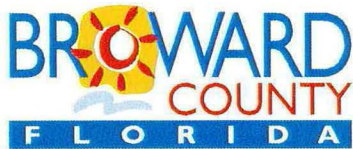Exhibit 1

Follow-Up Review of Audit of Tax Deed Sales Information Technology

Office of the County Auditor

Robert Melton, CPA, CIA, CFE, CIG
County Auditor

Review Conducted by:
Gerard A. Boucaud, CIA, CISA, Audit Manager
Muhammad Ramjohn, CISA, Information Technology Auditor

Report No. 19-24
September 30, 2019

September 30, 2019

Honorable Mayor and Board of County Commissioners

We have conducted a follow-up review of the Audit of Tax Deed Sales Information Technology. The objective of our review was to determine the implementation status of our previous recommendations.

We conclude that 14 previous recommendations were implemented, four previous recommendations were partially implemented, and one previous recommendation was not implemented. **We commend** management for implementing 14 recommendations and encourage management to complete the four partially implemented recommendations and the one recommendation not yet implemented.

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

We appreciate the cooperation and assistance provided by the staff of the Record, Taxes, and Treasury Division throughout our review process.

Respectfully submitted,

Bob Melton
County Auditor

cc: Bertha Henry, County Administrator
       Andrew Meyers, County Attorney
       George Tablack, Chief Financial Officer
       John Bruno, Chief Information Officer
       Thomas Kennedy, Director, Records, Taxes and Treasury

TABLE OF CONTENT

INTRODUCTION

Scope and Methodology

The County Auditor's Office conducts audits of Broward County's entities, programs, activities, and contractors to provide the Board of County Commissioners, Broward County's residents, County management, and other stakeholders unbiased, timely, and relevant information for use in promoting government accountability and stewardship and improving government operations.

We conducted a follow-up review of the Audit of Tax Deed Sales Information Technology (Report No. 18-23). The purpose of our follow-up was to determine the status of previous recommendations for improvement.

The objectives of the original audit were:

1. To determine whether information technology general controls are adequate for the TaxSys and Deed Auction applications

2. To determine whether the applications adequately support the tax deed sales business process, and

3. To determine whether any opportunities for improvement exist.

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

Our follow-up review included such tests of records and other auditing procedures, as we considered necessary in the circumstances. The follow-up testing was performed for the period July 1, 2019 to September 30, 2019. However, transactions, processes, and situations reviewed were not limited by the review period.

Overall Conclusion

We conclude that 14 previous recommendations were implemented, four previous recommendations were partially implemented, and one previous recommendation was not implemented. **We commend** management for implementing 14 recommendations and

encourage management to complete the four partially implemented recommendations and the one recommendation not yet implemented.

Background

The Tax Deed section is part of the Records, Taxes and Treasury Division (RTT). The Tax Deed section accepts payments for delinquent taxes, handles the redemption of tax certificates, performs the pre-auction activities necessary to bring properties to auction, and processes payment of claims and other disbursements resulting from the sale of the properties.

Tax deed auctions are conducted in accordance with Chapter 197.502, Florida Statutes: "The holder of a tax certificate, at any time after two years have elapsed since April 1 of the year of issuance of the tax certificate and before the cancellation of the certificate, may file the certificate and an application for a tax deed with the tax collector of the county where the property described in the certificate is located".

In June 2008, Broward County contracted with Grant Street Group, Inc. (GSG) to provide a Tax and License Collection and Distribution System (TaxSys) to automate aspects of the tax certificate and tax deed application process. The application is provided as a vendor-hosted, software as a service (SaaS), web based solution. SaaS is a software delivery method where Broward County essentially leases the right to use TaxSys from GSG.

As the SaaS provider, GSG hosts both the TaxSys software and the County's tax and license data at a remote site. RTT staff access TaxSys using an internet browser and are able to use the system to conduct the daily business activities. GSG has complete access and control of the TaxSys infrastructure (web servers, firewalls, database servers, and the GSG network), application programs, and County data. Broward County personnel are responsible for authorizing employee access to the application, entering tax and property data, and processing transactions.

TaxSys is used by other Florida tax collectors including; Pinellas County, Miami-Dade County, Monroe County, and Brevard County. GSG provides application maintenance and support for TaxSys and all the associated applications. Application maintenance and support includes application upgrades, updates, patches, coding, and data backups. Application modifications requested by one tax collector can be implemented for all users.

RTT uses other applications provided by GSG, associated with TaxSys, to carry out other day to day department operations such as:

- ❖ Escrow Process – Escrow payment processing online application.
- ❖ BTExpress – Online business tax applications for taxpayers.

