



Calgary

City Auditor's Office

Facility Management: Lifecycle Investment Management Audit

October 13, 2022

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The City Auditor's Office conducted this audit in conformance with the *International Standards for the Professional Practice of Internal Auditing*.

Executive Summary

The City of Calgary's (The City's) Facility Management (FM) Business Unit managed 501 city-owned facilities with 4.3 million square feet and approximately \$2.2B in replacement value on December 31, 2021. The City's 2022 Corporate Asset Management Plan reported 15% of buildings were in poor and critical condition and 20% of buildings were in medium-high to high-risk exposure, calculated by multiplying the likelihood by the consequence of a facility failure. FM estimated they would need a capital sustainment budget of \$100M per year to maintain this same level of risk.

FM's Investment Management (IM) division informs capital and investment decision-making and supports facility sustainment by providing accurate and proactive information, analysis, and advice. In an environment where there are capital budget constraints, effective processes to manage and prioritize lifecycle investments are critical to mitigate the risks associated with facilities in poor and critical condition that could become unsafe for City staff and the public and lead to service loss or disruption.

The objective of this audit was to assess the effectiveness of processes to manage facility lifecycle costs and investments to mitigate safety risks and support service delivery. Specifically, we reviewed controls over the accuracy and integrity of building condition data used to inform lifecycle management decisions and processes to prioritize lifecycle investments, including FM's Risk Framework to identify critical assets and prioritization criteria.

Based on our testing, we concluded FM has made significant progress in designing a robust Risk Framework to support evidence-based lifecycle investment decision making. FM designed an effective Risk Framework that incorporated failure models and likelihood and impact variables based on industry standards. FM also effectively designed Risk Framework thresholds and prioritization criteria, which were configured into their asset investment optimization software.

However, we noted asset data could not be fully relied on to provide accurate and complete building condition information to support lifecycle cost prioritization. Between 2018 and 2021, FM added 406 facilities to their portfolio through the Corporate Coordinated Operations and Maintenance Program (CCOM). The objective of the CCOM program, which is ongoing, was to facilitate a coordinated and corporate wide approach to the operations and maintenance, risk management, harmonization of processes and standardization of data for facilities. Many facilities onboarded through CCOM did not have complete and accurate asset data or a Building Condition Assessment¹. IM was aware of data quality concerns and updated asset data with information available and focused on assets in poor or critical condition. IM also implemented a manual reconciliation process to verify asset data on the prioritized lifecycle investment list to mitigate the risk of unreliable data.

Given the continued growth in the number of facilities in FM's portfolio, improving the accuracy and completeness of asset data will take time. We identified improvements in two key areas that will reduce the risk of incomplete and/or inaccurate asset data and support the efficiency and effectiveness of lifecycle cost and investment prioritization:

1. Improve data reliability through implementation of a long-term plan that leverages Building Condition Assessments, and an interim risk-based process focused on updating key fields for assets in poor and critical condition; and

¹ FM engages engineering consultants to perform Building Condition Assessments, which provide a picture of the condition of generalized components or systems in a building at a point in time.

