

Audit Report

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**Department of Recreation and Parks**

**Park and Facility Maintenance**

**Maintenance Management System and Equipment Inventory**

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Office of the County Auditor  
Baltimore County, Maryland  
March 2007



BALTIMORE COUNTY, MARYLAND  
OFFICE OF THE COUNTY AUDITOR

BRIAN J. ROWE, CPA  
COUNTY AUDITOR

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MARY P. ALLEN, CPA  
DEPUTY COUNTY AUDITOR

March 30, 2007

Honorable Members of the County Council  
Honorable James T. Smith, Jr., County Executive  
Baltimore County, Maryland

We have audited the Department of Recreation and Parks' implementation of its computerized maintenance management system, including its maintenance equipment inventory. The audit covered the period beginning August 10, 2004 and ending July 18, 2006.

Our audit disclosed that the Department was not effectively utilizing the computerized maintenance management system for its park and facility maintenance operations. We also noted that the Department's park and facility maintenance equipment inventory records were incomplete, inaccurate, and unreliable. Finally, we noted that maintenance employees were routinely allowed to use County-owned park and facility maintenance equipment for personal use.

A response to our findings from the Department of Recreation and Parks is included as Appendix A to this report. Our comments regarding the Department's response to one of the findings are included as Appendix B.

Our audit reports and responses thereto are available to the public and may be obtained on-line at "[www.baltimorecountymd.gov](http://www.baltimorecountymd.gov)" or by contacting the Office of the County Auditor, 400 Washington Avenue, Towson, Maryland, 21204.

We wish to express our appreciation to the Department of Recreation and Parks for the cooperation and assistance extended to us during our audit.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian J. Rowe".

Brian J. Rowe, CPA  
County Auditor

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## Background

The Department of Recreation and Parks, Division of Park and Facility Maintenance, is responsible for managing and maintaining all County-owned recreation and park facilities, including parks, recreation buildings, grounds (e.g., playgrounds, skate parks), open space, beaches and athletic fields. Additionally, the Department shares maintenance responsibilities with the Baltimore County Public Schools (BCPS) for BCPS-owned school-recreation facilities. The Department maintains an estimated 12,800 acres of recreational property throughout Baltimore County.

The Department operates five maintenance shops throughout Baltimore County that are responsible for performing park and facility maintenance services. Four of the shops (Double Rock, Inwood, Sparrows Point and Texas) provide grass mowing, ball diamond maintenance and refuse collection services. One shop (Special Forces maintenance shop located in Cockeysville) provides inspection and maintenance services for County-owned playgrounds and skate parks and graffiti eradication services at recreation sites.

In order to better plan, organize, direct, coordinate and control the operations of the five maintenance shops, the Department purchased a computerized maintenance management software system, known as Maintstar, in August 2004. The system cost totals approximately \$643,000 over the 15-year term.

The Maintstar software system facilitates creating and approving work orders; tracking equipment (including downtime, repairs and replacements); scheduling and tracking preventive park and facility maintenance; scheduling and tracking labor resources (budgeted vs. actual man-hours); and controlling maintenance supplies and materials (e.g., mulch).

As of July 18, 2006, Maintstar's equipment inventory records listed 700 pieces of park and facility maintenance equipment (gas-powered equipment such as dump trucks, tractors, mowers, leaf blowers and related attachments such as snowplows), of which 685 were noted as being in-service and available for use.

## Findings and Recommendations

- 1. The computerized maintenance management system (Maintstar) was not being effectively utilized to manage and control the Department's park and facility maintenance operations.**

In order to improve the management and control of park and facility maintenance operations (e.g., ball diamond maintenance and mowing and trash removal services), the Department purchased a computerized maintenance management system, known as Maintstar, in August 2004. The system will cost approximately \$643,000 over a 15-year term.

