CITY OF SAN ANTONIO

OFFICE OF THE CITY AUDITOR

Audit of Development Services Department

Accela Land Development, Permit, Inspection,
and Compliance Management System

Project No. AU19-010

May 7, 2020

Kevin W. Barthold, CPA, CIA, CISA
City Auditor

Executive Summary

As part of our annual Audit Plan approved by City Council, we conducted an audit of the Development Services Department (DSD), specifically the Accela system. The audit objective, conclusions, and recommendations follow:

Determine if application controls for the Accela system are adequate and data is accurate and reliable.

The Accela system is working as intended by providing a more efficient and effective way for citizens to access City services and pay for those services in a secure manner. We determined that DSD has established policies and procedures to manage password requirements, data entry, change management, interface processing, and server security.

However, there are opportunities to strengthen the controls associated with user access, segregation of duties, and revenue account reconciliations.

We recommend that Management:
- Strengthen user access controls for the Accela system.
- Ensure appropriate segregation of duties exist between the Accela development and production environments.
- Establish and document an appropriate method to ensure a reconciliation of revenue is occurring between Accela and SAP on a monthly basis.

DSD Management agreed with the audit recommendations and have developed positive action plans to address them. Management's verbatim response is in Appendix B on page 7.

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Background

The Development Services Department (DSD) is responsible for coordinating land and building development throughout the City. In partnership with other City departments, DSD helps homeowners, business owners, and those in the commercial industry plan and execute development projects.

For years, DSD has utilized disparate systems to deliver permit, inspection, land development and code enforcement services to their customers. These systems became outdated and were unable to easily adapt to DSD's changing business needs. In 2012, a business need to replace the outdated systems was identified and BuildSA formally initiated. BuildSA is the designated name of the project or software system that will either replace or integrate with many of the systems used today by DSD. The provider or vendor of the system is Accela. A few examples of the current systems utilized by DSD are:
- Hansen – Building Development (permits, inspections, business licenses)
- ECCO (Enhanced Code Compliance Operations) – Code Enforcement (business licenses, property maintenance cases)
- LDS (Land Development System) – Land Development applications
- MARR (Municipal Accounts Receipts and Receivables) – Invoicing and payments for above systems

BuildSA is a web-based solution with workflow capabilities that will allow DSD and partnering agencies to review, markup and comment on documents, eliminating the need for paperwork that typically accompanies paper-based reviews. Customers seeking to build, develop or improve property in the City will have access to new capabilities and will be introduced to new ways of submitting applications, making payments and interacting with City and partnering agency staff.

Due to the complexity of DSD business and the amount of resources required to deploy a system like this, the project was divided into two phases that follow the development process:
- Phase 1 includes activities associated with horizontal development such as zoning, platting and construction inspections (Land Development). Phase 1 was implemented on October 1, 2018.
- Phase 2 is for activities associated with horizontal construction, such as plan review, permitting, inspections, building-related fire permits and includes code enforcement activities (Building Development & Code Enforcement). Phase 2 will be fully implemented by December 2020.

Audit Scope and Methodology

The audit scope was from October 1, 2018 through August 20, 2019.

To establish our test criteria, we reviewed DSD and ITSD policies and procedures, system documentation, and process flow charts. We interviewed DSD and ITSD management and staff to gain an understanding of the Accela system and infrastructure. Additionally, we reviewed the financial data generated out of Accela.

As part of our testing procedures, we examined the following areas.
- User Access
- Password Settings
- Incident Management
- Change Management
- Backup and Recovery
- Interface Processing
- Input/Edit Data Entry
- Performance Measures
- Revenue Collection
- Refund Processing

We relied on computer-processed data in SAP, the City's accounting system, to verify Accela refund payments were accurate. Our reliance was based on performing direct tests on the data rather than evaluating the system's general and application controls. We do not believe that the absence of testing general and application controls had an effect on the results of our audit.

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 conclusions 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.

Audit Results and Recommendations

A. User Access Controls

Controls over privileged and general user access to the Accela system including how users are added and removed are not consistently applied. Specifically, we identified an excessive number of users with privileged (system administrator) access, user access granted without proper authorization, and user access reviews not being performed.

Currently, of 298 Accela active user accounts, 28 accounts have system administrator access which allows them to make major changes to a system and bypass certain security constraints. Additionally, two of the 28 administrator accounts are former employees, one account has not logged on in over 90 days, and one account has never been used.