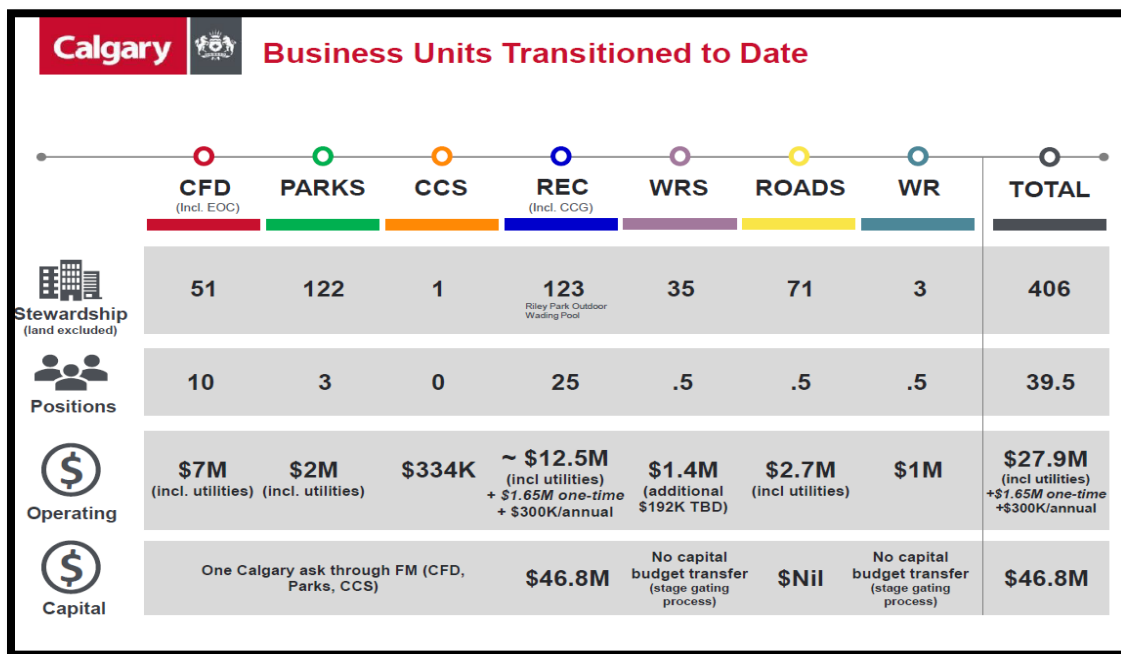
2. Mitigate the risk of data errors and omissions associated with the manual reconciliation process by implementing additional controls such as audit trails.

IM agreed to all five recommendations and committed to implementing action plans no later than December 31, 2023. The City Auditor's Office will monitor the status of commitments as part of its ongoing recommendation follow-up process.

1.0 Background

The City’s Facility Management (FM) Business Unit manages 501 city-owned facilities with 4.3 million square feet and approximately \$2.2B in replacement value². In 2021, FM’s budget was approximately \$65M in maintenance and operations and approximately \$83M in capital on its facilities³. FM plans, builds, and operates The City’s civic facility portfolio of workplaces and civic spaces.

Historically, a number of City business units have been responsible for their own facility management. FM is responsible for the Corporate Coordinated Operations and Maintenance Program (CCOM), which, as approved by Executive leadership Team, has the objective of transitioning the management of facilities from ten City business units to FM. Through CCOM, FM transitioned facilities from seven of ten planned business units as of December 31, 2021, resulting in a significant increase in FM’s facility portfolio as noted in the diagram below.



Investment Management (IM), one of FM’s divisions, informs and supports facility sustainment and investment decisions by providing accurate and proactive information, analysis, and advice to support informed capital and investment decision-making.

IM has been using Infor EAM⁴ as its asset repository since 2018 to standardize the format and process of recording asset information for their portfolio of assets. FM updates asset condition information based on historical data, completed projects and Building Condition Assessments (BCA). IM contracts third party vendors to conduct approximately 130 BCA every year as part of asset management activities and aims to have a BCA completed for each facility every five years.

IM uses asset investment optimization software (PowerPlan) to develop and maintain the capital and lifecycle budget and inform facility investments and lifecycle needs. Data from Infor EAM is uploaded

² Corporate properties/buildings managed- City of Calgary website.

³ One Calgary 2019-2022 Service Plans and Budgets- City of Calgary website.

⁴ Computerized system to record assets, condition and maintenance.

to PowerPlan, which uses a Risk Framework to optimize risk and generate a listing of assets in critical condition for action within available budget.

The City's 2022 Corporate Asset Management Plan (AMP) calculated risk exposure by multiplying the likelihood by the consequence of a facility failure. The 2022 AMP reported 20% of buildings are in medium-high to high-risk exposure and 15% of buildings are in poor and critical condition. FM estimates in the AMP that they will need a capital sustainment budget of \$100M per year to maintain this same level of risk.

In 2017, we audited the Corporate Structures List , which is a tool that provides a foundation for managing The City's facility portfolio at a corporate level by recording what structures The City owns and maintains. The 2017 audit recommended FM formalize definitions of structures and standardize data attributes to be collected to enhance management of The City's facility portfolio at a corporate level. The current audit, focused on lifecycle investment management , was included on the 2022 audit plan as a continuation of our review of City asset management given the significance of FM's facility portfolio and risks associated with facilities in poor or critical condition. Effective lifecycle cost management and investment mitigates the risk that facilities could become unsafe for City staff and the public, disrupt service delivery, and impact City finances.