Maintstar includes numerous features to help management make informed decisions for improving maintenance operations. However, our review disclosed that the Department was not effectively utilizing Maintstar's capabilities as intended. For example, our review disclosed that while the Department utilizes Maintstar's equipment inventory management feature to record its equipment (e.g., type, description, and location), it does not use the other inventory management features to track equipment downtime, repairs and replacements. Our review also disclosed that the Department does not use other system capabilities, including scheduling and tracking preventive park and facility maintenance; scheduling and tracking labor resources; and controlling park maintenance supplies and materials.

Additionally, our review disclosed that the five park and facility maintenance shops did not follow the established written procedures (Business Rules) for Maintstar. For example, our review disclosed that the maintenance shops did not prepare and distribute system-generated work orders to maintenance crews at the beginning of the workday, as required. Further, certain essential information, such as assigned staff, equipment and supplies, is not recorded on the work orders in Maintstar, as required. Consequently, the Department did not have essential information needed to make informed decisions to improve park and facility maintenance operations.

**We recommend that the Department effectively utilize the capabilities of Maintstar for its intended purpose of improving the management and control of**

**park and facility maintenance operations. We also recommend that the Department ensure that the procedures for Maintstar are followed in order to assist management in making informed decisions for improving maintenance operations.**

**2. The Department's inventory records of its park and facility maintenance equipment were incomplete, inaccurate, and unreliable.**

Proper management controls require that adequate reporting systems for equipment inventory be established and maintained to help ensure efficient and effective operations. While the Department utilizes its computerized maintenance management system (Maintstar) to account for certain equipment (gas-powered equipment such as mowers and leaf blowers) used by its park and facility maintenance shops, our review disclosed that the Department has not established adequate controls over its equipment inventory, including proper recordation and tracking of equipment inventory. Further, the Department does not maintain sufficient supporting documentation for equipment inventory transactions (purchases, transfers/loans). Consequently, we found that the Department's equipment inventory records were incomplete, inaccurate, and unreliable. Specifically, our review disclosed the following:

- a. Hand and electric tools (e.g., rakes, shovels, power drills) were not recorded in Maintstar or separately recorded, tracked or inventoried by four of the five maintenance shops.
- b. Out of 19 equipment purchases reviewed, 11 (or 58%) were not properly recorded in Maintstar. Additionally, none of the equipment purchases valued at \$1,000 or more (i.e., 4 of the 19 purchases reviewed) were properly recorded in the County's fixed asset inventory as required by County policies.
- c. Out of 52 pieces of equipment selected for testing, 26 items (or 50%) were improperly classified in Maintstar and 17 items (or 33%) could not be physically identified. Specifically, 19 items were classified as "in-service" when they had been removed from service, 7 items were classified as "out-of-service" although they were physically located in shop inventory available for service, and 17

items could not be physically identified since visible identification numbers on all equipment on hand were missing or illegible due to poor condition (e.g., flaking paint, rust).

- d. New equipment was added to Maintstar through e-mail correspondence without supporting documentation and equipment transferred between or loaned to other maintenance shops was not always documented in writing or recorded in Maintstar.

**We recommend that the Department establish adequate controls to ensure that its park and facility maintenance equipment inventory records are complete, accurate, and reliable. We further recommend that the Department perform a physical inventory of its park and facility maintenance equipment to establish a baseline inventory to help ensure the completeness, accuracy and reliability of its equipment inventory and associated records.**

### **3. Park and facility maintenance shop employees were allowed to use County-owned park and facility maintenance equipment for personal use.**

The Baltimore County Code §4-3-301 prohibits the personal use of County-owned equipment. However, our review disclosed that park and facility maintenance shop employees were permitted to utilize County-owned equipment (e.g., weed eaters, hedge trimmers, and other power equipment) for personal use. Using County-owned equipment for personal use limits equipment availability, which can result in lost productivity, and reduces the useful life of the equipment sooner than expected. The Department advised that allowing employees to use County-owned equipment for personal use helps reduce equipment theft.