❖ Payment Express – Electronic payment processing.

❖ Lien Auction – Online tax certificate sales.

❖ Lien Express – Online County-held certificate sales.

❖ Deed Express – Online tax deed applications.

❖ Title Express – Automated title search ordering and delivery.

❖ Deed Auction – Online tax deed sales.

These additional applications function as attached modules that integrate with TaxSys. TaxSys receives data from the additional applications and centralizes the information for the users of the system to carry out their day to day functions. While the applications have the ability to integrate with TaxSys, each application is ancillary and require some form of independent maintenance. Our audit focuses on the TaxSys application and the associated Deed Auction application used to manage the tax deed sales process.

RTT has an Information Technology (IT) Automation team to maintain user administration processes for TaxSys, reports, and data management. RTT utilizes a ticketing system to manage and report incidents related to maintaining application security, and availability. Broward County and GSG have established a Service Level Agreement (SLA) outlining system performance and availability requirements for TaxSys and associated applications.

OPPORTUNITIES FOR IMPROVEMENT

This section report actions taken by management on the findings in our previous review. The issues and recommendations herein are those of the original review, followed by the current status of the recommendations.

1. **Access to County Tax Data Should be Restricted Based on Job Responsibilities and Segregation of Duties to Prevent Unauthorized Activity.**

During our review of access to data and transactions within the TaxSys and Deed Auction applications, we noted the following concerns:

A. Nine of 11 (82%) Deed Auction administrators are also operational users performing day to day transactions. This combination of access allows these users to bypass application controls and represents a segregation of duties conflict. As a result, inappropriate activities could occur without timely detection. Application administration functions should be performed by the IT staff rather than operational user staff.

B. Three of 24 (13%) roles sampled within TaxSys to which users can be assigned provided more access than required for the performance of job responsibilities increasing the risk of inappropriate activity. Roles should be designed to grant access based on job responsibilities as required by the County's IT Administration policy. As a result, inappropriate activities could occur.

C. Six of 19 (32%) terminated employee accounts within the TaxSys application were not disabled within one day of termination from Broward County. One of the six (7%) terminated employee accounts showed activity on the TaxSys application up to three days after the termination date. It took an average of 45 days to disable sampled terminated employee accounts with values ranging from three to 220 days. In addition, one employee retained access to the Deed Auction application for approximately one year after their transfer to another section within the department where access to the application was no longer required.

User administration procedures are not consistently followed contributing to the delay. It is an industry standard to remove or disable user accounts immediately upon termination or transfer. Allowing terminated or transferred employee accounts to remain enabled after the access is no longer required increases the risk of unauthorized or inappropriate access to tax data.

D. Annual reviews of user access to TaxSys and Deed Auction are not performed. A review is initiated by the IT Automation Group for the TaxSys application; however, four of five (80%) RTT Managers did not respond to the request for review. Management has not implemented a process to periodically review user access to the Deed Auction application. Chapter 3, Section 4.1 of the Broward County IT Administration Policy requires that all user access rights be reviewed for accuracy by the agency and the data owner to determine if the access rights are correct or must be revised or revoked. Management has not implemented procedures to ensure that managers respond timely to the review request for TaxSys and have not implemented a review for Deed Auction.

Failure to periodically review access to County systems may allow employees to retain inappropriate access after a change in job function, termination from Broward County, functional or security changes to applications, and organization structural changes.

E. RTT has a formal process for requesting, removing, and modifying user access to TaxSys; however, this process is not consistently followed. We noted that:

   i. Five of nine (56%) of new users were setup on the system during the audit period without the required user access request form.

   ii. Eight of 19 (42%) terminated employee accounts selected were disabled or removed from TaxSys without the required user access request form.

User access requests are made via email increasing the risk of unauthorized or inappropriate access. Established user administration procedures should be followed to document the level of access an employee is authorized to have as well as management's approval of that access.

We recommended management:

A. Restrict business users from performing application administration functions within Deed Auction. Application administration functions should be performed by IT Staff.

B. Review the roles and permissions assigned to TaxSys users to ensure access is appropriately restricted based on job responsibilities and segregation of duties are enforced.

C. Ensure appropriate procedures are in place to remove or disable employee accounts from TaxSys and Deed Auction immediately upon employee termination or transfer.

D. Implement procedures to ensure that managers respond timely to the request for review of user access to the TaxSys and implement procedures to review user access for Deed Auction at least annually. Management should ensure that any group roles to which users are assigned within TaxSys or Deed Auction are also reviewed at least annually.