2.0 Audit Objective, Scope and Approach

2.1 Audit Objective

The objective of this audit was to assess the effectiveness of processes to manage facility lifecycle costs and investments to mitigate safety risks and support service delivery. The objective was achieved by reviewing the design and operating effectiveness of FM's processes and controls to manage lifecycle costs. Specifically, we reviewed:

- Controls over the accuracy and integrity of building condition data in Infor EAM used to inform lifecycle management decisions; and
- Processes to prioritize lifecycle investments in PowerPlan including:
 - Risk framework to identify critical assets and probability of failure, injury and service disruption;
 - Prioritization criteria; and
 - Service level criteria.

2.2 Audit Scope

The scope of this audit focused on lifecycle and investment processes to support investment decisions including the development of a prioritized listing for the 2023-2026 capital budget submissions related to City facilities managed by FM.

This audit did not examine the process by which facilities transitioned to management by FM (CCOM program, partner owned facilities moving to City management) or analyze budgetary decisions made by Council. The audit also excluded analysis of the execution of lifecycle maintenance and repairs.

2.3 Audit Approach

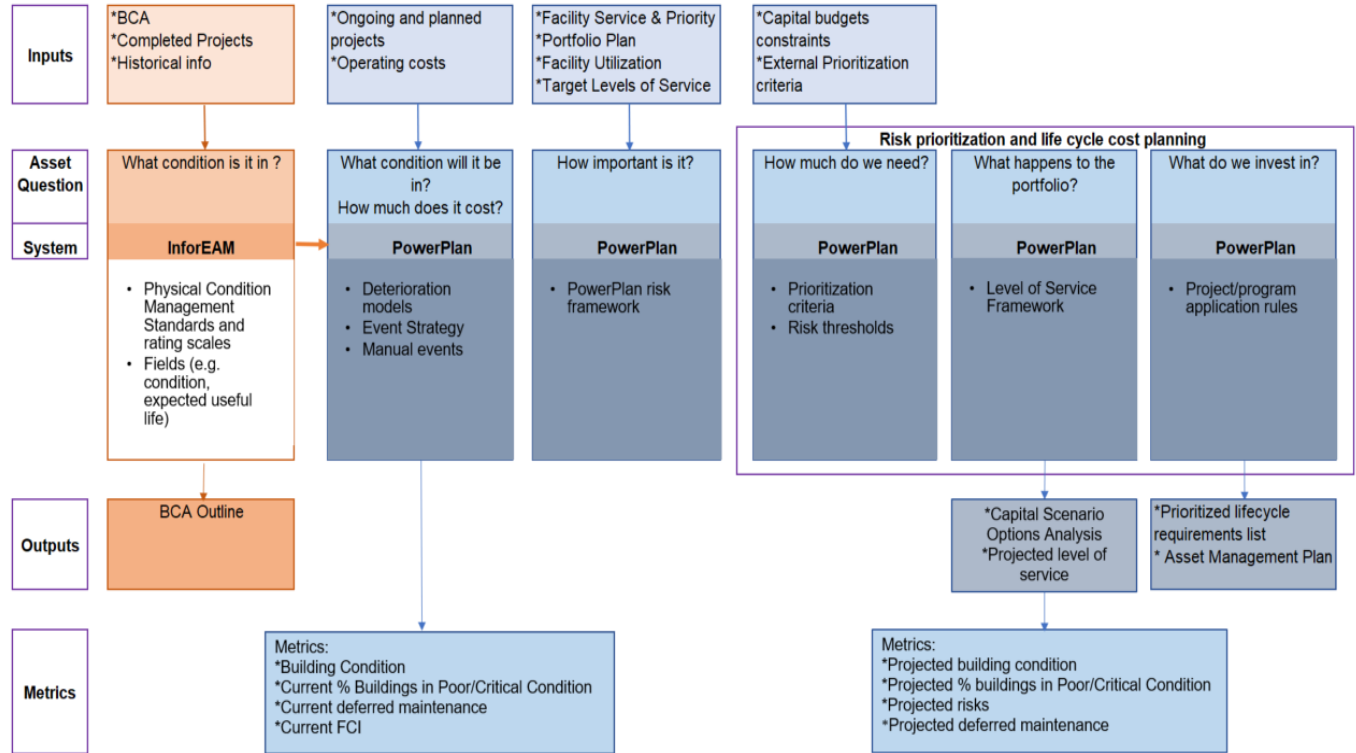
We assessed the design and operating effectiveness of processes and controls to manage lifecycle costs and investments through:

- Interviews with key FM staff;
- Review of FM policies and procedures and documentation related to management of lifecycle costs as well as good practice guidance⁵;
- Review of individual processes and controls to manage lifecycle costs and investments; and
- Review of a sample of data used to prioritize lifecycle investments.