**We recommend that the Department establish a policy that prohibits the personal use of County-owned equipment in accordance with the Baltimore County Code. We further recommend that the Department establish procedures to properly control use of its equipment inventory.**

## **Audit Scope, Objectives and Methodology**

We have audited the Department of Recreation and Parks' implementation of its computerized maintenance management system, including its maintenance equipment inventory. The audit covered the period beginning August 10, 2004 and ending July 18, 2006. The audit was conducted in accordance with generally accepted government auditing standards, except for the requirement of an external quality control review.

In accordance with the Baltimore County Charter, Section 311, the objectives of our audit were to review the Department's use of its computerized maintenance management system, including internal controls over its maintenance equipment inventory. In planning and conducting our audit, we focused on the park and facility computerized maintenance management system (Mainstar) and related inventory records based on assessments of materiality and risk.

Our audit procedures included inquiries of appropriate personnel, inspections of documents, records and maintenance equipment on hand, and observations of the Department's operations. We also tested transactions and performed other auditing procedures that we considered necessary to achieve our objectives.

The Department's management is responsible for establishing and maintaining effective internal control for County-owned equipment. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records, effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports on fiscal compliance are designed to assist the Baltimore County Council in exercising its legislative oversight function and to provide constructive

recommendations for improving County operations. As a result, our reports do not address activities we reviewed that may be functioning properly.

This report includes findings and recommendations relating to conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect the Department's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations.

## **APPENDIX A**

### **Department of Recreation and Parks' Response**

**Department of Recreation and Parks**

301 Washington Avenue  
Towson, Maryland 21204  
Tel: 410-887-3871 • Fax: 410-825-3305  
Deaf/TDD: 410-887-5319



**Baltimore County**

*James T. Smith, Jr., County Executive*  
*Robert J. Barrett, Director*

**INTER-OFFICE CORRESPONDENCE**

**TO:** Brian J. Rowe, County Auditor  
Office of the Auditor

**FROM:** Bob Barrett, Director   
Department of Recreation and Parks

**SUBJECT:** Audit Response

**DATE:** March 28, 2007

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Attached you will find the Department of Recreation and Parks' response to the audit findings pursuant to the audit of the Department's computerized maintenance management system and equipment inventory.

Attachment

**Department of Recreation and Parks**

301 Washington Avenue  
Towson, Maryland 21204  
Tel: 410-887-3871 • Fax: 410-825-3305  
Deaf/TDD: 410-887-5319



**Baltimore County**

*James T. Smith, Jr., County Executive*  
*Robert J. Barrett, Director*

**DEPARTMENT OF RECREATION AND PARKS**

**PARK AND FACILITY MAINTENANCE**

**MAINTENANCE MANAGEMENT SYSTEM AND EQUIPMENT INVENTORY**

**Response to Findings and Recommendations:**

1. The computerized maintenance management system (Maintstar) was not being effectively utilized to manage and control the Department's park and facility maintenance operations.

In order to improve the management and control of park and facility maintenance operations (e.g., ball diamond maintenance and mowing and trash removal services), the Department purchased a computerized maintenance management system, known as Maintstar, in August 2004. The system will cost approximately \$643,000 over a 15-year term.

Maintstar includes numerous features to help management make informed decisions for improving maintenance operations. However, our review disclosed that the Department was not effectively utilizing Maintstar's capabilities as intended. For example, our review disclosed that while the Department utilizes Maintstar's equipment

inventory management feature to record its equipment (e.g., type, description, and location), it does not use the other inventory management features to track equipment downtime, repairs and replacements. Our review also disclosed that the Department does not use other system capabilities, including scheduling and tracking preventive park and facility maintenance; scheduling and tracking labor resources; and controlling park maintenance supplies and materials.

Additionally, our review disclosed that the five park and facility maintenance shops did not follow the established written procedures (Business Rules) for Maintstar. For example, our review disclosed that the maintenance shops did not prepare and distribute system-generated work orders to maintenance crews at the beginning of the workday, as required. Further, certain essential information, such as assigned staff, equipment and supplies, is not recorded on the work orders in Maintstar, as required. Consequently, the Department did not have essential information needed to make informed decisions to improve park and facility maintenance operations.

