduction. In March 2007, City Council approved a phased increase in the stormwater fee. The increased revenues allowed Stormwater Management to increase funding for environmental compliance, capital improvement projects, neighborhood pipe rehabilitation projects, contract cave-in repairs, equipment, and public education. This funding, along with organizational changes and the hard work of stormwater crews resulted in a decrease of backlogged service requests from a maximum of 3,254 in December 2007 to 472 by June 2010 (and 338 by July 2012). A graph showing the history of this reduction is attached. Bringing the backlog under control has allowed Stormwater Management to begin to transition from a reactive work mode to a preventative maintenance model.

Exhibit 2 – Stormwater Management Work Order Reduction 12/1/07 – 6/1/10



8. Waste Management

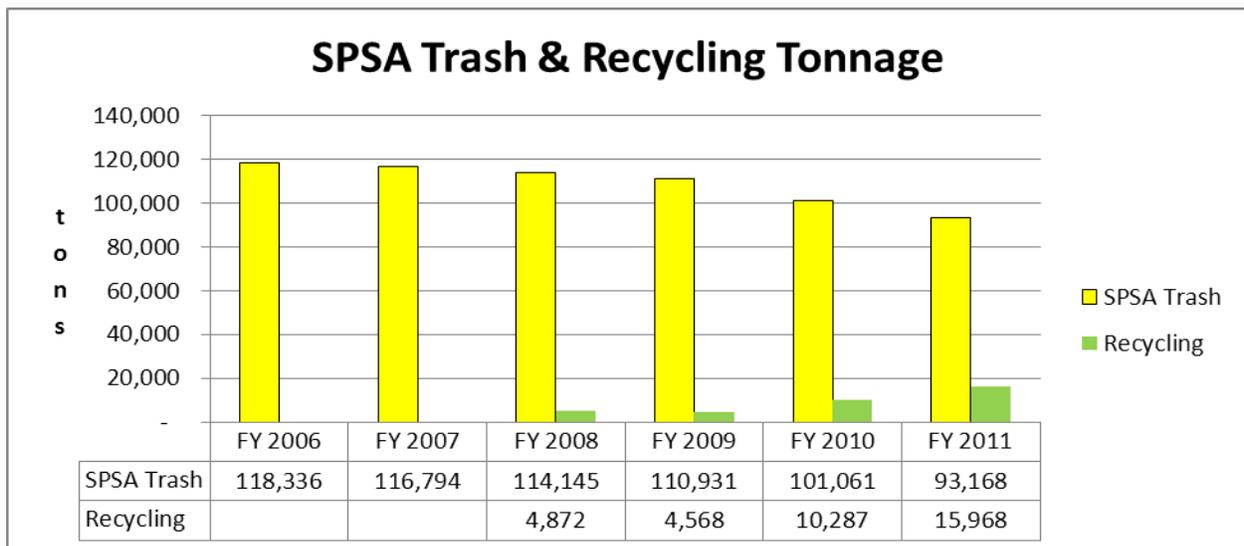
Waste Management provided refuse collection once every week for over 60,000 residences in Chesapeake. Over 100,000 tons of refuse was collected annually. The City's solid waste was transported to the Southeastern Public Service Authority (SPSA) transfer station on Greenbrier Parkway or the regional Refuse Derived Fuel Facility in Portsmouth. Waste Management was responsible for bulk trash pick-up, and they also managed the City's five-year contract with TFC Recycling, a recycling contractor. Waste Management had become more fuel efficient as a result of the City's purchase of approximately 25 trucks that ran on natural gas. Also, eleven grapple trucks had been outfitted with GPS technology for tracking purposes.



Natural Gas Fueled Trash Collection Truck

In Fiscal Year (FY) 2008, the City initiated the citywide recycling program. January 2010 was the first month the recycling program was fully implemented throughout the City. As the chart indicates, the implementation of the program reduced regular waste collection tonnage from 116,794 tons in FY 2007 to 93,168 tons in FY 2011, a 20.2% decrease. Combined with a reduction in tipping fees from \$170/ton (FY 2010) to \$125/ton (the expected FY 2013 rate), the reductions cut the City's SPSA payments, which declined from \$17,850,743 in FY 2010 to \$14,013,782 in FY 2011.

Exhibit 3 – Regular vs. Recycled Waste Collections FY 2006 – FY 2011



9. Facilities Management (Facilities Maintenance and Facilities Construction)

Facilities Management was the City's internal resource for constructing and maintaining City-owned facilities. It included two sections: Facilities Maintenance and Facilities Construction. In July 2010, these sections were transferred into Public Works from the General Services Department, which was eliminated. Although Public Works managed the two sections separately, they were still consolidated under Facilities Management in the City's operating budget.

a. Facilities Maintenance. Facilities Maintenance was responsible for the maintenance and care of all City-owned buildings and their structural, mechanical, and electrical integrity; housekeeping services; energy conservation programs; and the management of large repair/renewal projects. Facilities Maintenance was responsible for oversight of vendor performance on service contracts, energy efficiency contracts, and management of physical security for the City Hall Building. Facilities Maintenance projects in progress during our audit included Energy Efficiency and Construction Block Grant Energy Retrofits, Fire Station #13 Expansion, Human Services Heating Ventilation Air Conditioning (HVAC) and Fire Escape, and Jail HVAC Renovations/Energy Retrofits.

b. Facilities Construction. Facilities Construction was responsible for the planning, programming, construction management, and commissioning of new capital budget building projects. A new Facilities Construction Manager was hired by Public Works in the spring of 2011 to provide a higher level of oversight on these projects. Facilities Construction projects in progress during our audit included the new Animal Services Facility and City Park Improvements.



**City Park and Amphitheater Improvement Projects
(overseen by Facilities Construction)**

10. Chesapeake Expressway (Expressway)

The Expressway, a 16 mile long, four lane divided highway, opened in 2001 and linked Interstate 64 to North Carolina and the Outer Banks. Expressway staff managed an electronic toll collection system which incorporated open-road technology. Vehicles equipped with an E-Z Pass transponder could pass through the “express lane” at the toll facility without stopping. The Expressway was built parallel to Battlefield Boulevard, which it crossed in three places. As many as 40,000 vehicles would pass through the toll plaza on a peak weekend day.

On May 1, 2011 a toll increase took effect. The new toll structure segregated rates for peak and off-peak use. Tolls for a regular 2 axle vehicle increased from \$2.00 to \$3.00 during off-peak hours, with tolls rising to \$6.00 during peak periods (generally defined as weekends between mid-May and early September). Subsequent to the toll increase, traffic decreased by 18.6 % year-to-year (4,500,699 vs. 3,662,169) while revenues increased during the same period by 43.0% (\$7,004,148 vs. \$10,013,338).

Exhibit 4 – Seasonal Traffic Count

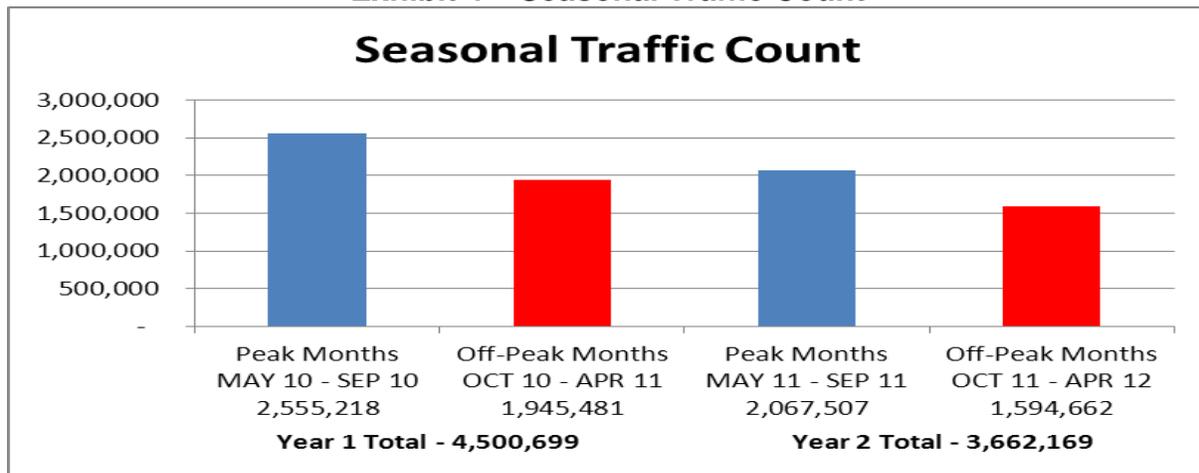
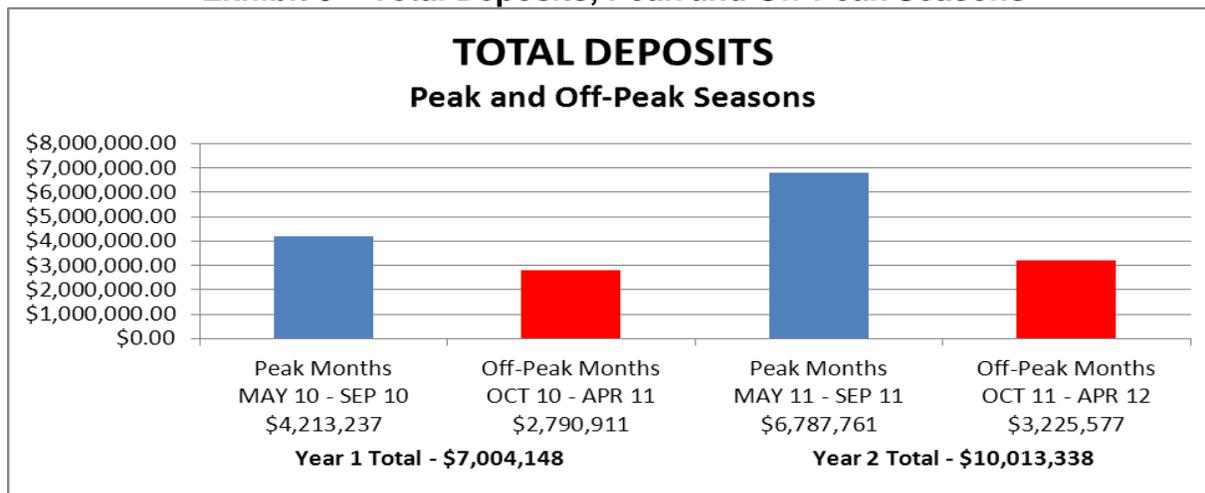


Exhibit 5 – Total Deposits, Peak and Off-Peak Seasons



C. Facilities Construction and Maintenance

In reviewing Facilities Construction and Facilities Maintenance projects, we noted that they were not always planned and managed effectively and efficiently, particularly relative to planning and defining the scope of work. Based on our review of several projects, we identified issues related to the Temporary Inmate Housing project, the Overhaul/Renovation of the City Hall Elevators, operating policies and procedures, and project tracking.

1. Temporary Inmate Housing

Finding – Facilities Management did not always fully define the scope of work for contracts and did not always develop a comprehensive, executable plan for its construction projects, nor did it ensure that the contractor always obtained the compliance approvals necessary for the project. As a result, a temporary inmate housing facility project 1) experienced significant cost overruns and 2) could not be used for its intended purpose.

According to the City's Public Procurement Purchasing Services User Guide (User Guide) published in 2009:

“It is the responsibility of the user department to develop well-defined “**Statement of Work**” (SOW) specifications which describes the requirements by defining the needs to be addressed or problems to be solved; the nature of the work to be performed by the contractor; and the department expectations for the resulting contract.

The SOW becomes part of the solicitation document, and subsequently the contract, so it must be sufficiently clear to let prospective contractors know exactly what is required and what they must do to perform the contract. It must also promote competition to the maximum practical extent. The following are typically included in the SOW:

- The problem(s) the procurement is expected to solve;
- Project goals, requirement, and deliverables;
- The specific nature of the work to be performed;
- Scheduled milestones, events, completion or delivery dates;
- Resources the City will provide;
- A functional specification describing intended capabilities and performance criteria;
- Required compatibilities and connectivity;
- Estimated first-year acquisition costs and life-cycle costs; and,
- Any financial conditions or proposed financing options.”

In addition to the SOW, Facilities Construction (which was part of the General Services Department's Facilities Management Division prior to July 2010) was responsible for oversight and management of the development plan, ensuring that the contractor obtained required compliance approvals for City projects from responsible government agencies, and establishing milestones to develop the language of the SOW within the appropriate procurement vehicle (Request for Proposal or Invitation for Bid) prior to the vendor solicitation process.

On April 24, 2008, City staff made an emergency purchase determination related to the overcrowding in the City jail and authorized the issuance of a contract to Proteus On-Demand, LLC (Proteus) to provide modular temporary housing units for inmates. Several other contracts were initiated, including one with Techcon, Inc. (Techcon) in January 2009 to provide site preparation and utility connections for these temporary housing units.

The Techcon contract's scope of work changed significantly from the initial purpose of site preparation and utility installation to include adding and programming security software compatible with the jail's existing security system and running extensive cabling to support the required electrical systems. We noted that Facilities Management did not solicit bids for the additional work needed to complete these tasks. There were six change orders which increased the total Techcon contract cost from \$488,900 to \$902,826, an 84.6% increase. A chart of the change orders is provided below.

**Exhibit 6
Temporary Housing Change Orders – Techcon Contract**

CHANGE ORDER #	DATE	COST	REASON
Original	1/28/2009	\$488,900.00	Original Contract Cost
1	5/11/2009	\$26,759.96	Fencing, Excavation, Sewer+
2	7/8/2009	\$46,173.68	Reroute Sanitary Sewer
3	8/18/2009	\$83,382.16	Electrical, Fencing, Waterlines+
4	1/22/2010	\$123,354.71	Security System, Pavement+
5	5/4/2010	\$129,566.59	Additional Conduits & Cabling+
6	9/17/2010	\$4,688.64	Security System, Cabling
Change order total		\$413,925.74	
Total		\$902,825.74	

+ Note - Other services were included as well

In addition to the issue with the Techcon change orders, we noted that Facilities Management never ensured that the contractor obtained formal approval from the Virginia Department of Corrections (VDOC) to use the Proteus temporary housing units to house inmates and, as a result, was unable to utilize the units due to non-compliance with VDOC requirements. Since the City was contractually required to make lease purchase payments totaling \$6,300,000 to Proteus for the temporary housing units, the City was obligated to expend a total of \$7,202,826 between the two contracts on temporary inmate housing units it could not use for their intended purpose. The Proteus lease purchase payments began in June 2010 and, as of April 23, 2012 the City had already expended \$3,449,350 on the lease agreement.