⁵ Municipal Finance Officers Association of Ontario Asset Management Framework.

3.0 Results

We assessed the design and operating effectiveness of the following processes and controls in FM’s Asset Management Workflow related to the management of facility lifecycle costs and investments:



We reviewed controls over the accuracy and integrity of building condition data in Infor EAM used to inform lifecycle management decisions and processes to prioritize lifecycle investments in PowerPlan. Overall, FM has made significant progress in designing a robust Risk Framework to support evidence-based lifecycle investment decision making.

However, we observed Infor EAM data could not be fully relied on to provide accurate and complete building condition information to support lifecycle cost prioritization. Through the implementation of the CCOM program, FM’s portfolio grew from 95 facilities in 2018 to 501 by the end of 2021. FM advised that many assets onboarded through CCOM did not have a BCA or complete and/or accurate asset data. In addition, asset information from the different business units was stored in different formats and applications with varying levels of detail. IM updated Infor EAM with available information and focused on assets in poor and critical condition.

We determined The Risk Framework was designed appropriately and incorporated likelihood factors derived from failure curves and consequence factors based on safety, service delivery and quality. In addition, PowerPlan system configuration was consistent with risk thresholds and prioritization criteria and was operating as intended.

Since accurate and complete data is fundamental to effective PowerPlan prioritization, we determined risk prioritization and lifecycle cost planning was not operating as designed. IM was

aware of the data quality issue in Infor EAM and implemented a manual reconciliation process to verify asset data on the prioritized list of investments. IM also started the process of reviewing and updating the existing asset data since the beginning of 2022 and are refining asset management processes and procedures. They also plan to continue updating information through ongoing BCA and plan to include standard MasterFormat⁶ codes in upcoming BCA

Given the growth in the number of facilities in FM's portfolio, improving the accuracy and completeness of asset data in Infor EAM will take time. We identified improvements in two key areas to support the effectiveness and efficiency of lifecycle cost prioritization and decision making:

1. Improve data reliability through a long-term plan that leverages the BCA prepared by consultants, and an interim risk-based process focused on updating key fields for assets in poor and critical condition; and
2. Implement additional controls to mitigate the risk of data errors and omissions associated with the manual reconciliation process.

Further details on the results of our testing are included below.

3.1 Infor EAM Data Completeness and Accuracy

Infor EAM is FM's computerized system and is used as FM's asset repository to manage operating and maintenance activities and plan preventative maintenance. Asset data is updated in Infor EAM through sources such as historical data, BCA, site walkthroughs, or directly from operations.

The BCA is the most reliable source of facility/building condition and is used to update asset data in Infor EAM. We reviewed a sample of 5⁷ BCA selected from the list of 129 completed BCA⁸ and verified the percentage completeness of BCA data in Infor EAM. We noted that over 80% of the information from one BCA had not been entered into Infor EAM and 80% of BCA had been partially updated in Infor EAM, with completion rates ranging from 19% to 74%. Using the same sample, we selected building components in "poor" or "critical" condition and observed 62% were not updated and, of those that were updated, 60% had inconsistencies in data attributes such as useful life.

During fieldwork, IM indicated, although their goal is to update all BCA data in Infor EAM, they have been focusing on updating attributes for assets in "poor" and "critical" condition due to resourcing constraints. IM plans to gradually update the information for all assets in their portfolio when it is operationally feasible, which has resulted in partial updates of BCA data in Infor EAM.