We identified five active user accounts assigned to withdrawn employees, four user accounts that were not deactivated timely, and 19 user accounts that have been inactive for over 180 days.

We reviewed a sample of 12 new user access requests and determined that nine new user requests lacked proper approvals and three were granted roles that did not match the request.

Finally, we reviewed users who had permissions to process a refund in Accela. We identified 66 employees with the 'DSD Lead' role who have permissions to process a refund within Accela's workflow. Out of the 66 employees, only eight are Finance Administrators that should have permissions to process a refund.

Administrative Directive (AD) 7-8D Access Control states that access permissions will use the principle of least privilege. Additionally, access to COSA IT assets must be disabled upon separation of the employee. Finally, all COSA Information Systems must be periodically screened for inactive accounts.

During the implementation of the Accela system, a Security Plan was created and adopted to ensure security elements and vulnerabilities are evaluated. The Security Plan requires that in order to gain access to the Accela production system, all users must complete, sign and obtain the department approvals on the Accela Production User Access Request Form. Furthermore, user access to the system is to be reviewed and re-approved quarterly by the DSD Administrator and the ITSD Application Security Administration Team.

User access controls are designed to restrict and detect inappropriate access to computer systems. Effective access controls protect the City's systems from

unauthorized access, modification of data, and inappropriate disclosure of information.

A lack of controls for user access increases the risk of unauthorized users, inappropriate access and/or unauthorized modification of data.

Recommendation

Management should strengthen user access controls for the Accela system by:

1. Restricting privileged access to authorized and appropriate individuals.
2. Performing periodic reviews of access to ensure that all (privileged and general) user access is appropriate.
3. Enforcing the documented process for handling new user access.
4. Creating additional roles with limited permissions.

B. Segregation of Duties

Accela change management duties are not properly segregated. The two developers for the Accela system have inappropriate access to edit data in the production environment.

A fundamental element of internal control is the segregation of certain key duties. Key duties in change management include developing or modifying the system code in the development environment, reviewing and approving the modification, testing and quality assurance, and deploying the modified code to the production environment.

Segregation of duties is the process of segregating work responsibilities to help ensure critical stages of a process is not under the control of a single individual. The City's Administrative Directive 7.8D-Access Control requires, where technically feasible and appropriate, that segregation of duties be enforced with access controls.

When an inadequate segregation of duties exists, an employee has the ability to conceal errors and/or conduct fraudulent activities.

Recommendation

Management should ensure appropriate segregation of duties exist between the Accela development and production environments.

C. Revenue Account Reconciliations

DSD Fiscal does not have a process to reconcile revenue reported in the Accela system to the City's financial reporting system, SAP.

Customers utilize Accela to make payments for land and building improvement applications. Revenue reported in Accela from October 1, 2018 through September 30, 2019 totaled $3,780,269.09. For the same period, revenue reported in SAP for Land Development was $3,748,872.71.

According to DSD Fiscal, attempts at completing a reconciliation to trace Accela sales back to SAP have been unsuccessful.

Administrative Directive 8.4 *Financial Management of Accounts Receivable* states that all individual customer accounts and subsidiary records shall be reviewed and reconciled on a monthly basis to the financial records of the City. This reconciliation process shall be reviewed and signed off by a supervisor.

Without appropriate and routine reconciliations, the City risks misappropriation of revenue and incorrect general ledger allocations.

Recommendation

Management should establish and document an appropriate method to ensure a reconciliation of revenue is occurring between Accela and SAP on a monthly basis. Additionally, the reconciliation should be reviewed and approved by appropriate supervisor.

Appendix A – Staff Acknowledgement

Gabe Trevino, CISA, Audit Manager
Holly Williams, CISA, CRISC, Auditor in Charge
Denise Trejo, Auditor

Appendix B – Management Response

CITY OF SAN ANTONIO

SAN ANTONIO TEXAS 78283-3966

April 22, 2020

Kevin W. Barthold, CPA, CIA, CISA
City Auditor
San Antonio, Texas

RE: Management's Corrective Action Plan for BuildSA.

Development Services Department (DSD) has reviewed the audit report and developed the Corrective Action Plans below corresponding to report recommendations.