**Tensioned Membrane Roof on
Temporary Inmate Facility**



**No Electronic Locks inside Temporary
Inmate Facility (Unit A)**

(Note: Both items would have to be changed to comply with VDOC requirements)

This situation occurred for several reasons. Facilities Management was not able to adequately plan and fully develop the scope of work prior to the City entering into the Techcon contract, as indicated by this August 2009 budget increase request letter:

“At the onset of the project, it was understood that there would be some work, primarily conduit and cabling, within the housing units that could not be sufficiently defined to include in the utilities bid package due to a lack of information regarding the housing units. We attempted to compensate for this by including some unit prices in the bid. Unfortunately, the scale and quantity of this work was greatly underestimated.

During the construction period, we experienced an unusual number of underground conflicts, including abandoned foundations and utilities, and known but location uncertain utilities. These have necessitated additional field investigation and redesign/relocation of work.”

In addition, City staff attempted to accelerate the procurement process for what became the Techcon contract. The initial contract was bid out, but subsequent significant changes were not. According to an August 2008 email from the General Services Director to the City Manager’s Office regarding this prospective contract:

“What we require from Purchasing is an understanding that we can interview and select a contractor on an emergency basis before the design is completed and let the contractor help tailor the design to the most efficient performance and to achieve the earliest start. This would preclude the opportunity for even limited competition, but is necessary to buy time during the design. The 50% design submittal was received this week. We would like to proceed with selecting a contractor ASAP.”

The desire to proceed on an emergency basis prior to design and contract completion appears to have been a factor contributing to subsequent cost adjustments on both contracts, and also appears to have contributed to the lack of compliance with VDOC requirements. For example, according to a March 2009 email on the prospective Proteus contract from the Project Manager to the City Manager’s Office:

“Although a purchase order has been issued, technically it is not a change order as we do not yet have contract with Proteus. (Auditor’s Note: Even though an emergency was declared in April 2008, the actual Proteus contract was not issued until July 2009). The additional costs would be added to the lump sum (mobilization) price of the contract. The initial bed capacity and cost was apparently developed through discussions/negotiations between the Sheriff’s staff and Proteus. As I understand it, Proteus personnel reviewed the areas around the jail and advised as to what size structures they could be [sic] provide and what the rated bed count would be. The Sheriff’s staff then requested a cost. Apparently, this cost was to provide what they normally provide. This does not include electronic door locks. I

have been told that in other locations where electronic door locks have been installed, it has been done at the Owners request and at a cost beyond the base lease rate. To be fair, neither the Sheriff's personnel or I new [sic] that they would be required or we would have addressed it earlier. Based on how this all went together, I believe we have to pick up the cost for the electronic door locks.

We have received the additional cost information. They have requested just under \$45,000, of which \$16,800 is for electronic locks (\$2,100/door) for Auxiliary Housing Units A & C.”(Auditor’s Note: These locks have not been installed.)

Finally, the failure to submit required plans to VDOC was a noted factor in the denial of permission to use the completed units, as evidenced by the following excerpt from minutes of the July 21,2010 Virginia Board of Corrections meeting:

“However, the committee was advised of a situation involving the Chesapeake City Jail where it has constructed several temporary housing buildings without having submitted proper documentation or plans to the Board. It was agreed that the Board will send a letter to the Sheriff outlining its concerns.”

The acceleration of the contracting process appears to have been due at least in part to a desire by the City to bring the facility on-line as quickly as possible so that more inmate labor could help reduce citywide mowing costs in the 2009 mowing season as well as the stated desire to reduce inmate overcrowding. However, the lack of proper planning resulted in facilities that could not be used for their intended purpose. In addition to the cost for the unusable facilities, the project’s inability to address the overpopulation in the City jail may subject the City to additional legal liability related to that overcrowding. Furthermore, failure to adequately plan and fully develop the scope of work on future projects may result in cost overruns on those projects.

Recommendation – Facilities Construction should work with affected City departments on future projects to ensure that the projects are adequately planned and that the scope of work is fully developed. It should also ensure that all required approvals are obtained prior to initiating the contract.

The transfer of Facilities Management to Public Works in July 2010 was done at least in part to address the management and oversight issues we identified, and the City was planning to make at least one more attempt to get VDOC approval for the units to attempt to use them for their intended purpose of housing inmates. In addition, Facilities Construction should ensure that an adequate scope of work is developed for all regular and emergency facility development contracts, including any necessary regulatory approvals, prior to beginning construction or contract initiation, and should also ensure that plans are managed in a manner consistent with the approved plans, so that change orders or other contract adjustments are minimized. These steps will help prevent scope expansion and cost overruns on future projects.

Response – We concur with the recommendation, and as noted above, have already taken steps to ensure that future projects are adequately scoped and that appropriate cost controls and reporting procedures are in place.

The General Services section was reorganized in 2010 to separate the Purchasing Office, which now reports directly to a Deputy City Manager. The Facilities functions were broken into two divisions under Public Works – Facilities Construction and Facilities Maintenance. Public Works has been integrating the new divisions into Public Works and streamlining and standardizing their project management, purchasing and accounting practices into the APWA accredited PW department’s well established policies and procedures. Minor updates to incorporate vertical construction and building maintenance IDIQ repair contracts are underway and will be completed in the next two months.

Additionally, procurement issues identified in the audit have been under correction for some time. Training for City staff has been provided to reinforce proper procurement processes and compliance with City ordinances and State procurement laws. City staff would also benefit from annual training from the City Attorney’s office on pertinent or changing purchasing regulations at the federal, State or local levels.

Change order processing continues to be highly reviewed with all change orders over 15% being reviewed by the Purchasing Office, Finance, Budget, Procurement, and City Attorney and approved by the City Manager’s Office (See attached sample routing memo). Purchasing has put in place a process to ensure change orders which total 25% or \$10,000 or more, whichever is greater, on firm fixed price contracts are noticed to City Council.

The City Manager’s Office will also clarify that the Public Work’s Facilities Construction division is solely responsible for facility capital project delivery to include ensuring that all projects are adequately scoped with the user department prior to design, advertising and construction. The Facilities Construction Division will also ensure that all necessary permits, utility relocations and property acquisitions are completed or underway so as to prevent unnecessary project delays. In coordination with the user department, the Budget Office and City Manager’s Office, all projects will be reviewed to ensure adequate funding is available, including contingencies as necessary, to deliver the most cost effective facility that meets the agreed upon scope. Value engineering will be performed on projects which may be inadequately funded after initial design and preliminary cost estimates are performed. Pre-qualification of bidders on City facility projects will also be implemented. We will also explore having major design features of facility capital projects approved by City Council similar to the process we follow on VDOT funded major roadway projects.

2. City Hall Elevator Overhaul Project

Finding – Facilities Maintenance did not develop an adequate scope of work definition that included vendor performance timelines and specifications for its emergency Overhaul/Renovation contract for the City Hall elevators.

The User Guide defined an **Emergency Procurement** as follows:

“An emergency is an occurrence of a serious and urgent nature that demands immediate attention because it threatens the health and safety of the public or conservation of public resources. In such situations, the City is authorized to award a non-competitive contract, but may seek such limited competition as is practicable under the circumstances, if time permits. It is important to understand that an emergency does not necessarily constitute a sole source. Department Heads shall immediately contact the Purchasing & Contracts Manager [currently the Public Procurement Officer], or designee, when the emergency is known, for a determination if competition is required. After normal working hours, the department must contact the Procurement Officer to inform him of the situation and if the bids have been obtained.”

The **Vendor Default** process was defined as follows:

“A contractor is considered in default if he or she fails to perform in accordance with the terms and conditions of the contract (e.g., late delivery, nonconformance to specifications); The following factors shall be considered prior to taking any action:

- The specific reasons for such failure;
- The period of time needed to obtain the goods or services from other sources compared to the time delivery or performance could be accomplished by the delinquent contractor. If it is determined that a contractor is in default, a “Notice to Cure” shall be issued by the Purchasing and Contracts Manager or designee.”

Contract agreements should include vendor performance completion timelines and should also have defined liquidated damages to ensure that costs incurred for vendor non-performance may be recovered by the City.

We identified a number of deficiencies related to the scope of work and vendor performance on a City Hall elevator overhaul project. The timeline of events was as follows:

- On 12/9/2009, the incumbent vendor was awarded an Indefinite Delivery / Indefinite Quantity (ID/IQ) contract for elevator maintenance and repair services. The contract amount was \$41,160.

- On 12/21/2009, an addendum was made to the ID/IQ contract to include an emergency purchase of \$341,500 for the overhaul/renovation of three City Hall elevator systems and the control room. The scope of work did not include any language that defined vendor performance timelines.
- Work on one of the three elevators, the freight elevator, was completed and approved for payment by the City on 4/21/2011 – almost one and a half years after the contract was awarded. The vendor had not started working on the remaining two elevators as of that date.
- On 05/05/2011, approximately 18 months after the award of the contract, Public Procurement took the initiative to issue a Notice to Cure and Contract Modification to enforce vendor compliance. The Notice to Cure established an expected completion date of 85 days after commencing work on an elevator, with liquidated damages for failing to meet the completion timeframe. The vendor completed its overhaul and renovation of the two remaining elevators within the 85 day requirement. Facilities Maintenance approved the completion of work for all three elevators and approved invoices for final payments to the vendor.
- The freight elevator failed in February 2012 and continued to be out of service as of April 2012. (It finally became operable again in May 2012.)
- In April 2012, Facilities Maintenance indicated that the vendor would be performing work on the freight elevator and all parts and labor would be covered under warranty. However, Facilities Maintenance agreed with Public Procurement to end the contract agreement as soon as possible. Facilities Maintenance gave detailed reasons for placing the contractor on notice in their March 29, 2012 email. A follow-up email on April 3, 2012 described Facilities' efforts to keep the contractor focused on the warranty repairs until a replacement contract could be put in place.
- In April 2012, Public Procurement proceeded to terminate the contract with the vendor for default. A new vendor was selected to repair and overhaul the elevators and they were returned to full service.

The emergency work on the City Hall elevators was delayed and substandard for several reasons. City staff did not solicit separate bids for the elevator overhaul project and the vendor selected was ultimately unable to perform. In addition:

- Vendor performance timelines and ramifications for vendor non-performance were not included in the contract's scope of work;
- Vendor performance was not enforced in a timeframe consistent with an emergency contract.
- Contract and job performance was not monitored in an adequate or timely fashion.

As a result of this situation, the City Hall Building did not have a fully functioning freight elevator off and on for more than a year. This left the City with concerns about the reliability of the other two elevators, and safety issues in the event the building needed to be evacuated quickly for any reason.

Recommendation – For future projects, Facilities Maintenance should ensure that an adequate scope of work definition is developed for each emergency/overhaul/renovation contract. The scope definition should include vendor performance timelines and specifications.

The City should ensure that emergency procurements are reserved for true emergencies, as (arguably) opposed to their use in the temporary housing and elevator repair projects. Given the vendor's lack of ability to repair the elevators, Facilities Maintenance should ensure that an adequate scope of work definition including performance timelines and standards are included in all future maintenance contracts and should work with Public Works and Public Procurement to document and develop sufficient and fully executable plans, scopes of work, and vendor performance timelines. Additionally, Facilities Maintenance should enforce vendor performance and work with Public Works to terminate contracts for default in a more timely fashion should they find that the vendor is unable to perform in a satisfactory manner.

Response – Facilities Maintenance will work more closely with the Purchasing Office to ensure that any emergency contracts include appropriate contract terms to include completion schedules and liquidated damages. Indefinite Delivery Indefinite Quantity (IDIQ) contracts such as that used for elevator maintenance and repair, continue to be essential vehicles to procure services that have highly variable scope or unknown or infrequent delivery dates. These contracts, which are competitively bid for basic labor costs or estimated unit prices, can save significant response time and still provide best value.

Working with the Purchasing office, Facilities Maintenance terminated the previous non-performing IDIQ elevator contractor and has put in place another qualified contractor to maintain, and repair if necessary, city elevators and escalators. While there are limited contractors performing these services in Tidewater, the City and Schools now share the same contractor. The previous contractor had performed well in previous years but due to circumstances beyond the City's control was unable to prosecute the repair work on the City Hall elevators on a reasonable schedule.

3. Operating Policies and Procedures

Finding – Facilities Management’s sections had not developed written operating policies and procedures for managing projects. Also, checklists were not frequently used to assist with the project management process.

Standard operating policies and procedures should be developed for all phases of a project, including administration, programming, design, and monitoring to ensure effective management of construction and maintenance projects. Most of Public Works used policies and procedures manuals very effectively, and the manuals included checklists to assist with the project management process. We noted that Divisional staff attempted to follow the User Guide’s procurement procedures for bidding, contracting, monitoring, and project closeout. However, the Division had not developed internal policies and procedures to ensure that the project management procedures were coordinated and managed efficiently, and checklists were not frequently used.

Divisional management told us that, because of limited staff, management did not place a high priority on maintaining written procedures. However, without written procedures, project tracking was more difficult and more subject to deviation from City policy. The lack of written procedures appears to have been a significant contributing factor to the issues identified with the temporary inmate housing and elevator overhaul projects. In addition, the need for standard operating procedures may become more critical in future years when experienced staff members begin to retire.

Recommendation – Facilities Management’s sections should develop written operating policies and procedures for the management of facilities construction and maintenance projects. These procedures should include checklists to assist in the project management and oversight process.

Public Works utilized a very thorough Project Engineer’s Handbook to manage its road and drainage construction projects which incorporated policies, procedures, and checklists. Developing and maintaining a similar manual for facilities projects will provide the Facilities Management sections with a greater degree of consistency in project management and oversight, and the checklists should help ensure that critical project management items are accounted for. It will also help provide a greater degree of continuity when Facilities Management experiences staff retirements or other turnover.

Response – Facilities Construction and Facilities Maintenance are continuing the process of integrating all procedures and policies of the Public Works Department. Specifically, the two divisions are adapting project administration, programming, design, construction, monitoring, and close-out procedures to align with the User Guide. Where checklists and other project administration tools exist, they will be standardized to the User Guide format; where they do not exist or are deemed inadequate, they will be developed/modified. Many processes and procedures have already been changed within the last two years to conform

to Public Works standards (change order routing/approval, contract execution, budget development, project reporting to chain-of-command, etc.). All recent repair project contract documents have included firm schedules and liquidated damages clauses – discussion also has been initiated between Public Works and Purchasing on the best way to incorporate these elements into IDIQ maintenance contracts when task orders are particularly critical and/or reach a certain dollar threshold. In other areas such as safety, yard inspections/environmental stewardship, training (to name a few), Facilities’ two divisions are already fully integrated into Public Works procedures.