Comprehensive, accurate and complete asset data is foundational to effective prioritization in PowerPlan. FM was aware of the data quality issue in Infor EAM and started the process of reviewing and updating the existing asset data at the beginning of 2022 and plan to continue updating information through ongoing BCA. They are also refining asset management processes and procedures and plan to include standard MasterFormat codes in upcoming BCA. IM should continue to develop a long-term plan to improve data reliability and, in the interim, incorporate a risk-based approach to ensure they prioritize updating key information on assets in poor and critical condition (recommendation 1).

⁶ MasterFormat is the specification-writing standard for most commercial building design and construction projects in North America developed with the Construction Specifications Institute and Construction Specifications Canada.

⁷ One BCA was selected from each Facility Asset Management Analyst's portfolio.

⁸ There were an additional 108 in-progress and 3 final draft BCA.

3.2 Infor EAM Data Integrity

Access controls are a key element of effective system governance to ensure data integrity by regulating who can view or change data in an IT system. Infor EAM values in key fields directly contribute to the asset risk weighting in PowerPlan.

We reviewed the user groups with access to make changes to key asset fields in Infor EAM and noted three users had access that was no longer required. We also observed there is no secondary review or audit trail maintained of changes made to key asset fields. To mitigate the risk of unauthorized or erroneous changes, FM should develop a process to ensure Infor EAM access is granted based on business need (recommendation 3) and develop audit trails for key asset attributes (recommendation 4).

3.3 PowerPlan Risk Framework

The PowerPlan Risk Framework was designed appropriately to prioritize asset level lifecycle investment by incorporating likelihood factors based on failure curves and consequence factors based on safety, service delivery, and quality. Prioritization criteria were defined in the PowerPlan Risk Framework and the PowerPlan system configuration was consistent with the Risk Framework thresholds and prioritization criteria.

The PowerPlan Risk Framework is the primary tool used to prioritize asset level lifecycle investment requirements and was designed by an engineering consultant with stakeholder engagement from FM, maintenance teams, and facility operators. Each asset has a calculated numeric risk score, based on the likelihood of asset failure multiplied by the consequence of a failure. The likelihood of failure is calculated using the remaining useful life based on current age or condition-based age. The system evaluates annual likelihood based on failure curves, using insurance industry standards. The consequence of failure is assessed based on data points that include operator injury, occupant/public injury, service disruption, service quality and asset replacement.

PowerPlan uses the Risk Framework for its risk threshold and prioritization criteria. The system is designed to optimize risk based on parameters such as budget available and will generate a prioritized lifecycle requirements list of assets for investment.

Governance policies and procedures provide the decision-making structure to support effective lifecycle cost prioritization. We reviewed The City's Asset Management Policy⁹, Corporate Facility Planning and Delivery Policy, Asset Management Plan and associated standards and guides and noted, although roles and responsibilities were clearly documented to support effective decision making for lifecycle costs, prioritization criteria were not defined. We shared an opportunity for improvement with FM to incorporate prioritization criteria into governing policies and frameworks to ensure decision making and lifecycle cost priorities were understood.

3.4 Level of Service Framework

During fieldwork, we walked through the PowerPlan Risk Framework design and noted that Level of Service (LOS) criteria were not incorporated into the framework. Although FM is developing LOS criteria, lifecycle investment planning in both the 2019-2022 and 2023-2026 budget cycles focused on safety and service continuity due to budget constraints. Asset

⁹ The intent of The City's Asset Management Policy is to align to ISO 55000, 55001, and 55002 Asset Management Standards.

management best practice¹⁰ recommends implementing LOS analysis in planning and investment prioritization decisions. Incorporating LOS analysis in PowerPlan would provide specific information that could be used to measure service performance against LOS targets to ensure stakeholder expected levels of service are being met (recommendation 5). Although FM is developing LOS criteria, lifecycle investment planning in both the 2019-2022 and 2023-2026 budget cycles focused on safety first due to budget constraints.

3.5 Risk Prioritization and Lifecycle Cost Planning

Although the PowerPlan Framework is designed effectively and the system is effectively configured (Section 3.3), operational effectiveness relies on accurate and complete data. We walked through the current budget cycle (2023-2026) prioritization process and noted Facility Asset Management Analysts (Analysts) manually reviewed the prioritized lifecycle requirements list generated by PowerPlan to mitigate the risk of inaccurate and incomplete data (Section 3.1). However, the current process does not incorporate additional controls to mitigate the risk of data errors and omissions.