E. Ensure formal procedures for requesting, removing, and modifying user access to TaxSys and Deed Auction using access request forms are established and consistently followed.

Status:

A. **Implemented.**

B. **Not Implemented.** We noted 3 of 5 roles sampled within TaxSys to which users can be assigned provided more access than required for the performance of job responsibilities increasing the risk of inappropriate activity. Management asserts that there are sufficient operational controls are in place to mitigate the risk of excessive system access and has not modified the roles. **We again recommend** management review the roles and permissions assigned to TaxSys users to ensure access is appropriately restricted based on job responsibilities and segregation of duties.

C. **Implemented.**

D. **Implemented.**

E. **Implemented.**

2. System Password Requirements Should be Enhanced to Prevent Unauthorized Access.

Passwords represent the digital keys to County systems. We noted the following concerns:

A. Password configurations for TaxSys do not comply with County policy. Passwords do not meet the password expiration, password history, and password complexity required by Broward County Acceptable Use Policy, Volume 7: ETS Chapter 2, Section 5.

B. Password configurations for Deed Auction do not comply with County policy. Passwords do not meet the password expiration, password history, password length, password complexity requirements as outlined in Broward County Acceptable Use Policy, Volume 7: ETS Chapter 2, Section 5.

Password settings that are not configured to the latest security standards, increase the risk of unauthorized or inappropriate access. Reasonable requirements should be in effect to minimize the possibility of inappropriate access.

We recommended management work with Grant Street Group, Inc. to update the password configuration for TaxSys and Deed Auction to meet or exceed County policy.

Status:

Partially Implemented. Management has worked with GSG to update the password configuration for the TaxSys application; however, the password configuration for the Deed Auction application has not been updated to meet the minimum County password policy. **We again recommend** management work with GSG to configure the Deed Auction application to meet minimum County password policy.

3. Physical Access Controls Should be Enhanced to Restrict and Monitor Access to Sensitive Areas.

Physical access controls need improvement. During our review of physical access controls, we noted the following specific concerns:

A. RTT does not have a formal process for authorizing physical access to secure areas within the agency. A formal process helps to ensure a consistent approach to granting physical access. Without such, inappropriate physical access could be inadvertantly granted.

B. The division is not equipped with electronic badge access, and RTT utilizes combination door locks for gaining access to secure areas. Management has not implemented appropriate procedures to periodically change combination locks. We noted one section has not changed the door lock combination in the last five years.

Access to secure areas should be limited to authorized personnel. Without an electronic badge access system, management is unable to adequately control or monitor access to secure areas.

We recommended management:

A. Develop and implement a formal process for authorizing physical access to secure areas within the agency.

B. Evaluate the use of electronic badge access to secure sensitive areas and maintain appropriate access controls.   If combination locks are used, management should implement procedures to periodically change combination locks.

Status:

A. **Implemented.**

B. **Implemented.** Management has evaluated and installed electronic access badge equipment; however, it has not been activated in all secure areas. We encourage management to continue the process of activating electronic badge access to all secure areas.

4. Releases and Updates to TaxSys and Deed Auction Should be Formally Reviewed by Management.

Management has not implemented a formal process to review releases and updates provided by GSG. Management relies on GSG to provide and install releases and updates for TaxSys and Deed Auction. These releases and updates often include changes requested by other GSG clients outside of Broward County and may negatively affect RTT's transaction processing and data. Changes made to externally hosted systems should be reviewed and approved by management.

We recommended management implement a formal process to review and approve releases and updates provided by GSG.

Status:

Implemented. Management has implemented a process to review and approve releases and updates provided by GSG; however, management should document the review as evidence of their due diligence.

5. Reported Incidents Should be Resolved Timely and Classified according to the Service Level Agreement Guidelines.

During our review of incident management procedures, we noted the following concerns:

A. Reported incidents are not resolved timely. Ten of 60 (17%) reported incidents were unresolved as of December 18, 2017. Of the ten reported incidents, 80% were issues reported by Broward County and 20% were issues reported by GSG, Inc. with the average incident ticket open for 219 days with a range of 116 to 332 days. Reported incidents should be resolved timely. Failure to resolve incidents timely may affect agency transactions and data.

B. Management does not classify reported incidents according to the Service Level Agreement (SLA) guidelines. Currently, the SLA classifies reported incidents severity as level 1, 2, 3 and 4, with level 1 being the most critical. Additionally, each open level 1 incident is eligible for a $2000 per day vendor reimbursement, while each level 2 incident is eligible for a $1000 per day vendor reimbursement. For example, one critical incident ticket was open for 186 days with an estimated potential reimbursement of $186,000 to $372,000 dollars if it met the criteria for level 1 or 2 within the SLA. Without appropriate classification of incidents, management may not be able to claim reimbursement for open incident tickets as allowed by the SLA.