4. Project Tracking

Finding – Facilities Construction did not always track construction projects in compliance with City policies and best practices.

According to the User Guide, Section XI, **Contract Administration**,

“After contract award, the assigned project manager assumes responsibility for ensuring that delivered goods and services, and contractor performance meet all terms and conditions of the contract.”

Section X.C. entitled “**Use of these contracts is mandatory**” stated,

“These (City-wide) contracts are legally binding on the City. Thus, all City agencies and departments are required to use them when purchasing any of the items in the catalogs. Purchasing any of these items from other vendors constitutes a breach of contract and exposes the City to possible litigation.”

Facilities Construction did not always track Facilities construction projects in compliance with City policies or best practices. We identified inappropriate capitalization of expenses, absence of purchase order spending controls, building code compliance issues, and failure to use existing City contracts.

- **Capitalization of consumable expenses.** Expenses for consumable items should generally not be capitalized; instead, they should be expensed within the year purchased. Facilities Construction at times would include expendable items such as housekeeping supplies with capitalized project costs. Approximately \$7,700 of maintenance and supply expenses were intermingled with construction costs for the Camelot Community Center project.
- **Absence of Purchase Order (PO) Spending Controls.** Not all purchases for projects were controlled through purchase orders. Vendor payments were sometimes made through the non-PO process and not subjected to spending control limits at the PO level.

- **Code Compliance Issues.** Final payments were sometimes made prior to acceptance of required code compliance inspections. For example, on one renovation project, final approval for the electrical and mechanical inspections was not obtained prior to making the final payments to the vendor.
- **Use of City Contracts.** Facilities Construction at times would obligate the City to contractual agreements for services that had already been contracted by the City. For example, Facilities Construction awarded a survey contract to a vendor even though there was an existing City ID/IQ contract for those services.

This situation occurred because there was insufficient management oversight to enforce the capitalization policy, prevent the use of non-PO vouchers, prevent final vendor payments before all applicable inspections were finalized, and enforce the use of IDIQ contracts. For example, Facilities Construction capitalized consumable project expenses because, when project budgets were created, the entire project cost (including expendable items) was included in one CIB Project number rather than separating out the non-capital items. According to Public Works Accounting, in many cases where bonds were approved for a project, management did not allocate additional funds for consumable expenses separate from the bond proceeds.

The lack of effective tracking procedures had several impacts. Capitalization of consumable expenses resulted in inaccurate project costs. The absence of purchase order spending controls adversely impacted overall project cost control. Non-compliance with building codes could pose a safety risk to future occupants of a facility. Finally, failure to use existing City contracts could create liability issues to the City.

Recommendation – Facilities Construction should develop a more effective tracking procedure for its construction projects.

Facilities Construction should take steps to improve its project tracking processes. When a project is being developed:

- Facilities Construction should work together with affected departments to allocate funding for supplies and consumable expenses. Those expenses should be accounted for separately from the capitalized costs of the project.
- Vendor payments should be controlled using purchase orders.
- Facilities Construction should develop a standard checklist during the planning phase of a project to identify those areas of building code compliance that need to be obtained. Management should follow-up by reviewing the checklist for completion of final inspections before final payments are made to the vendors.
- Finally, Facilities Management should ensure that it reviews City ID/IQ contract lists for services prior to initiating a new solicitation for those services.

Response – Some deficiencies have resulted from the excessive project workload of the Facilities divisions and lack of support staff. For instance, both division managers have been managing several projects each (including multiple multi-million dollar projects) due to insufficient project officer and support staffing. This has worsened over the last few years as the project load has increased and has diverted critical time away from strategic and management oversight duties. Public Works is in the process of assigning additional resources to the Facilities divisions, but more direct project support may be needed. The Facilities divisions will continue working with Public Works accounting and Budget/Finance to allocate funding for non-capitalizable project items, improve spending controls and improve overall financial management of project budgets/finances. Some of this work has already taken place over the past year as Facilities Project Managers have become more familiar with Public Works procedures and accounting personnel. Public Works will work Purchasing to clarify confusing issues related to IDIQ contracts and rewrite/rebid contracts to improve efficiency and repair project delivery times and quality. (For instance, the “value” of an IDIQ contract cannot be related solely to bid labor costs. In many instances, the equipment/materials costs are the majority of a repair project’s cost and must be taken into account when establishing a reasonable annual “cap” on the IDIQ contract.) Facilities does utilize a tracking board for permits, but this has not been standardized across all projects. Both divisions will develop a common checklist to be used by all Project Managers and management personnel to improve code compliance oversight.

D. Technology Issues

Public Works utilized several different software packages to help it accomplish its assigned tasks. We identified a number of issues with the utilization (or lack thereof) of several software packages including the Maximo Asset Management System, SharePoint software and RouteSmart software within the Department as a whole, as well as lack of utilization of Global Positioning Software (GPS) within the Waste Management Division.

1. Maximo System

Finding –The Maximo Asset Management system was not being utilized to its fullest potential by the Department.

ISACA, the International organization that provides guidelines on Information Technology (IT) system controls, defines governance as follows,

“The oversight direction and high level monitoring and control of an enterprise to ensure the achievement of defined and approved objectives.”

Department management was responsible for governance procedures, including implementation and utilization of software.

We noted several items related to the design, implementation, and use of the Maximo system that prevented it from being utilized to its fullest potential within the Department. Some data entered into the system in the early stages of implementation was not accurate, complete, or up-to-date. Data was not entered timely and the system did not provide for easy extraction to create accurate and complete reports. Further, it appeared that staff needed additional system training. We identified the following issues related to the Department’s use of the system:

- GIS data for Stormwater Management was neither current nor accurate when implemented.
- The system required Service Level Agreement (SLA) data to be established manually within Maximo.
- Database information was not developed and designed on the front end of the project so that the data entered into the system could be extracted to provide management with useful information and reports. (e.g. Addresses were not set up in separate fields for street number and name so that they could be sorted individually)
- Some general ledger account numbers were not set up correctly in the system and had to be changed manually, since system controls limited correction capability.
- Prior to a 2012 Customer Service Request (CSR) module update, work orders (WO) were entered manually into the Maximo system by cutting and pasting WO data from the CSR system. In addition, WOs on the CSR system were closed when the data was transferred to the Maximo system; therefore, SLA information tracked by the CSR systems became unavailable. (Note: Information Technology was still troubleshooting the new CSR module).

- The Department did not consistently document time spent on each Maximo work detail category.
- The Maximo room mapping of each facility was not consistent; therefore, Facilities Maintenance had to rely on location descriptions given by the contact person.
- Maximo was not used to record installation and warranty information and monitor repair costs of boilers, diesels, HVAC units, or similar assets. Instead a cumbersome card catalog system was used.
- Of the 1700 work orders processed on the Maximo system, 1400 (87.4%) were not classified as completed (closed) even though 86.6% of the work orders on Maximo had been identified as completed.
- No employee in the Department had comprehensive knowledge of the Maximo system workflow.
- Staff did not have convenient access to reports needed to perform assigned tasks.
- Management had not received any useful Maximo reports for the last two years other than those produced manually by the Department through data dumps into Excel.
- Only one person in the department had been trained to write rudimentary queries to extract data and to create reports from the Maximo system. (Maximo had 250 canned system reports).
- Changes to procedures relating to Maximo were distributed verbally to personnel and not documented; therefore, changes to processes were often not consistently implemented.

This situation existed in part because the Department had not taken all of the steps necessary to ensure that Maximo was utilized to its fullest potential, in addition to some inherent system limitations. Management had assigned the project implementation responsibility to a staff level position in the organization as opposed to a higher level manager who might be better positioned to evaluate the potential impacts and benefits. Also, the Maximo System database was not developed and designed correctly on the front end of the project.

If these concerns and limitations are not addressed, integrity and timeliness issues with the data entered into the system could adversely impact the efficiency of day-to-day Departmental operations and limit its potential benefit. In addition, management will not have the ability to extract accurate and complete WO data related to time, performance and cost for completed projects from the Maximo system.

Recommendation – The Department should take a more active role in ensuring that the Maximo system is utilized to its fullest potential, with sufficient support as required from Information Technology (IT).

Public Works should ensure that all personnel are properly trained on the utilization of the Maximo system and should continue to emphasize to employees that

the use and maintenance of the system is a critical job requirement. In addition, the following issues should be addressed:

- The transfer of corrected GIS data for Stormwater Management should be verified when the Maximo system upgrade is completed.
- Alternatives for automating SLA data within Maximo should be evaluated.
- The troubleshooting of the exchange of WO data from the CSR system to the Maximo system should be completed and the exchange of Maximo financial data to the PeopleSoft system should be automated.
- Maximo system data should be reviewed to ensure that data is accurate, up-to-date, and is set up so that data can be extracted from the system to provide management with additional and more convenient information and reports.
- The Department should work with IT to ensure that general ledger account numbers are set up correctly in the Maximo system.
- Time spent on each Maximo work detail category should be documented, to enhance cost tracking and availability of management information.
- Maximo room mapping of each facility should have a consistent format.
- Maximo should be used to record installation and warranty information and monitor repair costs of equipment assets. The card catalog system should be discontinued.
- WO's should continue to be closed in the system and archived when all WO data is entered and completed and the established archiving timeframe has passed.
- All employees should be properly trained on use of the Maximo system.
- Additional Maximo Reports should be developed that provide management meaningful information for decision-making.
- Additional Department staff should be trained on writing queries and creating and obtaining reports from the Maximo system.
- Departmental policies and procedures (as well as any changes to them) should be developed and documented for utilization with the Maximo system.

Response – The general characterization of the Department’s use of Maximo as presented does not adequately reflect the significant efforts or the progress made since implementation. The department is very large with multiple functions and Maximo use continues to be phased in across our various divisions. Some smaller divisions have easily accommodated the new system while large divisions with less computer literate users have required additional support. As detailed below, the system purchased was not optimized for Public Works activities and significant modification of the latest version of the IBM software was required. Furthermore, integration with the existing Customer Service request system, Munis/Kronos payroll systems and PeopleSoft accounting systems did not exist and is being phased in to allow automation of many manual processes that have reduced the functionality and efficiency of using the system.

The Maximo system was originally designed and implemented urgently to help Public Utilities meet the consent order deadline imposed by the EPA. The

primary objective was to capture Utilities assets inventory, their condition, and a corresponding plan of action.

In the last eighteen months, the Department, especially the Operations Divisions, have become very active and even pro-active with regard to the utilization of Maximo. The PW work order system is up to date, data is entered daily and quality control measures have been implemented. Continuous improvements are sought at all levels. Several measures have been implemented to improve and to expand the infrastructure inventory database and to improve the Maximo work flow. There continue to be limitations to the Maximo software which Operations has found ways to work within. The Department continues to work with IT towards improvements in the system for increased functionality and efficiency. Operations initiated the users' group meetings with IT and have established regular monthly meetings.

The implementation of base assets from GIS is complete and is working well for assets such as Streets and Traffic Intersections. We are developing new asset datasets involving features such as guardrails, overhead signs, and traffic signals. The errors associated with Stormwater assets have been corrected and the new Stormwater assets will be entered when the City completes the upgrade to the new version of Maximo for financial and technical reasons as recommended by IT. This upgrade is currently underway.

Public Works will further study the Audit recommendations for specific improvements and move forward with implementing those that are appropriate and within funding capabilities.

In addition, the followings are detailed responses to the corresponding bullet items above:

- GIS data for Stormwater Management was neither current nor accurate when implemented. **When tests started in the development phase, a problem was identified with the completeness and format of the Stormwater data loaded into Maximo. Because of the urgency of the Public Utilities' deadlines, this area was not fully corrected when Maximo was initially implemented. This issue applied only to the Stormwater layer. Streets and Traffic Engineering data were correctly installed in Maximo database and are used on an ongoing basis for work order management.**

To address the issues with the Stormwater data, a priority was placed on reviewing and updating GIS Stormwater data supplied through a contract with an outside engineering firm. This contract has now been successfully completed and all GIS information has been added to the GIS layers. In addition, the formatting errors with the GIS layers have been addressed

and are awaiting installation into the Maximo database. This phase has been scheduled as a component of the project currently underway to upgrade Maximo to version 7.5.

Our understanding of the capabilities of the Maximo system included asset inventory and work order management. We use Maximo, in conjunction with GIS, as a tool to develop our inventory of installed assets and, where inventories are complete, to maintain those assets through preventive maintenance schedules and corrective maintenance where necessary. Some of our asset categories remain in development, (such as with guard rails and other right of way features) and where that is the case we are moving forward with programs to capture that asset information and add it to Maximo.

The Operations Divisions use the Maximo work order management system to account for all of the work hours of our field personnel. This includes regularly scheduled work, as well as emergency and overtime work and work related to storm events and emergency operations activations. Its rigorous application across the Operations Divisions represents a full commitment to making Maximo work for the department.

PW actively leads in the ongoing implementation and development of the Maximo system, with its own internal Maximo Advisory Group, as well as working closely with IT's Steering Committee and other interested departments to understand the capabilities of Maximo and extend its functionality.

- The system required Service Level Agreement (SLA) data to be established manually within Maximo. **There is limited repository in Maximo for SLA. Recently, the Planner/Scheduler started to write and provide supervisors with adhoc reports. PW purchased the SLA module in 2009 based on IT's recommendation to provide the department with this essential report. In late 2010, IT deferred its implementation to IBM which turned out to be cost prohibitive. Instead, IT recommended the upcoming version 7.5.**
- Database information was not developed and designed on the front end of the project so that the data entered into the system could be extracted to provide management with useful information and reports. (e.g. Addresses were not set up in separate fields for street number and name so that they could be sorted individually) **Information was gathered, but did not go as far as utilizing specific addresses. Because state maintenance reimbursements are not predicated on actual specific addresses, the train of thought was to utilize segments instead of parcel addresses. This allows the supervisor to search for the specific block of addresses, but not single addresses. This does not pose any real problems; if an individual address needs to be**

researched, it can be done by a simple query in the work order tracking module now.

Report writing remains an area where we have been disappointed with the native functionality of the Maximo system. To address our own reporting needs we have leveraged ad hoc reporting, at times stretching it beyond its designed functionality, in order to obtain necessary reports. Public Works personnel have attended two training sessions on Maximo reporting offered through IT by IBM, and sent personnel to obtain more specialized training in BIRT reporting and SQL statement writing. Where necessary, we have paid for specific reports to be written through a formal Request for Services from Information Technology. Given the level of resources involved in the Maximo system, the Operations Divisions remain committed to establishing the reporting capabilities that are necessary to manage field activities, but we recognize that this is part of the implementation process and that ongoing effort will be required. Currently, Operations staff goes through many tedious steps to generate reports internally.