We recommend that the Department effectively utilize the capabilities of Maintstar for its intended purpose of improving the management and control of park and facility maintenance operations. We also recommend that the Department ensure that the procedures for Maintstar are followed in order to assist management in making informed decisions for improving maintenance operations.

**Department Response:**

**The Department of Recreation and Parks' use of the computer maintenance management system (CMMS) is still in the early stages of use and implementation. The system was adapted to our needs and never was intended to utilize all the modules available in this system. The program consists of various modules. The modules chosen for our use were based on a study of our needs and an analysis of benefits vs. costs (O.I.T.).**

**The department does not track equipment down time or utilize the equipment**

**PM module as the Bureau of Equipment Operations and Maintenance is responsible for maintenance and repair of all county owned equipment and we do not see a need to duplicate this function.**

**With regard to the distribution of system generated work orders, we have adjusted the utilization of this feature to best meet our needs. We feel it is not necessary to produce numerous work orders for the same task. Example: A trash crew consisting of a Maintenance Specialist II and Maintenance Specialist I have the responsibility of visiting between 12 and 20 sites on any given day. The system generated work orders would print out a work order for all sites on separated pages resulting in a huge waste of paper. We have adjusted our procedures so that each crew receives a single print out of all sites on that day's assigned route and the crew leader has been assigned the responsibility to record time and materials used for each site listed.**

**As the department continues to utilize the maintenance management system we will continue to incorporate its use in the management of our maintenance operations. We have instituted a work group to review our procedures to help ensure consistency throughout our maintenance shops.**

2. The Department's inventory records of its park and facility maintenance equipment were incomplete, inaccurate, and unreliable.

Proper management controls require that adequate reporting systems for equipment inventory be established and maintained to help ensure efficient and effective operations. While the Department utilizes its computerized maintenance management system (Maintstar) to account for certain equipment (gas-powered equipment such as mowers and leaf blowers) used by its park and facility maintenance shops, our review disclosed that the Department has not established adequate controls over its equipment inventory, including proper recordation and tracking of equipment inventory. Further, the Department does not maintain sufficient supporting documentation for equipment inventory transactions (purchases, transfers/loans). Consequently, we found that the Department's equipment inventory records were incomplete, inaccurate, and unreliable. Specifically, our review disclosed the following:

- a. Hand and electric tools (e.g., rakes, shovels, power drills) were not recorded in Maintstar or separately recorded, tracked or inventoried by four of the five maintenance shops.
- b. Out of 19 equipment purchases reviewed, 11 (or 58%) were not properly recorded in Maintstar. Additionally, none of the equipment purchases valued at \$1,000 or more (i.e., 4 of the 19 purchases reviewed) were properly recorded in the County's fixed asset inventory as required by County policies.
- c. Out of 52 pieces of equipment selected for testing, 26 items (or 50%) were improperly classified in Maintstar and 17 items (or 33%) could not be physically identified. Specifically, 19 items were classified as "in-service" when they had been removed from service, 7 items were classified as "out-of-service" although they were physically located in shop inventory available for service, and 17 items could not be physically identified since visible identification numbers on all equipment on hand were missing or illegible due to poor condition (e.g., flaking paint, rust).
- d. New equipment was added to Maintstar through e-mail correspondence without supporting documentation and equipment transferred between or loaned to other maintenance shops was not always documented in writing or recorded in Maintstar.

We recommend that the Department establish adequate controls to ensure that its park and facility maintenance equipment inventory records are complete, accurate, and reliable. We further recommend that the Department perform a physical inventory of its park and facility

maintenance equipment to establish a baseline inventory to help ensure the completeness, accuracy and reliability of its equipment inventory and associated records.