#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
	Recommendation				
1	**User Access Controls**	4			
	1. Restricting privileged access to authorized and appropriate individuals.		Accept	User Account Management (UAM) - Larry Odis (DSD) Tier 0/Tier 1 Support - Eric delaGarza (ITSD)	2/20/2020 and on going
	2. Performing periodic reviews of access to ensure that all (privileged and general) user access is appropriate.		Accept	System Security Control Monitor (SSCM) Sivaji Vemu (ITSD)	03/02/2020 and on going

		Recommendation			
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
3. Enforcing the documented process for handling new user access.			Accept	User Account Management - Larry Odis (DSD) Tier 0/Tier 1 Support - Eric delaGarza (ITSD)	02/20/2020 and on going
4. Creating additional roles with limited permissions.			Accept	User Account Management - Larry Odis (ITSD) Tier 0/Tier 1 Support - Eric delaGarza (ITSD)	02/20/2020 and on going

Action plan:

Per the System Security Plan developed for the BuildSA application, user access will be reviewed and validated quarterly by the "User Account Management" (UAM) and "System Security Control Monitor" (SSCM).

"Tier 0/Tier 1 Support" (TTS) will initiate the review by generating and distributing a report containing all User IDs and associated level of access granted to the BuildSA application ("Accela Internal Users" report).

The UAM will review the report and recommend account deactivations based on last logon date. For active users, the UAM and designees must jointly review each user account under his or her area of responsibility for appropriateness, ensuring that individual user access is granted to only the necessary resources required to perform his or her job responsibilities. Modifications to user access will be documented through the "Accela Access Request Form" (available on FormsNet). Access for any persons beyond that which is required to perform a person's job function will be rendered unauthorized and removed by the UAM or TTS.

Access to Accela for new users follows the established process to document access requests through the "Accela Access Request Form." Once completed and signed, the form is scanned and attached to a Remedy ticket.

As needed, the UAM and TTS will work together to create additional roles, following the established support framework (e.g. creation of a Jira ticket to track the request).

			Recommendation		
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
2	**Segregation of Duties** Management should ensure appropriate segregation of duties across all BuildSA environments.	4	Accept	Tier 0/Tier 1 Support - Eric delaGarza (ITSD)	Jan 2021
	Action plan: During December 2020, the final delivery for Release II development work will be implemented. At this time, two developers will transition into production support roles for the BuildSA application. This will increase the TTS's ability to exercise proper change management procedures such as: 1. Code developed by a team member is tested by another team member. 2. Prior to implementation, quality assurance is performed on developed code by a team member other than the person who developed the code. 3. Code changes to the application are implemented in the Production environment by a team member other than the person who developed the code.				
3	**Revenue Account Reconciliations** Management should establish and document an appropriate method to ensure a reconciliation of revenue is occurring between Accela and SAP on a monthly basis. Additionally, the reconciliation should be reviewed and approved by appropriate supervisor.	5	Accept	Liliana Martinez (ITSD Business Objects Supervisor), Olga Bennett (Sr. IT Mgr), Veronica Castro (DSD DFA)	No later than December 2020

	Recommendation				
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date

Action plan:

A team, consisting of members from DSD and ITSD, is working collaboratively to develop a monthly reconciliation report to summarize the revenue amounts in Accela, Activenet (Point of Sale), and SAP. The methodology for reports across systems will be reviewed to ensure that it is consistent across systems (for example, same window of time is captured across the three systems). Due to complexity and anticipation of various iterations needed to finalize report, it is anticipated that a dashboard will be available by September 2020 which helps to summarize the amounts in Accela, Activenet (Point of Sale), and SAP. This timeframe for completing the dashboard is set for a date prior to launch of Code Enforcement (launches at end of September 2020) or Plan Review and Inspections activities (go live by November 2020) which will substantially increase the amount of revenue and records that are processed through Accela. A reconciliation report applying similar methodology will be created for the additional activities scheduled to go live before end of 2020.

DSD's Department Fiscal Administrator (DFA) will review the reconciliation report on a monthly basis. The monthly reconciliation report will be presented to the Director at the Monthly Budget Meeting.

In the interim, DSD's DFA will ensure that the DSD Fiscal Unit obtains reports from Accela and Activenet on a weekly basis to perform a reconciliation. These actions will ensure that any outstanding items are cleared in order to validate that the revenue is complete and accurate.

We are committed to addressing the recommendations in the audit report and the plan of actions presented above.

Sincerely,

Michael Shannon
Director
Development Services Department

Date 4/22/2020

Roderick Sanchez
Assistant City Manager
City Manager's Office

Date 4-23-20