- Some general ledger account numbers were not set up correctly in the system and had to be changed manually, since system controls limited correction capability. **IT is aware of this problem. PW will have to continue entering data manually until IBM provides a solution. Currently, this affects the budget flow of items receipted/issued in Maximo. Also, we recently found that when Maximo reports costs for inventory items, it calculates them based on an average of historical purchase costs. This skews our expenditure numbers. We heard that IBM could not change this.**
- Prior to a 2012 Customer Service Request (CSR) module update, work orders (WO) were entered manually into the Maximo system by cutting and pasting WO data from the CSR system. In addition, WOs on the CSR system were closed when the data was transferred to the Maximo system; therefore, SLA information tracked by the CSR systems became unavailable. (Note: Information Technology was still troubleshooting the new CSR module). **The IT Department is still troubleshooting the module. Implementation of Maximo created a disconnect between PW and Customer Contact Center (CCC). To avoid duplication of data and updating two parallel systems (Maximo and CSR), PW purchased two Maximo licenses for CCC to update citizens with the status of their service requests. SLA reports have been generated by PW staff in a tedious manner still more efficient than maintaining two parallel systems.**
- The Department did not consistently document time spent on each Maximo work detail category. **We are unsure if this is possible within the system, and also unsure of the benefit that would be gained from this. Labor and**

tools are captured in Maximo, not by the work detail category, but by the overall time spent on the site each day. If we documented time on each individual work detail, it would result in the supervisor spending a great amount of time updating the system, and decrease their time in the field ensuring work is being completed properly.

- Of the 1700 work orders processed on the Maximo system, 1400 (87.4%) were not classified as completed (closed) even though 86.6% of the work orders on Maximo had been identified as completed. **The Department has implemented a procedure to take work orders to CLOSED 60 days from being completed. There are currently > 38,000 PW Maximo work orders. As initially designed, the Public Works Maximo work flow process required work orders to be carried to Field Complete status. This status indicated that the project was complete. However, it left the work order available for queries and end of the year reports. In consultation with IT to develop a better understanding of Maximo's query procedure, we changed the work flow process to require the work order to be in a closed status. Field Completed work orders are now reviewed after 60 days. If there are legitimate reasons, a work order may remain open, otherwise work orders that have been identified as field complete are closed once reviewed. In addition, Maximo's terminology is confusing in terms of "field complete, complete, and closed".**
- No employee in the Department had comprehensive knowledge of the Maximo system workflow. **As part of continuous improvement philosophy, Maximo system work flow processes are being reviewed, and a plan is in place to automate the process once completed.**
- Staff did not have convenient access to reports needed to perform assigned tasks. **Reports are now being generated as the system allows. There are still issues with fields not being available for reports. These issues are being addressed by opening heat tickets with IT and follow up by phone and email to the Maximo Administrator - a cumbersome process.**
- Management had not received any useful Maximo reports for the last two years other than those produced manually by the Department through data dumps into Excel. **Maximo reporting has been disappointing. Administrators and staff now receive internally (PW) generated customized reports as required by each Division. The expected Maximo driven SLA, performance measures, and cost-benefit reports still remain to be addressed with future versions.**
- Only one person in the department had been trained to write rudimentary queries to extract data and to create reports from the Maximo system. (Maximo had 250 canned system reports). **IT and IBM were of the opinion that report writing would be too complicated and cost prohibitive for the PW staff.**

Operations management, in cooperation with IT, was successful to negotiate bringing this feature to PW. As a result, an Ops employee has received training in Birt report writing. A couple of supervisors have been trained internally on how to create adhoc reports. Supervisors were given instruction in running simple queries during the initial phase of training for the original go live date. Some of the reports created are now in use and have resulted in a significant reduction in backlog work orders. Reports are now automated and supervision receives these reports as needed. Reports are generated daily, weekly, or monthly as required by staff.

- Changes to procedures relating to Maximo were distributed verbally to personnel and not documented; therefore, changes to processes were often not consistently implemented. **There are some written procedure changes but changes to procedures are now documented and distributed through classroom instruction, one-on-one meetings, and through email, when warranted. All training documents can be found in the following link: U:\maximo\Training\Operations Training.**

2. Workflow Process Deficiencies

Finding – The Department was using a manual, inefficient document routing workflow process and tracking system to capture budgetary approvals for projects instead of the SharePoint software available on the CityPoint intranet.

According to the City’s SharePoint Administrator:

“Microsoft SharePoint is a very powerful application. It is a collaboration and content management platform that enables users to connect to and share information with their colleagues and coworkers throughout an organization. SharePoint can modernize the manual process the Public Works department is currently using to capture budgetary approvals for projects by utilizing the automated workflow options within SharePoint. This will save time and effort for staff involved in the workflow process.

Other benefits for using SharePoint were its collaboration features such as team calendars, discussion boards, and document libraries that allowed users to “check out” documents and track changes. The Content Management feature helped users review, edit, and track documents. Document Workflow options included Approval, Collect Feedback, Collect Signatures, Disposition Approval and Three-state workflows that help an organization with efficiency and tracking. SharePoint was also useful for other policy, auditing, and compliance features such as setting document expiration and retention.”

According to the Public Works Fiscal Administrator, the process of capturing budgetary approvals for projects was a manual process which required a single document to be routed through the City's interoffice mail system for budgetary approvals from Public Works Administration, to the Accounting Director, Budget Director, Public Procurement Administrator, and Deputy City Manager. An excel spreadsheet was used to track the status of approvals as the document passed through the various departments. Administrative Assistants receiving the documents also maintained their own tracking systems, causing redundancy in the document tracking process.

This situation occurred because Public Works did not have an automated system in place to automate the document workflow processes. Public Works recognized this deficiency and initiated discussions with Audit Services to address this issue. The Information Technology (IT) Department SharePoint Administrator was brought into the discussion to develop a tracking system to maintain the location status of an approval document and eliminate the redundancies and inefficiencies in the process.

Recommendation – Public Works and IT should continue to develop a tracking system, using SharePoint to create a centralized document management system.

Public Works plans to continue discussions with IT to eventually capture electronic approvals through the use of the SharePoint approval workflow processes. Public Works and IT should also ensure that the historical documents tracked and eventually approved through SharePoint are retained with the project records in accordance with the City's record retention requirements.

Response – Public Works has been partnering with the Information Technology Department to implement an automated document routing and approval system. Issues of electronic signatures need to be resolved for the project to advance. Additionally further discussions need to occur on delegation of approval authority and purchasing limits that require director and/or City Manager approval. Often relatively small but time-sensitive actions are unnecessarily delayed by the approval requirements on relatively low cost items. Additional PeopleSoft modules are being implemented which may also improve efficiency and tracking of contracts and modifications.

3. RouteSmart Software

Finding – The Department was not utilizing its RouteSmart routing system software to its fullest potential.

As was noted in our Maximo finding, Department management was responsible for governance procedures including the installation and utilization of software packages. We noted that the Department acquired RouteSmart routing system software to be used by the Waste Management Division at a cost of \$67,996 in 2009. While the software was obtained initially for Waste Management use, it had the potential to assist

a number of other Divisions, including Street Maintenance and Stormwater Management.

Despite the potential benefits, we noted that the software had never been fully implemented, even in Waste Management. The Division could not identify the software installation locations at the time of our audit, and the GIS data needed for the routing software had not been kept up to date. Additionally, no one in the Division had been trained on how to use the routing system software.

This situation occurred because Waste Management did not have the Information Technology and GIS resources to implement and support the RouteSmart software. As a result, the software was not fully implemented and operational. Incoming requests for special trash or bulk pickups received by the Customer Contact Center were sent to Waste Management in hard copy, and pickup routes were developed using manual methods. Furthermore, the other divisions that could have benefitted from the software could not use it.

Recommendation – The Department should locate the RouteSmart software, properly complete the implementation, and train the staff on its use.

Once the software is fully implemented and staff is trained, all processes necessary to fully utilize the software, including updates to GIS information, should be maintained on an ongoing basis. Additionally, RouteSmart should be interfaced with the Customer Contact Center system to allow special trash and bulk pickups to be managed more effectively for Waste Management. Similar interfaces could be developed for the other divisions, so that they also benefit from the RouteSmart software.

Response – The RouteSmart program was originally installed on a Public Works Operations computer. It has since been transferred to another user who is GIS trained and will be the point of contact for RouteSmart updating and the technical aspects of the program. Training is projected to begin in September.

4. GPS Technology

Finding - The Waste Management Division (Division) did not have the ability to track and monitor the location and progress of its Grapple and Rear Loader trucks on an automated basis.

An increasing number of state and local governments were utilizing GPS technology to assist in the management and tracking of their solid waste fleets. A January 6, 2011 Press Release from New York City Mayor Michael Bloomberg noted the following:

“Today, technology is much more affordable, and assuming tomorrow’s pilot is successful, we plan to install a GPS device in every one of the Department’s 1,700 trucks to be used when we are plowing, when we are salting, and when we are

picking up garbage. It gives us the ability to check on the location and progress of our snowplows or garbage pickup, and these GPS devices will also allow two-way communication, giving our sanitation workers a way to contact their district supervisors if they experience problems or spot something unusual out in the field”.

In reviewing Waste Management Division operations, we noted that the Division did not have the ability to track vehicles that were in the field on an automated basis. While the Automated Side Loader trucks had pre-assigned routes which could be monitored, the Grapple and Rear Loader trucks did not have pre-assigned routes, making their locations and progress more difficult to track.

This situation occurred for several reasons. First, the Division had originally planned to participate with Central Fleet Management in the implementation of a GPS program (using Automated Vehicle Tracking Software) for City vehicles. However, that program had not yet come to fruition. Second, the Division had several years earlier discussed the possibility of installing GPS devices on all sixty-plus items in its fleet, but were somewhat deterred by the total cost.

Since the Grapple and Rear Loader trucks had the greatest level of autonomy within the Division’s fleet, failure to adequately monitor their activities could result in adverse impacts on the ability of the Division to properly manage its resources. It could also result in utilization of the vehicles for inappropriate activities.

Recommendation – Public Works should attempt to identify funding to allow the Waste Management Division to install GPS tracking devices on at least the Grapple and Rear Loader trucks, so that the location and progress of the trucks can be monitored on an automated basis.

Given the increasingly affordable installation and monitoring costs, utilizing Automated Vehicle Tracking Software will provide the Division with the ability to track the location and progress of the trucks so that they can be better scheduled and utilized. Limiting the initial purchase to the Grapple and Rear Loader trucks will allow the devices to be used on the vehicles where they will have the greatest initial utility. The monitoring will also reduce the potential for misuse of that portion of the Solid Waste fleet. As additional resources are identified, the use of Automated Vehicle Tracking Software can be expanded to additional fleet items, so that eventually the entire fleet can benefit from the use of the GPS technology.

Response – Funding has been identified for this project. Due to contract stipulations with the proposed GPS vendor, the current procurement has been delayed and we are working with Purchasing and a new supplier. A pilot demonstration project for our grapple trucks will occur this fall. GPS for use in our rearloaders and remaining grapple trucks will be initiated if the pilot with this vendor is successful. Following that pilot we intend to outfit street sweepers and eventually snow plow and sanding trucks.

E. Stormwater Management/Drainage

In reviewing Stormwater Management and Drainage operations, we noted that a citywide comprehensive plan to manage the operations had not been fully implemented. We also noted that the Stormwater Enterprise Fund was funding salaries for non-Stormwater activities in some instances. Finally, pending regulatory changes had the potential to impact Stormwater Management operations.

1. Preventative Maintenance

Finding – The Stormwater Management/Drainage Division had not fully implemented a comprehensive maintenance plan to maintain the City’s stormwater/drainage systems.

According to the United States Environmental Protection Agency’s Fact Sheet 2.8 - Stormwater Phase II Final Rule – Pollution Prevention/Good Housekeeping Minimum Control Measures, operators of regulated systems such as the City were required to “Develop and implement an operations and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system.”

We noted that the Division maintained the existing stormwater/drainage systems by responding to citizen complaints rather than fully implementing a citywide preventive maintenance program that comprehensively addressed stormwater/drainage issues. In addition, we found that the Division did not have a complete inventory and condition assessment of the City’s stormwater/drainage infrastructure, and had not identified the total number of pipes that needed to be rehabilitated. Included below is an exhibit illustrating the Department’s pipe and ditch cleaning progress.

Exhibit 7 – Pipe and Ditch Cleaning Performance Information

Description	FY 08/09	FY 09/10	FY 10/11	3 yr Avg.
Total # of Pipes in the City (linear feet)	5,808,000	5,808,000	5,808,000	5,808,000
Total # of Pipes Washed (linear feet)	116,562	117,681	63,851	99,365
% Completed	2.01%	2.03%	1.10%	1.71%
Total # of ditches in the City (linear feet)	14,256,000	14,256,000	14,256,000	14,256,000
Total # of ditches cleaned (linear feet)	204,966	438,020	572,988	405,325
% Completed	1.44%	3.07%	4.02%	2.84%

This situation existed because budgetary constraints had adversely impacted the City's ability to implement a preventive maintenance plan for the entire stormwater/drainage infrastructure. While we agree that the City needs to continue its vigilance in responding to citizen complaints, unless it implements a comprehensive preventive maintenance plan, the City's stormwater/drainage systems will deteriorate more quickly. This deterioration could result in noncompliance with federal mandates as well as more numerous complaints.

Recommendation – Stormwater Management/Drainage should fully implement a comprehensive preventive maintenance plan for the City.

The plan should include, but not be limited to:

- Performing a system inventory and condition assessment of the City's stormwater/drainage systems.
- Developing a systematic approach for routine maintenance based on a needs assessment.
- Maintaining sufficient capability to respond to citizen complaints

Response – Within the past two years, the Stormwater Management/Drainage operations group has reduced the backlog of service requests to such an extent that they were able to begin implementing a program of preventative maintenance for the City's drainage infrastructure.

A regular schedule for street sweeping was set up in Maximo by the Operations Planner/Scheduler prior to the transfer of sweeping operations from the Division of Streets and Highways to Stormwater Management. This schedule has been maintained after the transfer. Operations improved sweeping cycles from one to four on residential streets and began publishing the sweeping schedules on the City website three years ago.