C. Broward County's reported Incidents and other communiction using the ticketing system with Grant Street Group, Inc. are available to be viewed by all Grant Street Group, Inc. clients which may inadvertantly expose sensitive information. The ticketing system should be configured to limit each client's access to only their information.

We recommended management:

A. Ensure procedures are in place to periodically follow up on, and resolve reported incidents.

B. Classify reported incidents and monitor for reimbursement of unresolved tickets according to the SLA guidelines.

C. Work with GSG on restricting access to Broward County incidents to only authorized Broward County individuals. Until this issue is resolved, management should ensure that sensitive information is not transmitted using the ticketing system.

Status:

A. **Partially Implemented.** Management has documented procedures to periodically follow up on, and resolve reported incidents; however, we noted 90 open low priority tickets as of September 27, 2019. We randomly selected five tickets and noted two tickets were last updated over one year ago. While these tickets are low priority, management should continue to work with GSG to resolve tickets timely.

B. **Implemented.**

C. **Implemented.**   Management has implemented procedures to ensure sensitive information is not communicated using the ticketing system.

6. The Continuity of Operations Plan (COOP) and Backup Restoration Procedures Should be Tested Annually.

Management has a documented Continuity of Operations Plan for TaxSys and Deed Auction; however, the plan has not been tested in the last four fiscal years to ensure the agency's ability to function in the event of a system outage or a disaster. Management should ensure that procedures are in place to continue operations, as needed, if TaxSys or Deed Auction are temporarily unavailable. Without conducting annual tests of the Continuity of Operations Plan, management is unable to determine whether the current plan for TaxSys and Deed Auction are adequate.

We recommended management test the Continuity of Operations Plan annually.

Status:

Implemented.

7. Application Logs Should be Periodically Reviewed to Identify Unusual Activity.

Management does not perform a review of application logs to identify and follow-up on discrepancies identified. The TaxSys application has logging enabled; however, management has not implemented a process to periodically review the logs in order to obtain timely notification of inappropriate or unauthorized activity. Without a periodic review of application logs, management does not have timely notification of inappropriate or unauthorized activity.

We recommended management implement procedures to periodically review logs for the TaxSys and Deed Auction applications. In addition, we recommended that management document the review as evidence of their due diligence.

Status:

Partially Implemented. Management has documented procedures to periodically review logs for TaxSys and Deed Auction applications; however, while log reviews have been performed for the TaxSys application, management is still working with GSG to finalize logs that can be used to facilitate management's review of activity on the Deed Auction application. We encourage management to continue their efforts to review logs for the Deed Auction application and ensure that log reviews are documented in order to demonstrate management's due diligence.

8. Management Should Evaluate Vendor Performance Against Contract Requirements.

Management has not implemented procedures to evaluate vendor performance against contract requirements. Broward County IT Administration Policy Volume 7: Chapter 3, Section 13.2 requires the contract administrators to ensure that contracted services are adequately delivered as defined in the agreement. Without monitoring vendor performance, management may not be aware of whether the minimum guaranteed level of services under the contract are being delivered.

We recommended management implement procedures to evaluate vendor performance against contract requirements.

Status:

Partially Implemented. Management has documented procedures to review vendor performance; however, the dashboard created by GSG only records 24 hours of history which

does not yet allow management to efficiently review performance metrics over a sufficient period of time to facilitate comparison against contract requirements. We encourage management to continue to work with GSG to further develop a tool that can facilitate performance reviews.

9. Information Entrusted to Vendors Should be Adequately Protected.

A Service Organization Controls (SOC 2) report exists for vendor controls over Broward County data; however, the report covers how the controls are designed (Type I), but does not include a determination of whether controls over the security, availability, processing integrity, and confidentiality of the County's data were operating effectively (Type II) over a period of time. These reports play an important role in:

- ❖ Vendor oversight
- ❖ Vendor management programs
- ❖ Internal County governance and risk management processes
- ❖ Regulatory oversight

Although management has outsourced specific functions to GSG, management has a responsibility over the data entrusted to this vendor and is required to ensure that the data is adequately protected. Without a SOC report that determines whether vendor controls were operating effectively, management is unable to gain assurance over the security, availability, processing integrity, confidentiality, and privacy of the County's data managed by GSG.

We recommended management obtain a SOC 2, Type II report from GSG to gain assurance over the security, availability, processing integrity, and confidentiality of the County's data.

Status:

Implemented.