**Department Response:**

The department is in the process of updating our inventory and has instituted procedures to ensure that all department personnel responsible for the fixed assets inventory are utilizing the proper fixed asset forms and documents. We have also adjusted our procedures to ensure that the proper documentation for new purchases are processed through the department's Account Clerk III to ensure that equipment is properly recorded.

Our method of recording and removing equipment from Maintstar is by email, however we have also included several forms to document changes made, to include forms used for adding and removing equipment from the fixed assets inventory.

With regard to equipment that was marked "Out Of Service" but was still in our shops inventory, this occurs when a piece of equipment has reached it's life expectancy and is marked "Out Of Service" by EOM. This equipment remains in our shop until that piece of equipment is replaced.

The audit found some inaccuracies in the equipment inventory. This was due in part to data that was imported into the Maintstar system from EOM not being up to date or inaccurate. Once it was recognized that inventory had several inaccuracies, both agencies have worked to correct these issues. Inventory for small equipment / hand tools are not currently recorded, however electrical tools in value of 300 dollars or more will be recorded on our inventory. We do record small hand tools as the amount of time it would take to track and record every shovel, rake, hammer would be extremely time consuming and would require additional personnel to manage. We are also currently in the process of completing our physical inventory of all equipment in all 5 of the maintenance shops.

3. Park and facility maintenance shop employees were allowed to use County-owned park and facility maintenance equipment for personal use.

The Baltimore County Code §4-3-301 prohibits the personal use of County-owned equipment. However, our review disclosed that park and facility maintenance shop employees were

permitted to utilize County-owned equipment (e.g., weed eaters, hedge trimmers, and other power equipment) for personal use. Using County-owned equipment for personal use limits equipment availability, which can result in lost productivity, and reduces the useful life of the equipment sooner than expected. The Department advised that allowing employees to use County-owned equipment for personal use helps reduce equipment theft.

We recommend that the Department establish a policy that prohibits the personal use of County-owned equipment in accordance with the Baltimore County Code. We further recommend that the Department establish procedures to properly control use of its equipment inventory.

**Department Response:**

**At the start of this audit it was revealed that several maintenance shops allowed employees to utilize County owned equipment for personal use. In keeping with Baltimore County code and policy, the department prohibits the personal use of County-owned equipment.**

## **Audit Scope, Objectives and Methodology**

We have audited the Department of Recreation and Parks' computerized maintenance management system, including its maintenance equipment inventory, as of July 18, 2006. The audit was conducted in accordance with generally accepted government auditing standards, except for the requirement of an external quality control review.

In accordance with the Baltimore County Charter, Section 311, the objectives of our audit were to review the Department's use of its computerized maintenance management system, including internal controls over its maintenance equipment inventory. In planning and conducting our audit, we focused on the park and facility computerized maintenance management system (Mainstar) and related inventory records based on assessments of materiality and risk.

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This report includes findings and recommendations relating to conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect the Department's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations.

## **APPENDIX B**

### **Auditor's Comments on Agency's Response**

## Appendix B

### **Auditor's Comments on Agency Response**

Our report cited the Department for not effectively utilizing the capabilities of its computerized maintenance management system for its intended purpose of improving the management and control of park and facility maintenance operations. Specifically, the report cites the Department for not effectively utilizing certain system capabilities and for not fully implementing the remaining system capabilities. The Department's response states that it will implement only those features needed by the Department as identified in its feasibility study for the system. However, many of the system capabilities the Department was not using were among the modules identified for use in the referenced study. For example, as noted in our report, the Department was not using the system for tracking equipment down time, scheduling and tracking park maintenance, and scheduling and tracking labor resources, which are features included in the study as modules the Department should use.

The Department's response further states that it never intended to utilize all of the system capabilities purchased. We believe the Department should utilize all capabilities to realize the full value of this \$643,000 resource, which was obtained to improve management of the park and facility maintenance operation.

We continue to recommend that the Department effectively utilize the capabilities of Maintstar for its intended purpose.