Public Works Engineering conducted a field evaluation of the City's Lead Ditches within the past two years using a scoring system to evaluate the current condition and functionality of the City's lead ditches. Based on this information, the Operations Planner/Scheduler set up a schedule in Maximo so that every lead ditch is cleaned by inmate crews at least once every six years. The six year cycle is based on resources and tree saplings, which if left uncut for seven years or longer, have to be cleared with a chain saw rather than a brush blade.

Over the past year, the Operations Planner/Scheduler has also set up a schedule of routine inspection in Maximo for the City's stormwater piping system. Service request records were used to prioritize piping systems with a history of clogging so that these systems are checked more frequently. Pipes needing flushing will be promptly cleaned using City forces and equipment.

During the current fiscal year (FY12-13), Operations will be working on setting up a schedule of preventative maintenance for the City's roadside ditches.

2. Stormwater Enterprise Fund

Finding – The Stormwater Enterprise Fund was used to pay selected employee salaries for time that was not spent on stormwater activities.

Chapter 26, Section 26-372 of the Chesapeake City Code stated, “There shall be established a stormwater utility enterprise fund from the deposit of all fees, charges and other revenue collected by the utility. Such funds shall be designed as special revenue and shall be used exclusively for stormwater management purpose, including the following:

- The acquisition by gift, purchase or condemnation of real and personal property and interest therein, necessary to construct, operate and maintain stormwater control facilities;
- The cost of the administration of such programs;
- Engineering and design debt retirement, construction costs for new facilities and enlargement or improvement of existing facilities;
- Facility maintenance;
- Pollution control and abatement, consistent with state and federal regulation for water pollution control and abatement.”

We noted that Stormwater Management had 27 employees that were being paid from the Stormwater Enterprise Fund. All of these employees did not spend 100% of their time working on stormwater activities. For example, we found that a Procurement Specialist was paid by the Stormwater Enterprise Fund, but worked in and was supervised by the Public Procurement Department. This employee functioned as the City’s Procurement Card Administrator, and was also Public Procurement’s Public Works project coordinator. While we noted that some of the employees were being allocated, we were unable to verify the degree to which the number of hours each of these 27 employees worked on stormwater activities. However, the total salary expense charged to the Stormwater Enterprise Fund for these 27 employees’ was approximately \$1,197,475 annually.

This situation occurred because the Department elected to pay 100% of the salaries for selected full-time positions from the Stormwater Enterprise Fund. However, payment of salaries not related to stormwater activities reduces the amount of funding available to address stormwater issues.

Recommendation – To comply with Section 26-372 of the Chesapeake City Code, the Department should apportion the use of the Stormwater Enterprise Fund to pay employee salaries depending on the percentage of work actually performed on stormwater activities.

The Department should first determine which staff members were being paid from the Stormwater Enterprise Fund and then determine whether their salaries were

properly apportioned using the percentage of work actually performed on stormwater activities. The use of the Stormwater Enterprise Fund for salaries should be adjusted accordingly.

Response – The Department continues to apportion the time spent by select employees and manually make subsequent transfers to/from the General Fund. However, the current PeopleSoft, Maximo and Munis systems do not support detailed time accounting and apportionment based on hours worked per a particular function. The 27 employees identified in the audit do spend a majority of their time on stormwater functions. The Stormwater division also makes a significant contribution to the City’s General fund for support services whose cost allocation is determined annually by the Maximus Study conducted by the Finance Department.

3. Pending Federal/State Stormwater Regulations

Finding – Implementation of upcoming federal and state mandates may require additional Stormwater Management resources.

As was previously explained, the City was required to follow federal and state guidelines regarding stormwater runoff. At the time of the audit, Stormwater Management was anticipating updates to the (federal) Chesapeake Bay Total Max Daily Load and Municipal Separate Storm Sewer System regulations, as well as the (state) Virginia Storm Water regulations. Each new regulation will increase the amount of compliance effort required by the City. While the exact changes pending could not be determined, Stormwater Management anticipated changes in the types of testing required and methods used, as well as rules for construction site discharge and thresholds for various particulates in the runoff. Each of the pending regulations had been delayed in being published.

We noted that Implementation of upcoming federal and state mandates may require additional Stormwater Management resources. The changes in the environmental regulations may potentially require additional staffing primarily inspectors as well as job changes for existing staff. These changes may be necessary to comply with the regulations. Without them, Stormwater Management may be unable to comply with the new requirements, resulting in substantial penalties or fines for the City.

Recommendation – Stormwater Management should have a contingency plan ready to be executed in the event that additional resources are required to comply with the upcoming mandates.

In addition to a detailed implementation plan (which may include implementation of previously existing draft plans), depending on the extent of the changes, additional stormwater fee resources may be required. Should that be the case, Stormwater

Management and Departmental management should be prepared to seek required approvals, including City Council approval, (including potential fee adjustments) as quickly as possible, to ensure prompt compliance with the updated guidelines.

Response – Stormwater Management has developed an Action Item list with all tasks, due dates, leads, and current status shown for all of the expected requirements. The Public Works Director has reorganized the Stormwater Management team to respond most effectively to the new mandates. The reorganization includes:

- Setting up a new Environmental Quality Section (function 61001).
- Moving the Environmental Quality Coordinator position from the Fire Department to the Environmental Quality Section.
- Have obtained approval to hire a Construction Inspector Supervisor and an additional Construction Inspector II to handle the increased Erosion & Sediment Control inspection requirements.
- The Operations Manager has initiated the purchase of a new office trailer for the expected staff increase that will be required to meet the requirements of the mandate.
- Conducted a comprehensive study on the impact of TMDL requirements and identified strategies to accomplish them.
- Accumulated capital funding in anticipation of TMDL and water quality project needs in future fiscal years.
- Participated in Statewide technical advisory panels at the staff and Council level.
- Will update the draft Storm water Management Plan for the City once the State finalizes the City's new VPDES permit and requirements are known.
- Established a Citywide TMDL implementation team including City departments and schools to coordinate activities necessary to meet State requirements.

F. Inventories

Public Works inventories had a value of \$1,130,542 according to FY 2011 data in the City's financial system. Several of our previous Public Works audits had identified issues with inventory controls. Since we continued to identify inventory control issues on this audit, we have prepared a more detailed analysis of these findings and recommendations, to better assist the Department in addressing them.

1. Inventory Controls

Finding – Public Works' inventory processes needs to be improved to enhance inventory security, inventory controls, record keeping, and reporting accuracy.

Webster's Dictionary defines inventory control as "coordination and supervision of the supply, storage, and accessibility of items in order to ensure an adequate supply without excessive oversupply or loss". Inventory processes should be designed so that items can be found quickly, and records should be updated timely so that they accurately reflect the exact amount of inventory on hand at any time. Proper inventory management is essential for cost control purposes. Maintaining an accurate inventory can help identify and prevent thefts.

We noted that inventory procedure internal controls were lacking in many critical areas. Inventory facilities were not properly secured, controls were not in place to restrict access to inventory, inventory records were not posted timely, inventory counts were only performed once each year, and variances between physical inventory counts and inventory records were manually adjusted with little or no research to determine why the variances occurred. Many of these findings were cited in previous Public Works inventory audits. The charts below highlights the specific control issues we identified.

I.BULK INVENTORY

Area of Concern	Control Issues
1.Inventory Security	<p>a. Bulk inventory items were left in open areas that were unattended during the day; various crews had the ability to access bulk inventory and remove it at will.</p> <p>b. After normal working hours, crew leaders rotated night duty and had access to gate lock keys that housed the bulk inventory. Therefore, they had the ability to make duplicate keys to the gate locks.</p> <p>c. The Hickory location had a section of fence down behind a shed that was large enough for a Bobcat to enter unobtrusively. Fencing was four feet high, rusty, and in disrepair. The side lot at the Hickory location could be accessed from the adjacent field.</p>

BULK INVENTORY (Cont'd)

Area of Concern	Control Issues									
1. Inventory Security (Cont'd)	<p>d. The Bowers Hill and Hickory bulk locations had limited lighting at night. This could present a safety issue, especially during emergency/night operations. We were informed that street maintenance work lights were used at night when needed.</p> <p>e. There were no cameras installed at any of the bulk locations.</p>									
f. Inventory Controls	<p>a. The last two annual bulk inventory counts which compared the physical tonnage of bulk items to the Maximo inventory record tonnage totals had variances as follows:</p> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Date</u></th> <th style="text-align: left;"><u>Item error rate</u></th> <th style="text-align: left;"><u>Total \$variance</u></th> </tr> </thead> <tbody> <tr> <td>June, 2010</td> <td>100%</td> <td>(\$56,172) short</td> </tr> <tr> <td>June, 2011</td> <td>85%</td> <td>\$42,713 over</td> </tr> </tbody> </table> <p>b. Contributing factors as to why these variances may have occurred were as follows:</p> <ol style="list-style-type: none"> 1. The surveyor's volume calculation report contained calculation errors. Also, the surveyor used the same density values to calculate the weight of different types of bulk items. 2. Density values used by the surveyor to determine bulk item tonnages appeared to be inaccurate compared to values used by other organizations. 3. There was no standard method used to measure /weigh bulk inventory. 4. Incoming bulk inventory received from vendors was accepted at the weight indicated on the invoice and was not weighed by the department upon receipt. 5. Outgoing bulk inventory was not accurately weighed. 6. Unused bulk inventory returned to stock was not weighed when returned. 7. All types of bulk inventory items were left in open areas exposed to the weather (wind, humidity, rain, etc.). 8. Bulk inventory of salt and sand/salt mix were not always kept covered, and some salt was dissolving due to weather and entering the drainage system. This was also an EPA violation which could result in fines. 	<u>Date</u>	<u>Item error rate</u>	<u>Total \$variance</u>	June, 2010	100%	(\$56,172) short	June, 2011	85%	\$42,713 over
<u>Date</u>	<u>Item error rate</u>	<u>Total \$variance</u>								
June, 2010	100%	(\$56,172) short								
June, 2011	85%	\$42,713 over								

2. Inventory Controls (Cont'd)	<p>9. Any Maximo inventory record variances would be manually adjusted to the measured bulk inventory tonnage totals without further investigation.</p> <p>10. There were no internal controls in place to deter or detect employees who created false inventory requisitions.</p> <p>11. Procedures for handling bulk inventory were not documented.</p>
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II. STREETS AND TRAFFIC OPERATIONS INVENTORY

Area of Concern	Control Issues
1. Inventory Security	<ul style="list-style-type: none"> a. Inventory was not securely controlled. b. All employees had access to the inventory at all times. c. Inventory was left in unlocked and unguarded areas. d. The interior secured inventory area had walls too low to stop access. e. The Traffic Operations' building was left open during the day and was accessible to all employees. f. Garages and outer buildings were not locked during the day or night. g. Inventory items were left lying around outside of the buildings. h. There were no cameras, alarms, or other security devices in use to protect the inventory or to detect theft or unauthorized access. i. One room that was used to store over \$100,000.00 in inventory was not secured and was used as a hallway. j. Metal blanks used for the street signs were left unaccounted for on pallets throughout the shop without controls.
2. Inventory Controls	<ul style="list-style-type: none"> a. Inventories were only conducted once during the year and not semiannually as required by policy. b. Inventory records were not current. The input of Traffic Operations' inventory data into the Maximo system was 30 days behind. c. Any Maximo inventory record variances would be manually adjusted to the physical counts without further investigation.

<p>2.Inventory Controls (Cont'd)</p>	<p>d. No comparisons were made between raw materials used to manufacture signs and completed signs.</p> <p>e. The same inventory issues that were identified during this audit were also identified in two previous audits dating back to 1993.</p> <p>f. Obsolete inventory items that had been removed from inventory records continued to be stored for years in various garages and buildings. These items should be disposed of in the prescribed manner and removed from the premises.</p> <p>g. The serial numbers for various light control units were not being tracked. These units were often shipped out for repairs with no means of identifying the units.</p>
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III. PUBLIC WORKS MAIN INVENTORY

Area of Concern	Control Issues
<p>1.Inventory Security</p>	<p>a. The storeroom was not always manned and the area was left unsecured at times.</p> <p>b. The counter and swing door did not provide a barrier to restrict unauthorized access.</p> <p>c. There were no devices (such as a door chime) in use to indicate that someone was entering.</p> <p>d. The exterior doors to the inventory area were often left open and ajar.</p> <p>e. There were no cameras, alarms, or other security devices in use to protect the inventory or to detect theft or unauthorized access.</p>
<p>2.Inventory Controls</p>	<p>a. The central warehouse lacked its own inventory budget although it was responsible for ordering and purchasing inventory for the divisions. Instead, purchases were segregated by division. Each month, divisional Maximo work order usage totals were reconciled against the PeopleSoft divisional expense totals. This reconciliation was time consuming and labor intensive.</p> <p>b. There was no segregation of duties. The storekeeper ordered and, received items, and posted entries to the inventory records.</p> <p>c. Inventories were only conducted once during the year and not semiannually as required by policy.</p>

<p>2.Inventory Controls (Cont'd)</p>	<p>d. There were no established reorder points for inventory items.</p> <p>e. Any Maximo inventory record variances would be manually adjusted to the physical counts without further investigation.</p> <p>f. Inventory items that were requested and returned on the same day were 'netted out' rather than individually entered into Maximo.</p> <p>g. Although Stormwater work crews were based at the Bowers Hill facility, it did not have a standing inventory of necessary parts and supplies needed by the crews. Therefore, crews had to make daily trips to the Butts Station facility to pick up required materials.</p>
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This situation existed because Public Works had not emphasized the need for appropriate inventory controls in these areas. However, the lack of appropriate controls has resulted in an inventory system that did not provide adequate supervision of the supply, storage, and accessibility of items in order to ensure an adequate supply without excessive oversupply. Inventory processes were not designed so that items could be located quickly, and records were not updated timely so that they accurately reflected the exact amount of inventory on hand. Finally, without effective inventory management controls, Public Works could not effectively control inventory costs or keep inventory records sufficiently accurate to identify and prevent theft.

Recommendation – Public Works should strengthen departmental inventory operating processes to improve and enhance access controls, security, accuracy of records and accountability over the various inventories.

Public Works should consider the following control items, making changes as needed:

- Establish standard density values to be used for calculating tonnage for different types of bulk inventory items.
- Review Surveyor's inventory reports for accuracy before relying on their calculations.
- Establish a standard means of measurement for bulk inventory items (i.e. one bobcat scoop equals four cubic yards). Ensure all three bulk item locations use the same size scoop.
- Weigh incoming, outgoing, and returned bulk inventory items whenever they are received, issued, or returned to inventory.
- Keep salt and sand/salt mix covered and protected from the elements at all times when not in use. Consideration should be given to constructing an enclosed facility to minimize the degradation of the stock piles by the elements and eliminate salt runoff into nearby drainage ditches. Consideration should also be given to making inventory adjustments to salt and sand/salt bulk items for shrinkage.
- Document the actual procedures and methods used for all inventory processes.