The manual review of the prioritized list relied on the Analyst's knowledge of their assigned assets and entailed the Analyst using judgment to identify critical assets for verification and comparing the PowerPlan asset data to the original BCA. Any discrepancies identified were updated in Infor EAM and in PowerPlan to generate a revised prioritized lifecycle requirements list. This process was repeated through various iterations of review and updates.

We noted PowerPlan does not track which items were updated during each iteration, increasing the probability of an Analyst duplicating or omitting an asset review. We also observed that PowerPlan does not maintain an audit trail of changes made to key fields used for asset prioritization to support efficiency. Additionally, any assets that have not been componentized¹¹ or updated in Infor EAM, will not be included in the prioritized list generated in PowerPlan or included in lifecycle investment decision making.

We recommended that IM develop an interim process to improve the efficiency and effectiveness of the manual prioritization process by incorporating an audit trail to identify changes to key fields and adding a comment or last updated field to clearly identify assets that have already been reviewed in a prior iteration (recommendation 2).

We would like to thank staff from FM for their assistance and support throughout this audit.

¹⁰ Municipal Finance Officers' Association of Ontario, Asset Management Framework.

¹¹ Componentization is an activity that breaks down buildings into components using a macro-enabled worksheet that generates a list of asset components in Infor EAM.

4.0 Observations and Recommendations

4.1 Infor EAM Data Completeness and Accuracy

Infor EAM asset data is not complete and accurate. Infor EAM asset data is used to generate a prioritized lifecycle requirements list in PowerPlan. Unreliable asset data in Infor EAM could result in incorrect prioritization, which will not support effective lifecycle investment decisions.

The BCA is the most reliable source of facility/building condition and is used to update asset data in Infor EAM. During fieldwork, IM indicated, although their goal is to update all BCA data in Infor EAM, they have been focusing on updating attributes for assets in “poor” and “critical” condition due to resourcing constraints. FM plans to gradually update the information for all assets in their portfolio when it is operationally feasible. This has resulted in partial updates of BCA data in Infor EAM.

We selected a sample of five completed BCA and verified the percentage completeness of BCA data in Infor EAM. We noted:

- Over 80% of the information from one BCA had not been entered into Infor EAM. FM explained that this facility data had not been updated in Infor EAM as it was undergoing componentization.
- Four of five BCA had been partially updated in Infor EAM, with completion rates ranging from 19% to 74%.

Using the same sample, we identified all building components with a “poor” or “critical” condition rating in the BCA and compared those with the Infor EAM data extract. We observed:

- Eight of thirteen assets with a “poor” or “critical” condition rating in BCA were not updated in Infor EAM.
- Three of the five assets that had been updated in Infor EAM had inconsistencies in attributes such as MasterFormat code, useful life, replacement value, and original install date.

Given the growth in the number of facilities in FM’s portfolio, improving the integrity of asset data in Infor EAM will take time. FM is aware of the data quality issue in Infor EAM and started the process of reviewing and updating the existing asset data at the beginning of 2022. They are also refining asset management processes and procedures and plan to include standard MasterFormat codes in upcoming BCA.

In the interim, FM should incorporate a risk-based approach to ensure they prioritize updating key information on assets in poor and critical condition.

Recommendation 1

The Manager, Investment Management (FM)

- a. Develop a long-term plan to improve data reliability including incorporating use of standardized MasterFormat codes in the BCA; and
- b. In the interim, develop a risk-based process to improve data completeness and accuracy such as updating complete BCA data in Infor EAM on the key fields such as MasterFormat code, useful life, replacement value, and original install date for assets in poor and critical condition.

Management Response
Agreed.