- Consider performing a physical inventory of all Public Works' inventories at least quarterly.
- Research variances between the physical inventory counts and Maximo inventory amounts to determine why variances occurred before adjusting the Maximo inventory record.
- Enter Streets and Traffic Operations inventory usage into Maximo on a daily basis.
- Staff the bulk inventory sites at all times during normal working hours to ensure that incoming, outgoing, and returned bulk inventory items are accurately weighed and inventory records are completed at the time the bulk inventory is received, issued or returned.
- Evaluate and re-engineer after-hours access controls to bulk inventory sites so that access can be traced to a specific employee.
- Establish internal controls that will deter or detect an employee attempting to create false job requisitions.
- Repair or replace the damaged fencing at the Hickory location.
- Review the lighting situation at the Bowers Hill and Hickory locations to ensure adequate lighting is in place during emergency and night operations.
- Consider establishing a limited inventory of commonly used parts and supplies at the Bowers Hill facility. This inventory would be controlled by the onsite supervisor.
- Enter both the amount originally distributed and the amount returned into Maximo.
- Recycle, sell or dispose of items removed from the inventory that are still being stored.
- Track Items sent out for warranty or other repair work by item description and serial number.
- Establish and utilize reorder points for inventory items.
- Segregate the duties of inventory ordering, receiving, posting, inventorying, and reconciling so that the main warehouse storekeeper does not perform them all.
- Consider establishing a centralized inventory budget. All divisions would develop their specific budgetary needs which would then be administered by the warehouse. Division allocations of budgeted expenses would occur through Maximo and be based on actual usage.

The following security items should be evaluated, with changes made as needed:

- Security cameras should be installed at all inventory sites including the bulk yards, streets and highways, sign shop, and the main warehouse.
- Access control measures should be put into place for all buildings and internal storage areas to include doors, door locks, and door alarms. They should also be placed on all exterior storage location gates and fencing.
- Streets and Traffic Operations should reconfigure their inventory areas to properly secure their inventory. This reconfiguration should include:
 - Limiting employee access to the inventory.
 - Moving inventory from unlocked and unguarded areas.
 - Increasing the height of the interior walls around the inventory storage area.

- Securing the traffic operations building and limiting access.
- Securing the various garages and outer buildings used by Traffic Operations during the day and night.
- Ensuring that all inventory items are secured and not left lying around outside.
- Discontinuing the use of hallways as inventory storage areas.
- The inventory of metal blanks used for the street signs should be stored at the main warehouse in a secured location. The sign shop should be given a small working inventory that can be easily counted and reconciled to signs created and number of blanks used.
- The main storeroom should either be staffed at all times or secured when no one is there.
- Side doors to the main storeroom should not be propped open.

Response – Public Works Operations has consolidated its storeroom for the most part and is developing a road map, attached. Additionally a study of best management practices and other localities and local DoD facilities will be undertaken and recommendation implemented. We will evaluate each of the detailed suggestions recommended in the Audit for implementation. Several actions outlined in the detailed recommendations have already been taken by the Department, and we will further evaluate each of the detailed suggestions recommended in the Audit for implementation.

G. Other Items

We made observations in several other areas that we believe will assist the department in enhancing its operations and practices. These items included safety monitoring, pothole repair guidelines, ID/IQ contract access, and Monthly Progress Report reconciliations.

1. Safety Monitoring

Finding – The Safety Handbook did not require documentation of ongoing safety monitoring inspections.

Administrative Regulation 1.06, City Safety Equipment Policy Section III.2 states, “It will be the responsibility of the department supervisors to ensure that the safety equipment is available and utilized when the nature of the work requires such equipment.” The Public Works Safety Inspectors provided training on occupational health and safety requirements and programs. They also conducted inspections of City structures, facilities, equipment, construction sites, accident sites, and other areas with safety requirements and enforced applicable laws, rules, and codes. Finally, they utilized training resources from state and federal regulatory sources.

The Safety Office created the Safety Handbook to comply with Regulation 1.06 and communicate the safety rules and reporting procedures to department employees. However, division supervisors did not always monitor the safety program in their specific areas of responsibility. During an observation of work sites, we noted that hoist chains were under load without current pull test tags – a violation of the safety rules.



Hoist chains under load without current pull test tags

Other safety violations noted included:

- Expired eyewash solution.
- A missing belt guard on a drill press.
- Eye protection warnings not visible.
- Obstruction of plumbed eyewash station in the Thermosystems Building.
- Insufficient or missing OSHA-required floor markings or personal injury warning placards around power tools.

This situation occurred because Department supervisors did not always perform safety inspections. Additionally, the Safety Office did not always monitor the supervisors' review of safety programs. However, if this situation is not addressed, safety violations may occur and go undetected.

Recommendation – The Safety Office should develop (1) a schedule for monitoring safety procedures during routine inspections, and (2) a safety checklist customized for use by Department supervisors for the purpose of documenting the supervisor's inspections.

In addition to developing the schedule and the checklist, the Safety Office should develop and implement a plan that continuously monitors and reviews the division supervisors' oversight of the safety program. It should also ensure that safety violations identified during these inspections are addressed.

Response – Currently all safety inspections are conducted without prior notice (surprise inspections). We will consider developing a schedule for routine inspections. The Supervisors currently record their findings in their daily log books. The Safety Office uses a checklist that can be shared with the Supervisors.

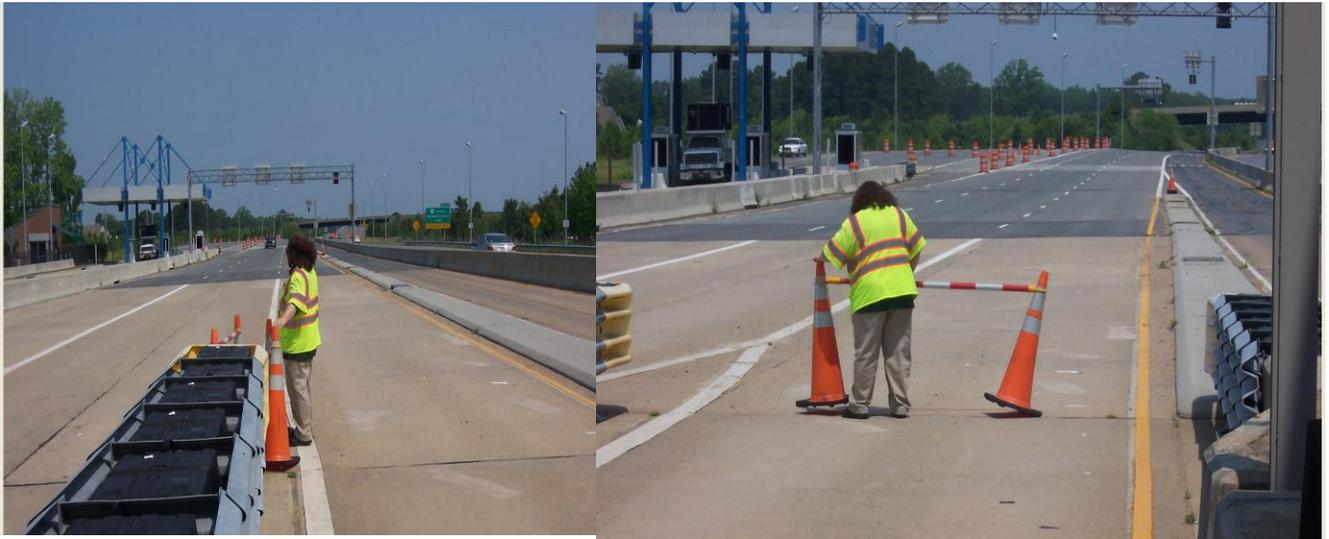
2. Safety and Security Procedures- Chesapeake Expressway

Finding – We identified safety and security procedures at the Chesapeake Expressway (Expressway) that could be enhanced.

Safety and security procedures at the Expressway should adequately safeguard staff personnel and assets for both normal operations and emergencies. However, we identified some safety and security issues that needed to be addressed.

- Pull alarms were not installed in critical work areas so that the alarms could be set-off in the event of robbery or an emergency.
- Access to the secured areas of the facility was not limited to Expressway personnel only. The armored courier had an access card to both the gated employee parking lot as well as the back door access into the facility. This allowed the courier unrestricted access to the building at all times.

- Toll road collectors had to close their collection stations by first turning on the “Closed Lane” sign, and then standing in the middle of their lane to place a rod (supported by two cones) to create a physical barrier at the end of the closed lane. At the time of our observation, we observed a vehicle that continued traveling toward a closed lane while the collector was in the middle of the same lane positioning the cones and rod to create a physical barrier. (The collector was observant of the approaching vehicle.)



Toll Road Collector Creating a Physical Barrier to Close the Lane

These situations occurred because consideration had not been given to the need for pull alarms and courier access control to the facility, and management relied on the safety consciousness of its employees at all times. However, if these situations are not addressed, employees could be put at physical risk, or the courier could access the facility without staff knowledge.

Recommendation – Pull alarms should be installed, facility access should be restricted to staff only, and the Expressway should discontinue the use of cones and use a more automated process for lane closure.

The Expressway should consider the following actions:

- Install pull alarms where staff interacts with customers and where cash is stored (including inside the main vault).
- Deactivate the courier’s access card to the facility and require the courier to use the intercom to gain entry to the parking lot and the facility.
- Develop and install a reasonably priced automatic lane closure device that could be used to replace the cone and rod barrier manually place by toll road collectors.

Response – The Expressway Staff have taken the following action on the suggested findings:

A complete Security upgrade is currently being installed with expected completion to be by the end of the Summer 2012. The Security upgrade includes a new pull alarm system to all Toll Booths and the EZPass Customer Service Counter. The number of Security cameras has been nearly doubled to 71 with a new Video Recording System and Intercom System.

Facility Access has been restricted to only Expressway Personnel. Access for the Armored Courier has been deactivated.

A review of the suggestion to discontinue the use of cones and to install an automated lane closure device has been found to be cost prohibitive and that the current process is within industry standards. Toll Operation Personnel participate in weekly safety meetings and the current Policy and Procedure for opening and closing lanes is thorough and complete. The Operations Staff is looking into putting together an Instructional Safety Video to further promote lane opening and closure activities.

3. Potholes

Finding – Although the Operations Division completed pothole repairs within the guidelines established in its Service Level Agreement (SLA), the Division did not consistently complete potholes repairs within 48-hours after notification as required by Public Works regulations.

Public Works Regulation 609 stated that “All potholes shall be repaired within 48-hours of notification with primary/arterial roadways receiving priority.” Conversely, Operations had established its own Service Level Agreement (SLA) which required that potholes be repaired within two weeks upon notification, a more realistic timeline for the division.

The following table shows the average number of days taken to repair potholes from July 2011 to January 2012. Based on the data, it appeared that potholes were repaired within the two week timeframe established by the SLA. However, the actual average days exceeded the 48 hour requirement established by the Public Works regulation:

Exhibit 8 – Average Days to Complete Pothole Repairs

Month	Pothole	# Completed	% < SLA goal	Avg Days to Complete Repair
July '11	P	196	98%	3.0
Aug '11	P	158	99%	1.6
Sept '11	P	145	93%	6.9
Oct '11	P	95	81%	6.1
Nov '11	Report not compiled			
Dec '11	P	73	90%	5.0
Jan '12	P	97	80%	8.0

This situation occurred because Public Works was not previously aware of the inconsistency. However, if it is not addressed, it could create confusion or have other adverse impacts for the City.

Recommendation – Public Works should revisit its regulation 609 to create consistency with the Division’s SLA.

According to the Streets Administrator, Public Works had already begun discussions to revise the wording of the Public Works regulation to increase the required number of days to repair potholes to be consistent with the SLA requirements. This change should eliminate any confusion regarding the requirements.

Response – PW will discuss service goal expectations with regard to potholes and the various classifications of streets and recommend revisions to the PW regulation accordingly. Pothole repair response is heavily dependent on weather/temperature, workload, and availability of materials and can be very seasonal. The original intent of the 48 hour response was for primary and major roadways only; emergency repairs are handled the same day.

4. Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts

Finding – Public Works did not have access to sufficient details of the specific terms of ID/IQ contracts, except for the general ID/IQ list provided on CityPoint. As a result, staff could not verify contract expiration dates, accuracy of vendor invoices, or other specific commodity types offered by ID/IQ vendors.

According to the User Guide section entitled “**City Contracts**”,

“The City established over 300 IDIQ contracts based on competitive solicitations. They offer favorable prices, advantageous terms and conditions, and superior service...While one department’s independent purchase warrants no significant concessions by a vendor, these contracts leverage the collective purchasing

power of the City and that warrants significant concessions. These contracts are listed in the ID/IQ Catalog on CityNet (CityPoint).”

According to the Public Works Fiscal Administrator, the Department did not have access to sufficient details of the specific terms of ID/IQ contracts, except for the general ID/IQ contract list published on CityPoint by Public Procurement. Therefore Public Works could not verify contract expiration dates, accuracy of vendor invoices, or identify other specific commodity types offered by ID/IQ vendors. For example, we noted that the Department continued to use the services of an engineering services firm in 2012 even though their ID/IQ contract expired on February 29, 2011.

This situation occurred because the Department was not aware of the specific terms of the contract. Additionally, project managers were not aware that when a contract expired, no additional work could be performed by the vendor after the expiration date had passed.

If this situation is not addressed, Public Works (which manages a large number of City projects) may continue to accidentally violate City purchasing requirements and could expose the City to possible protests from other vendors (which could affect the completion of the project involved) and be time consuming and costly for the City to resolve. In addition, the City could pay rates higher than those established in the contract, or miss opportunities to purchase additional commodities not identified by the general ID/IQ contract listing.

Recommendation – Public Works should work with Public Procurement and Information Technology to get full actual details of ID/IQ contracts posted on SharePoint for all user departments to see.

Placing full details of ID/IQ contracts on SharePoint for Public Works and other departments to share will provide departments with the ability to verify contractor expiration dates, the accuracy of vendor invoices based upon contract terms, and additional commodities that can be purchased on those contracts. Thus, contract utilization should be greatly enhanced.

Also, personnel who work with contract vendors should be trained to read and understand the terms of the contract before engaging the vendor’s services. In addition, the department should emphasize the importance of ensuring that all contracted services cease immediately when a contract expires.

Response – Public Works offered this initiative to Purchasing in 2009 but was unable to move forward due to staffing shortages in Purchasing. Purchasing is now implementing a new PeopleSoft module that will partially address this tracking issue by establishing notifications to the buyer of contract limits approaching maximums and for upcoming expirations of contracts. Public Works remains committed to providing administrative support for the scanning and posting of contracts for citywide accessibility. Public Works internal regulations will reinforce the requirement to use existing IDIQ contracts.

5. Monthly Progress Reports - Division of Construction Services (DCS)

Finding – DCS and Public Works Accounting did not reconcile Monthly Progress Reports against the City’s PeopleSoft expenditure reports.

Reconciliation refers to the process of agreeing information from different sources to the accounting records to ensure that the accounting records properly include all transactions in a timely fashion. The most familiar process is the monthly reconciliation between the checkbook (similar to the DCS monthly excel reports) and the bank statement (which is similar to the PeopleSoft Financial Project report). Reconciliations should be made to ensure that automated system balances agree to manual balances. These automated system reconciliations should be performed at least monthly.

DCS engineers (from the Engineering Division) were responsible for establishing, updating, and monitoring the progress of projects. Design/Construction Monthly Progress Reports (Progress Reports) developed on Microsoft Excel spreadsheets were used by the engineers to track the status of each project. Public Works Accounting staff tracked the same level of project detail using the PeopleSoft reporting system. We noted that a periodic reconciliation was not performed between the two reports. If engineers had questions about the financials, they would ask Accounting staff to address the questions.

This situation occurred because DCS personnel did not place a priority on learning the PeopleSoft system, since they had access to Public Works Accounting staff to address their financial questions on an as needed basis. However, because of the lack of reconciliation, the financial data in the Progress Reports may not be complete or updated in a timely fashion.

Recommendation – A periodic reconciliation should be performed between the DCS’s design/construction Monthly Progress reports and the PeopleSoft Expenditure Reports.

DCS should work with Public Works Accounting to perform a reconciliation of the two reports on a periodic basis. Periodic reconciliations between the PeopleSoft Project Financial Reports and the Progress Reports will provide management with assurance that the reports are up-to-date and accurate. Public Works should also evaluate whether other divisions would benefit from this reconciliation procedure.

Response - Project managers receive detailed expenditure reports (ME Reports) twice a week on their projects. They will periodically review and communicate to PW Accounting any discrepancies. Currently ME reports have a limited number of staff that receive the reports. If they could be placed on share point other non-PeopleSoft users would have access (Eng. Techs etc.)

APPENDIX A

RESPONSE FROM PUBLIC WORKS OFFICIALS

Memorandum

TO: Jay Poole, City Auditor

FROM: Earl Sorey, P.E., Acting Director of Public Works ^{CES}

DATE: August 17, 2012

SUBJECT: Public Works Audit Response

Attached please find Public Works' response to the recently completed audit.

Should you have any questions or need additional information, please contact me.

CES/

c: Eric J. Martin, P.E., Acting Deputy City Manager for Operations

C. Facilities Construction and Maintenance

1. Temporary Inmate Housing

Finding – Facilities Management did not always fully define the scope of work for contracts and did not always develop a comprehensive, executable plan for its construction projects, nor did it ensure that the contractor always obtained the compliance approvals necessary for the project. As a result, a temporary inmate housing facility project 1) experienced significant cost overruns and 2) could not be used for its intended purpose.

Recommendation – Facilities Construction should work with affected City departments on future projects to ensure that the projects are adequately planned and that the scope of work is fully developed. It should also ensure that all required approvals are obtained prior to initiating the contract.

Response – We concur with the recommendation, and as noted above, have already taken steps to ensure that future projects are adequately scoped and that appropriate cost controls and reporting procedures are in place.

The General Services section was reorganized in 2010 to separate the Purchasing Office, which now reports directly to a Deputy City Manager. The Facilities functions were broken into two divisions under Public Works – Facilities Construction and Facilities Maintenance. Public Works has been integrating the new divisions into Public Works and streamlining and standardizing their project management, purchasing and accounting practices into the APWA accredited PW department’s well established policies and procedures. Minor updates to incorporate vertical construction and building maintenance IDIQ repair contracts are underway and will be completed in the next two months.

Additionally, procurement issues identified in the audit have been under correction for some time. Training for City staff has been provided to reinforce proper procurement processes and compliance with City ordinances and State procurement laws. City staff would also benefit from annual training from the City Attorney’s office on pertinent or changing purchasing regulations at the federal, State or local levels.

Change order processing continues to be highly reviewed with all change orders over 15% being reviewed by the Purchasing Office, Finance, Budget, Procurement, and City Attorney and approved by the City Manager’s Office (See attached sample routing memo). Purchasing has put in place a process to ensure change orders which total 25% or \$10,000 or more, whichever is greater, on firm fixed price contracts are noticed to City Council.

The City Manager's Office will also clarify that the Public Work's Facilities Construction division is solely responsible for facility capital project delivery to include ensuring that all projects are adequately scoped with the user department prior to design, advertising and construction. The Facilities Construction Division will also ensure that all necessary permits, utility relocations and property acquisitions are completed or underway so as to prevent unnecessary project delays. In coordination with the user department, the Budget Office and City Manager's Office, all projects will be reviewed to ensure adequate funding is available, including contingencies as necessary, to deliver the most cost effective facility that meets the agreed upon scope. Value engineering will be performed on projects which may be inadequately funded after initial design and preliminary cost estimates are performed. Pre-qualification of bidders on City facility projects will also be implemented. We will also explore having major design features of facility capital projects approved by City Council similar to the process we follow on VDOT funded major roadway projects.

2. City Hall Elevator Overhaul Project

Finding – Facilities Maintenance did not develop an adequate scope of work definition that included vendor performance timelines and specifications for its emergency Overhaul/Renovation contract for the City Hall elevators.

Recommendation – For future projects, Facilities Maintenance should ensure that an adequate scope of work definition is developed for each emergency/overhaul/renovation contract. The scope definition should include vendor performance timelines and specifications.

Response – Facilities Maintenance will work more closely with the Purchasing Office to ensure that any emergency contracts include appropriate contract terms to include completion schedules and liquidated damages. Indefinite Delivery Indefinite Quantity (IDIQ) contracts such as that used for elevator maintenance and repair, continue to be essential vehicles to procure services that have highly variable scope or unknown or infrequent delivery dates. These contracts, which are competitively bid for basic labor costs or estimated unit prices, can save significant response time and still provide best value.

Working with the Purchasing office, Facilities Maintenance terminated the previous non-performing IDIQ elevator contractor and has put in place another qualified contractor to maintain, and repair if necessary, city elevators and escalators. While there are limited contractors performing these services in Tidewater, the City and Schools now share the same contractor. The previous contractor had performed well in previous years but due to circumstances beyond the City's control was unable to prosecute the repair work on the City Hall elevators on a reasonable schedule.

3. Operating Policies and Procedures

Finding – Facilities Management’s sections had not developed written operating policies and procedures for managing projects. Also, checklists were not frequently used to assist with the project management process.

Recommendation – Facilities Management’s sections should develop written operating policies and procedures for the management of facilities construction and maintenance projects. These procedures should include checklists to assist in the project management and oversight process.

Response – Facilities Construction and Facilities Maintenance are continuing the process of integrating all procedures and policies of the Public Works Department. Specifically, the two divisions are adapting project administration, programming, design, construction, monitoring, and close-out procedures to align with the User Guide. Where checklists and other project administration tools exist, they will be standardized to the User Guide format; where they do not exist or are deemed inadequate, they will be developed/modified. Many processes and procedures have already been changed within the last two years to conform to Public Works standards (change order routing/approval, contract execution, budget development, project reporting to chain-of-command, etc.). All recent repair project contract documents have included firm schedules and liquidated damages clauses – discussion also has been initiated between Public Works and Purchasing on the best way to incorporate these elements into IDIQ maintenance contracts when task orders are particularly critical and/or reach a certain dollar threshold. In other areas such as safety, yard inspections/environmental stewardship, training (to name a few), Facilities’ two divisions are already fully integrated into Public Works procedures.

4. Project Tracking

Finding – Facilities Construction did not always track construction projects in compliance with City policies and best practices.

Recommendation – Facilities Construction should develop a more effective tracking procedure for its construction projects.

Response – Some deficiencies have resulted from the excessive project workload of the Facilities divisions and lack of support staff. For instance, both division managers have been managing several projects each (including multiple multi-million dollar projects) due to insufficient project officer and support staffing. This has worsened over the last few years as the project load has increased and has diverted critical time away from strategic and management oversight duties. Public Works is in the process of assigning additional resources to the Facilities divisions, but more direct project support may be needed. The Facilities

divisions will continue working with Public Works accounting and Budget/Finance to allocate funding for non-capitalizable project items, improve spending controls and improve overall financial management of project budgets/finances. Some of this work has already taken place over the past year as Facilities Project Managers have become more familiar with Public Works procedures and accounting personnel. Public Works will work Purchasing to clarify confusing issues related to IDIQ contracts and rewrite/rebid contracts to improve efficiency and repair project delivery times and quality. (For instance, the “value” of an IDIQ contract cannot be related solely to bid labor costs. In many instances, the equipment/materials costs are the majority of a repair project’s cost and must be taken into account when establishing a reasonable annual “cap” on the IDIQ contract.) Facilities does utilize a tracking board for permits, but this has not been standardized across all projects. Both divisions will develop a common checklist to be used by all Project Managers and management personnel to improve code compliance oversight.

D. Technology Issues

1. Maximo System

Finding –The Maximo Asset Management system was not being utilized to its fullest potential by the Department.

Recommendation – The Department should take a more active role in ensuring that the Maximo system is utilized to its fullest potential, with sufficient support as required from Information Technology (IT).

Response – The general characterization of the Department’s use of Maximo as presented does not adequately reflect the significant efforts or the progress made since implementation. The department is very large with multiple functions and Maximo use continues to be phased in across our various divisions. Some smaller divisions have easily accommodated the new system while large divisions with less computer literate users have required additional support. As detailed below, the system purchased was not optimized for Public Works activities and significant modification of the latest version of the IBM software was required. Furthermore, integration with the existing Customer Service request system, Munis/Kronos payroll systems and PeopleSoft accounting systems did not exist and is being phased in to allow automation of many manual processes that have reduced the functionality and efficiency of using the system.

The Maximo system was originally designed and implemented urgently to help Public Utilities meet the consent order deadline imposed by the EPA. The primary objective was to capture Utilities assets inventory, their condition, and a corresponding plan of action.

In the last eighteen months, the Department, especially the Operations

Divisions, have become very active and even pro-active with regard to the utilization of Maximo. The PW work order system is up to date, data is entered daily and quality control measures have been implemented. Continuous improvements are sought at all levels. Several measures have been implemented to improve and to expand the infrastructure inventory database and to improve the Maximo work flow. There continue to be limitations to the Maximo software which Operations has found ways to work within. The Department continues to work with IT towards improvements in the system for increased functionality and efficiency. Operations initiated the users' group meetings with IT and have established regular monthly meetings.

The implementation of base assets from GIS is complete and is working well for assets such as Streets and Traffic Intersections. We are developing new asset datasets involving features such as guardrails, overhead signs, and traffic signals. The errors associated with Stormwater assets have been corrected and the new Stormwater assets will be entered when the City completes the upgrade to the new version of Maximo for financial and technical reasons as recommended by IT. This upgrade is currently underway.

Public Works will further study the Audit recommendations for specific improvements and move forward with implementing those that are appropriate and within funding capabilities.

In addition, the followings are detailed responses to the corresponding bullet items above:

- GIS data for Stormwater Management was neither current nor accurate when implemented. **When tests started in the development phase, a problem was identified with the completeness and format of the Stormwater data loaded into Maximo. Because of the urgency of the Public Utilities' deadlines, this area was not fully corrected when Maximo was initially implemented. This issue applied only to the Stormwater layer. Streets and Traffic Engineering data were correctly installed in Maximo database and are used on an ongoing basis for work order management.**

To address the issues with the Stormwater data, a priority was placed on reviewing and updating GIS Stormwater data supplied through a contract with an outside engineering firm. This contract has now been successfully completed and all GIS information has been added to the GIS layers. In addition, the formatting errors with the GIS layers have been addressed and are awaiting installation into the Maximo database. This phase has been scheduled as a component of the project currently underway to upgrade Maximo to version 7.5.

Our understanding of the capabilities of the Maximo system included asset inventory and work order management. We use Maximo, in conjunction with GIS, as a tool to develop our inventory of installed assets and, where inventories are complete, to maintain those assets through preventive maintenance schedules and corrective maintenance where necessary. Some of our asset categories remain in development, (such as with guard rails and other right of way features) and where that is the case we are moving forward with programs to capture that asset information and add it to Maximo.

The Operations Divisions use the Maximo work order management system to account for all of the work hours of our field personnel. This includes regularly scheduled work, as well as emergency and overtime work and work related to storm events and emergency operations activations. Its rigorous application across the Operations Divisions represents a full commitment to making Maximo work for the department.

PW actively leads in the ongoing implementation and development of the Maximo system, with its own internal Maximo Advisory Group, as well as working closely with IT's Steering Committee and other interested departments to understand the capabilities of Maximo and extend its functionality.

- **The system required Service Level Agreement (SLA) data to be established manually within Maximo. There is limited repository in Maximo for SLA. Recently, the Planner/Scheduler started to write and provide supervisors with adhoc reports. PW purchased the SLA module in 2009 based on IT's recommendation to provide the department with this essential report. In late 2010, IT deferred its implementation to IBM which turned out to be cost prohibitive. Instead, IT recommended the upcoming version 7.5.**
- **Database information was not developed and designed on the front end of the project so that the data entered into the system could be extracted to provide management with useful information and reports. (e.g. Addresses were not set up in separate fields for street number and name so that they could be sorted individually) Information was gathered, but did not go as far as utilizing specific addresses. Because state maintenance reimbursements are not predicated on actual specific addresses, the train of thought was to utilize segments instead of parcel addresses. This allows the supervisor to search for the specific block of addresses, but not single addresses. This does not pose any real problems; if an individual address needs to be researched, it can be done by a simple query in the work order tracking module now.**

Report writing remains an area where we have been disappointed with the native functionality of the Maximo system. To address our own reporting needs we have leveraged ad hoc reporting, at times stretching it beyond its designed functionality, in order to obtain necessary reports. Public Works personnel have attended two training sessions on Maximo reporting offered through IT by IBM, and sent personnel to obtain more specialized training in BIRT reporting and SQL statement writing. Where necessary, we have paid for specific reports to be written through a formal Request for Services from Information Technology. Given the level of resources involved in the Maximo system, the Operations Divisions remain committed to establishing the reporting capabilities that are necessary to manage field activities, but we recognize that this is part of the implementation process and that ongoing effort will be required. Currently, Operations staff goes through many tedious steps to generate reports internally.