Action Plan	Responsibility
<p>a. Action Plan (Long Term): Due to the scale of this data gap, this is a multi-year process to address the need for data completeness and accuracy. FM will provide a consistent and comprehensive approach to data for all buildings stewarded by FM. The initial focus has been addressing life safety data gaps.</p> <p>FM had planned to change the BCA process to enhance the accuracy and completeness of the data once the contract came up for renewal. This is underway now that the Request for Standing Offer (RFSO) is out.</p> <p>Through this plan FM will revise its business process to provide the existing asset data to its BCA consultants. Then FM’s external vendors will directly assess the age, condition, cost, as well as classification and identification of each component of a facility. This building data as provided by the consultants will be directly loaded to internal systems (Infor EAM), eliminating the risk of missing data, interpretation or any potential for human input errors.</p> <p>Existing process and templates have been revised under the new RFSO for future external vendors who create BCAs. This process applies to all current FM buildings, as well as all future CCOM transfers to FM. FM, in collaboration with its BCA consultants, conducts BCAs on buildings within its portfolio on a five-year cycle</p> <p>b. Action Plan (Interim/Short Term): In the interim, Analysts will continue to review each BCA previously completed or upon completion and interpret the results against the current component list in Infor EAM. The review will focus on ensuring the comprehensiveness of the component list (i.e. all components in a building are recorded in Infor EAM) and the completeness of each record against the BCA results (ensuring key fields match, or discrepancies are documented and justified). Buildings that are older or are suspected of being in poor or critical condition or with life safety concerns will be prioritized for review and updated in Infor EAM. This short-term action plan also applies to future incoming buildings through the CCOM program.</p>	<p>a. Action Plan (Long Term): <u>Lead:</u> Manager, Investment Management <u>Support:</u> N/A <u>Commitment Date:</u> Design and implementation of new process - August 30, 2022</p> <p>b. Action Plan (Interim/Short Term): <u>Lead:</u> Manager, Investment Management <u>Support:</u> N/A <u>Commitment Date:</u> Review of previously completed and current BCA’s – July 31 ,2023</p>

4.2 Lifecycle Cost Prioritization

Lifecycle cost prioritization currently includes a manual review and verification process to mitigate the risk of unreliable data in Infor EAM. The current process does not incorporate additional controls to mitigate the risk of data errors. Since manual processes carry an increased risk of errors and omissions, the annual review of prioritization data could result in incorrect prioritization and ineffective lifecycle investment decisions.

We reviewed the design of PowerPlan's Risk Framework and noted that the system was adequately designed to generate a prioritized lifecycle requirements list based on defined risk criteria. However, to function effectively the PowerPlan system needs complete and accurate data from Infor EAM. As Infor EAM asset information is known to be incomplete, FM manually reconciled over ten thousand rows of asset data on the prioritized list. This prioritization process was a highly manual process that relied on the Analyst's knowledge of their assigned assets. The review process entailed the Analyst using judgment to identify critical assets for verification and compare the PowerPlan asset data to the original BCA. Any discrepancies identified were updated in Infor EAM and then in PowerPlan through a system update. This process was repeated through various iterations of review and updates.

PowerPlan does not track which items are updated during each iteration, increasing the probability of an Analyst duplicating or omitting an asset review. We observed that PowerPlan does not maintain an audit trail of changes made to key fields used for asset prioritization to support efficiency.

Additionally, any assets that have not been componentized or updated in Infor EAM, will not be included in the prioritized list generated in PowerPlan or included in lifecycle investment decision making.

Recommendation 2

The Manager, Investment Management (FM) develop an interim process to improve the efficiency and effectiveness of the manual prioritization process by:

- Incorporating an audit trail to identify changes to key fields; and
- Adding a comment or last updated field to clearly identify assets that have already been reviewed in a prior iteration.

Management Response

Agreed.

Action Plan	Responsibility
<p>a. FM will incorporate an audit trail per recommendation 4 and action plan 4. FM will also revise the Analyst processes and training to include:</p> <ul style="list-style-type: none"> • Recording comments in Infor EAM for Positions and Asset records where data is not sourced from BCAs. BCAs are to be regarded as the default source of information so in the interest of efficiency no notes will be required for BCA information. • How to utilize the newly added “data verification date” field in Infor EAM. Analyst will enter the date of the review. All values on a record page will need to be evaluated for the date to be entered. <p>b. FM will also investigate including comments and the data evaluation date field in the Infor EAM/PowerPlan integration, so the information is available in PowerPlan. If this is not feasible through the investigation, we will look at alternate systems or the use of excel or word to ensure comments and last updated information is available per the audit recommendations.</p>	<p><u>Lead:</u> Manager, Investment Management</p> <p><u>Support:</u> FM Data and Technology, Corporate Asset Management Team</p> <p><u>Commitment Dates:</u></p> <p>a. Analyst Process Changes: September 30, 2022</p> <p>b. Integration Changes: July 31, 2023</p>

4.3 Infor EAM Access Controls

Three Infor EAM users had access that was no longer required. There is currently no comprehensive process to grant and revoke access based on business need. Inappropriate access could lead to unauthorized changes to asset data and impact the effectiveness of lifecycle prioritization.