- Some general ledger account numbers were not set up correctly in the system and had to be changed manually, since system controls limited correction capability. **IT is aware of this problem. PW will have to continue entering data manually until IBM provides a solution. Currently, this affects the budget flow of items receipted/issued in Maximo. Also, we recently found that when Maximo reports costs for inventory items, it calculates them based on an average of historical purchase costs. This skews our expenditure numbers. We heard that IBM could not change this.**
- Prior to a 2012 Customer Service Request (CSR) module update, work orders (WO) were entered manually into the Maximo system by cutting and pasting WO data from the CSR system. In addition, WOs on the CSR system were closed when the data was transferred to the Maximo system; therefore, SLA information tracked by the CSR systems became unavailable. (Note: Information Technology was still troubleshooting the new CSR module). **The IT Department is still troubleshooting the module. Implementation of Maximo created a disconnect between PW and Customer Contact Center (CCC). To avoid duplication of data and updating two parallel systems (Maximo and CSR), PW purchased two Maximo licenses for CCC to update citizens with the status of their service requests. SLA reports have been generated by PW staff in a tedious manner still more efficient than maintaining two parallel systems.**
- The Department did not consistently document time spent on each Maximo work detail category. **We are unsure if this is possible within the system, and also unsure of the benefit that would be gained from this. Labor and tools are captured in Maximo, not by the work detail category, but by the overall time spent on the site each day. If we documented time on each individual work detail, it would result in the supervisor spending a great**

amount of time updating the system, and decrease their time in the field ensuring work is being completed properly.

- **Of the 1700 work orders processed on the Maximo system, 1400 (87.4%) were not classified as completed (closed) even though 86.6% of the work orders on Maximo had been identified as completed. The Department has implemented a procedure to take work orders to CLOSED 60 days from being completed. There are currently > 38,000 PW Maximo work orders. As initially designed, the Public Works Maximo work flow process required work orders to be carried to Field Complete status. This status indicated that the project was complete. However, it left the work order available for queries and end of the year reports. In consultation with IT to develop a better understanding of Maximo's query procedure, we changed the work flow process to require the work order to be in a closed status. Field Completed work orders are now reviewed after 60 days. If there are legitimate reasons, a work order may remain open, otherwise work orders that have been identified as field complete are closed once reviewed. In addition, Maximo's terminology is confusing in terms of "field complete, complete, and closed".**
- **No employee in the Department had comprehensive knowledge of the Maximo system workflow. As part of continuous improvement philosophy, Maximo system work flow processes are being reviewed, and a plan is in place to automate the process once completed.**
- **Staff did not have convenient access to reports needed to perform assigned tasks. Reports are now being generated as the system allows. There are still issues with fields not being available for reports. These issues are being addressed by opening heat tickets with IT and follow up by phone and email to the Maximo Administrator - a cumbersome process.**
- **Management had not received any useful Maximo reports for the last two years other than those produced manually by the Department through data dumps into Excel. Maximo reporting has been disappointing. Administrators and staff now receive internally (PW) generated customized reports as required by each Division. The expected Maximo driven SLA, performance measures, and cost-benefit reports still remain to be addressed with future versions.**
- **Only one person in the department had been trained to write rudimentary queries to extract data and to create reports from the Maximo system. (Maximo had 250 canned system reports). IT and IBM were of the opinion that report writing would be too complicated and cost prohibitive for the PW staff. Operations management, in cooperation with IT, was successful to negotiate bringing this feature to PW. As a result, an Ops employee has received training in Birt report writing. A couple of supervisors have been**

trained internally on how to create adhoc reports. Supervisors were given instruction in running simple queries during the initial phase of training for the original go live date. Some of the reports created are now in use and have resulted in a significant reduction in backlog work orders. Reports are now automated and supervision receives these reports as needed. Reports are generated daily, weekly, or monthly as required by staff.

- Changes to procedures relating to Maximo were distributed verbally to personnel and not documented; therefore, changes to processes were often not consistently implemented. **There are some written procedure changes but changes to procedures are now documented and distributed through classroom instruction, one-on-one meetings, and through email, when warranted. All training documents can be found in the following link: U:\maximo\Training\Operations Training.**

2. Workflow Process Deficiencies

Finding – The Department was using a manual, inefficient document routing workflow process and tracking system to capture budgetary approvals for projects instead of the SharePoint software available on the CityPoint intranet.

Recommendation – Public Works and IT should continue to develop a tracking system, using SharePoint to create a centralized document management system.

Response – Public Works has been partnering with the Information Technology Department to implement an automated document routing and approval system. Issues of electronic signatures need to be resolved for the project to advance. Additionally further discussions need to occur on delegation of approval authority and purchasing limits that require director and/or City Manager approval. Often relatively small but time-sensitive actions are unnecessarily delayed by the approval requirements on relatively low cost items. Additional PeopleSoft modules are being implemented which may also improve efficiency and tracking of contracts and modifications.

3. RouteSmart Software

Finding – The Department was not utilizing its RouteSmart routing system software to its fullest potential.

Recommendation – The Department should locate the RouteSmart software, properly complete the implementation, and train the staff on its use.

Response – The RouteSmart program was originally installed on a Public Works Operations computer. It has since been transferred to another user who is GIS trained and will be the point of contact for RouteSmart updating and the technical aspects of the program. Training is projected to begin in September.

4. GPS Technology

Finding - The Waste Management Division (Division) did not have the ability to track and monitor the location and progress of its Grapple and Rear Loader trucks on an automated basis.

Recommendation – Public Works should attempt to identify funding to allow the Waste Management Division to install GPS tracking devices on at least the Grapple and Rear Loader trucks, so that the location and progress of the trucks can be monitored on an automated basis.

Response – Funding has been identified for this project. Due to contract stipulations with the proposed GPS vendor, the current procurement has been delayed and we are working with Purchasing and a new supplier. A pilot demonstration project for our grapple trucks will occur this fall. GPS for use in our rearloaders and remaining grapple trucks will be initiated if the pilot with this vendor is successful. Following that pilot we intend to outfit street sweepers and eventually snow plow and sanding trucks.

E. Stormwater Management/Drainage

1. Preventative Maintenance

Finding – The Stormwater Management/Drainage Division had not fully implemented a comprehensive maintenance plan to maintain the City’s stormwater/drainage systems.

Recommendation – Stormwater Management/Drainage should fully implement a comprehensive preventive maintenance plan for the City.

Response – Within the past two years, the Stormwater Management/Drainage operations group has reduced the backlog of service requests to such an extent that they were able to begin implementing a program of preventative maintenance for the City’s drainage infrastructure.

A regular schedule for street sweeping was set up in Maximo by the Operations Planner/Scheduler prior to the transfer of sweeping operations from the Division of Streets and Highways to Stormwater Management. This schedule has been maintained after the transfer. Operations improved sweeping cycles from one to four on residential streets and began publishing the sweeping schedules on the City website three years ago.

Public Works Engineering conducted a field evaluation of the City’s Lead Ditches within the past two years using a scoring system to evaluate the current condition and functionality of the City’s lead ditches. Based on this information,

the Operations Planner/Scheduler set up a schedule in Maximo so that every lead ditch is cleaned by inmate crews at least once every six years. The six year cycle is based on resources and tree saplings, which if left uncut for seven years or longer, have to be cleared with a chain saw rather than a brush blade.

Over the past year, the Operations Planner/Scheduler has also set up a schedule of routine inspection in Maximo for the City's stormwater piping system. Service request records were used to prioritize piping systems with a history of clogging so that these systems are checked more frequently. Pipes needing flushing will be promptly cleaned using City forces and equipment.

During the current fiscal year (FY12-13), Operations will be working on setting up a schedule of preventative maintenance for the City's roadside ditches.

2. Stormwater Enterprise Fund

Finding – The Stormwater Enterprise Fund was used to pay selected employee salaries for time that was not spent on stormwater activities.

Recommendation – To comply with Section 26-372 of the Chesapeake City Code, the Department should apportion the use of the Stormwater Enterprise Fund to pay employee salaries depending on the percentage of work actually performed on stormwater activities.

Response – The Department continues to apportion the time spent by select employees and manually make subsequent transfers to/from the General Fund. However, the current PeopleSoft, Maximo and Munis systems do not support detailed time accounting and apportionment based on hours worked per a particular function. The 27 employees identified in the audit do spend a majority of their time on stormwater functions. The Stormwater division also makes a significant contribution to the City's General fund for support services whose cost allocation is determined annually by the Maximus Study conducted by the Finance Department.

3. Pending Federal/State Stormwater Regulations

Finding – Implementation of upcoming federal and state mandates may require additional Stormwater Management resources.

Recommendation – Stormwater Management should have a contingency plan ready to be executed in the event that additional resources are required to comply with the upcoming mandates.

Response – Stormwater Management has developed an Action Item list with all tasks, due dates, leads, and current status shown for all of the expected requirements. The Public Works Director has reorganized the Stormwater

Management team to respond most effectively to the new mandates. The reorganization includes:

- Setting up a new Environmental Quality Section (function 61001).
- Moving the Environmental Quality Coordinator position from the Fire Department to the Environmental Quality Section.
- Have obtained approval to hire a Construction Inspector Supervisor and an additional Construction Inspector II to handle the increased Erosion & Sediment Control inspection requirements.
- The Operations Manager has initiated the purchase of a new office trailer for the expected staff increase that will be required to meet the requirements of the mandate.
- Conducted a comprehensive study on the impact of TMDL requirements and identified strategies to accomplish them.
- Accumulated capital funding in anticipation of TMDL and water quality project needs in future fiscal years.
- Participated in Statewide technical advisory panels at the staff and Council level.
- Will update the draft Storm water Management Plan for the City once the State finalizes the City's new VPDES permit and requirements are known.
- Established a Citywide TMDL implementation team including City departments and schools to coordinate activities necessary to meet State requirements.

F. Inventories

1. Inventory Controls

Finding – Public Works' inventory processes needs to be improved to enhance inventory security, inventory controls, record keeping, and reporting accuracy.

Recommendation – Public Works should strengthen departmental inventory operating processes to improve and enhance access controls, security, accuracy of records and accountability over the various inventories.

Response – Public Works Operations has consolidated its storeroom for the most part and is developing a road map, attached. Additionally a study of best management practices and other localities and local DoD facilities will be

undertaken and recommendation implemented. We will evaluate each of the detailed suggestions recommended in the Audit for implementation. Several actions outlined in the detailed recommendations have already been taken by the Department, and we will further evaluate each of the detailed suggestions recommended in the Audit for implementation.

G. Other Items

1. Safety Monitoring

Finding – The Safety Handbook did not require documentation of ongoing safety monitoring inspections.

Recommendation – The Safety Office should develop (1) a schedule for monitoring safety procedures during routine inspections, and (2) a safety checklist customized for use by Department supervisors for the purpose of documenting the supervisor’s inspections.

Response – Currently all safety inspections are conducted without prior notice (surprise inspections). We will consider developing a schedule for routine inspections. The Supervisors currently record their findings in their daily log books. The Safety Office uses a checklist that can be shared with the Supervisors.

2. Safety and Security Procedures- Chesapeake Expressway

Finding – We identified safety and security procedures at the Chesapeake Expressway (Expressway) that could be enhanced.

Recommendation – Pull alarms should be installed, facility access should be restricted to staff only, and the Expressway should discontinue the use of cones and use a more automated process for lane closure.

Response – The Expressway Staff have taken the following action on the suggested findings:

A complete Security upgrade is currently being installed with expected completion to be by the end of the Summer 2012. The Security upgrade includes a new pull alarm system to all Toll Booths and the EZPass Customer Service Counter. The number of Security cameras has been nearly doubled to 71 with a new Video Recording System and Intercom System.

Facility Access has been restricted to only Expressway Personnel. Access for the Armored Courier has been deactivated.

A review of the suggestion to discontinue the use of cones and to install an automated lane closure device has been found to be cost prohibitive and that the

current process is within industry standards. Toll Operation Personnel participate in weekly safety meetings and the current Policy and Procedure for opening and closing lanes is thorough and complete. The Operations Staff is looking into putting together an Instructional Safety Video to further promote lane opening and closure activities.

2. Potholes

Finding – Although the Operations Division completed pothole repairs within the guidelines established in its Service Level Agreement (SLA), the Division did not consistently complete potholes repairs within 48-hours after notification as required by Public Works regulations.

Response – PW will discuss service goal expectations with regard to potholes and the various classifications of streets and recommend revisions to the PW regulation accordingly. Pothole repair response is heavily dependent on weather/temperature, workload, and availability of materials and can be very seasonal. The original intent of the 48 hour response was for primary and major roadways only; emergency repairs are handled the same day.

3. Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts

Finding – Public Works did not have access to sufficient details of the specific terms of ID/IQ contracts, except for the general ID/IQ list provided on CityPoint. As a result, staff could not verify contract expiration dates, accuracy of vendor invoices, or other specific commodity types offered by ID/IQ vendors.

Recommendation – Public Works should work with Public Procurement and Information Technology to get full actual details of ID/IQ contracts posted on SharePoint for all user departments to see.

Response – Public Works offered this initiative to Purchasing in 2009 but was unable to move forward due to staffing shortages in Purchasing. Purchasing is now implementing a new PeopleSoft module that will partially address this tracking issue by establishing notifications to the buyer of contract limits approaching maximums and for upcoming expirations of contracts. Public Works remains committed to providing administrative support for the scanning and posting of contracts for citywide accessibility. Public Works internal regulations will reinforce the requirement to use existing IDIQ contracts.

5. Monthly Progress Reports - Division of Construction Services (DCS)

Finding – DCS and Public Works Accounting did not reconcile Monthly Progress Reports against the City’s PeopleSoft expenditure reports.

Recommendation – A periodic reconciliation should be performed between the DCS’s design/construction Monthly Progress reports and the PeopleSoft Expenditure Reports.

Response - Project managers receive detailed expenditure reports (ME Reports) twice a week on their projects. They will periodically review and communicate to PW Accounting any discrepancies. Currently ME reports have a limited number of staff that receive the reports. If they could be placed on share point other non-PeopleSoft users would have access (Eng. Techs etc.)