We compared The City organizational chart to the Infor EAM list of users with access to change asset attributes as of June 6, 2022 and noted:

- Two IT users had access although their project had been completed in January 2022.
- One FM user had access although their position had changed in January 2021, to a role that did not require this access.

Previously FM’s Data & Technology team relied on the Supervisor’s notification of any staff access changes. In March 2022, a ‘Staff Movement’ report was created. This is a weekly report showing movement of staff within FM and is effective in identifying any changes in access such as transfers and terminations. However, the report does not identify any changes in access of non-FM staff such as IT staff that have been assigned access for a specific project.

Additionally, we observed there is no secondary review or audit trail maintained of changes made to key asset attributes in Infor EAM such as Class/Category, MasterFormat code, replacement value, service life, physical condition, and original Install date. There is a risk changes could be made by any individual with user access, which could impact the

prioritization process since values in these key fields directly contribute to the asset risk weighting in PowerPlan.

Recommendation 3

The Manager, Investment Management (FM) develop a process to ensure access to Infor EAM is granted based on business need and is reviewed periodically to incorporate user role changes.

Management Response

Agreed.

Action Plan	Responsibility
<p>The FM Data & Technology team will improve the process for the users access in Infor EAM and ensure that access to the system is granted based on business need. Implementation of the process will be reviewed quarterly to incorporate user role changes. For Employees who depart FM for another position in The City or their role changes in FM that does not require access, they will be removed immediately as part of clearance process as determined by their lead or manager.</p>	<p><u>Lead:</u> Manager, Strategic Business Services</p> <p><u>Support:</u> N/A</p> <p><u>Commitment Date:</u> December 31, 2022</p>

Recommendation 4

The Manager, Investment Management (FM) coordinate with IT to develop the audit trails for key asset attribute fields used in calculating asset risk for prioritization purpose.

Management Response

Agreed.

Action Plan	Responsibility
<p>Facility Management will engage Application Support to develop the audit trails for key asset attribute fields used in calculating asset risk for prioritization purpose</p>	<p><u>Lead:</u> Manager, Strategic Business Services</p> <p><u>Support:</u> FM, Investment Management</p> <p><u>Commitment Date:</u> December 31, 2022</p>

4.4 Levels of Service Criteria

Although FM prioritizes lifecycle investment using their Risk Framework incorporated in PowerPlan, LOS criteria are currently not included. Asset management planning best practice recommends incorporating LOS analysis in planning and investment prioritization decisions. Without levels of service considerations in lifecycle planning, The City’s ability to meet expected levels of services for its stakeholders could be compromised.

During a process walkthrough, we observed that technical LOS and customer LOS criteria were incorporated in the 2017 Asset Management Plan approved by Council. LOS defines the desired output for a particular activity, specific service or service area provided by City business units and the associated infrastructure. However, these LOS criteria were not incorporated in PowerPlan prioritization. As noted under 4.2 above, risk criteria in accordance with the Risk Framework were included in PowerPlan prioritization.

FM indicated that due to budget constraints they focused lifecycle investment on addressing safety and service delivery risk in both the 2019-2022 and 2023-2026 budget cycles. FM is currently developing the LOS criteria and aims to include them in PowerPlan.

Recommendation 5

The Manager, Investment Management (FM) coordinate with the Corporate Asset Management group to develop and implement level of service criteria in PowerPlan in accordance with the Asset Management Framework and incorporate them into the asset management planning and decision-making process.

Management Response

Agreed.

Action Plan	Responsibility
Facility Management will draft a new FM Level of Service Framework to manage the performance of the building’s portfolio. The level of service criteria and framework will then be implemented and applied to all Facility Management stewarded facilities. FM will investigate the feasibility of configuring LOS Framework into PowerPlan.	<p><u>Lead:</u> Manager, Investment Management</p> <p><u>Support:</u> Facility Planning, Corporate Asset Management Team, Other Strategic Stakeholders on individual LOS, External Consultants</p> <p><u>Commitment Date:</u> December 31, 2023</p>