

The logo for the City of Edmonton, featuring the word "Edmonton" in white text on a dark blue square background.

Edmonton

**OFFICE OF
THE CITY AUDITOR**

REPORT
**FACILITY CAPITAL
PROJECTS AUDIT**

MARCH 23, 2026

Report Summary

BACKGROUND

The City owns capital assets that deliver services to Edmontonians. They include assets like buildings, roads, parks and recreational places. The City plans, builds, enhances, and maintains capital assets by completing capital projects. Capital projects are broadly categorized into Facilities, Open Spaces, Transportation, LRT, and Utilities. The City's 2023-2026 budget allocates over \$11 billion to more than 200 capital projects.¹

The Integrated Infrastructure Services Department (the Department) designs and delivers capital projects.

The City's *Capital Project Governance Policy* requires the Department to follow the Project Development and Delivery Model. The model defines capital project governance and enhances oversight through five project stages: strategy, concept, design, build, and operate. Each stage includes checkpoints that require formal review.

The City broadly defines the scale of its capital project as small, medium, or large based on factors such as the project's complexity and risk exposure as well as its size. All together, the City's small and medium-scale projects represent about \$1.4 billion of the 2023-2026 budget.

AUDIT OBJECTIVE & SCOPE²

The objective of this audit was to determine whether the Integrated Infrastructure Services Department effectively managed three of its small to medium-scale facility capital projects to meet their intended purpose and use by Edmontonians.

For this audit, we selected the following projects:

¹ This \$11 billion includes \$2 billion carried over from the previous budget and \$2 billion for approved capital projects with completion dates beyond 2026.

² We conducted this engagement in conformance with the Institute of Internal Auditors' *Global Internal Audit Standards*.

- Ortona Armoury Arts Centre Renewal
 - Project purpose: To support a safe, functional arts hub for Edmontonians
 - Budget: Original approved budget was \$12.1 million; final actual cost was \$16.3 million
 - Schedule: Original approved completion date was July 2022; final actual completion date was July 2024
- Iron Works Building Rehabilitation
 - Project purpose: To renovate the historical building for lease to future tenants
 - Budget: Original approved budget was \$26.4 million to complete the project in 3 phases; final actual cost was \$26.4 million to complete Phase 1 and 2 only
 - Schedule: Original approved completion date was April 2024 (including Phase 3); final actual completion date was October 2025 (excluding Phase 3)
- Mill Creek Pool Rehabilitation
 - Purpose: To maintain facility safety and functionality to deliver a high level of service to Edmontonians
 - Budget: Original approved budget was \$6.5 million, final actual cost was \$6.5 million
 - Schedule: Original approved completion date was September 2024, final actual completion date was July 2024

We selected the first two projects because they were over the original approved budget, or delayed from their original approved completion date. For Mill Creek Pool, we selected it because Administration identified it as having challenges aligning project outcomes with user expectations.

WHAT WE FOUND³

Overall, we found the Department has met the audit objective of effectively managing these three projects to meet their intended purpose and use by Edmontonians, with some areas of improvement.

The Department generally conceptualized and planned the projects to achieve their goals. The Department:

- Identified the business need for the project.
- Specified project scope and schedule.
- Developed budgets based on itemized listings and had them reviewed by professional cost consultants.
- Defined roles and responsibilities.
- Procured consultants and contractors fairly, transparently, and in accordance with City guidelines.

However, based on our review of the three projects, we found areas where they can improve how they manage facility capital projects. The Department:

- Did not consistently review project deliverables in all three of the projects we looked at. They did not sign off on some deliverables, or omitted the dates the deliverables were signed off. For others, the Department had signed off deliverables that were incomplete such as risk registers or operating impact of capital estimates. The Department also approved change requests that lacked sufficient supporting documentation.
- Did not consistently consolidate, analyze, and share lessons learned on projects. They did not consistently consolidate lessons learned to a central repository. The Department also did not analyze lessons learned from

³ The Institute of Internal Auditors' *Global Internal Audit Standards* require us to report the significance and prioritization of our findings. This report contains all our significant findings and those that we deemed not significant, but that still support our recommendations. We prioritized each significant finding based on how important it is that management address the finding. This report contains only those significant findings that we prioritized as management must address, or should address.

a repository to identify and monitor trends, and did not formally share common lessons across similar projects.

We also observed unclear public reporting for the Iron Works project. As we did not find issues in public reporting for the other two projects we reviewed, and the public reporting website (Building Edmonton) was out of the scope of this audit, we do not have a recommendation for this finding.

RECOMMENDATIONS

Based on our review of the three selected projects, we made the following recommendations:

Recommendation 1

We recommend that Integrated Infrastructure Services consistently review and sign off its key project deliverables to verify that they are accurate and complete.

Recommendation 2

We recommend that Integrated Infrastructure Services consistently consolidate, analyze, and share lessons learned to use insights and mitigate risks for new projects.

WHY THIS IS IMPORTANT

Effectively managing capital projects helps prevent cost overruns and delays, increases public trust, and helps the Department continuously improve.

Facility Capital Projects Details

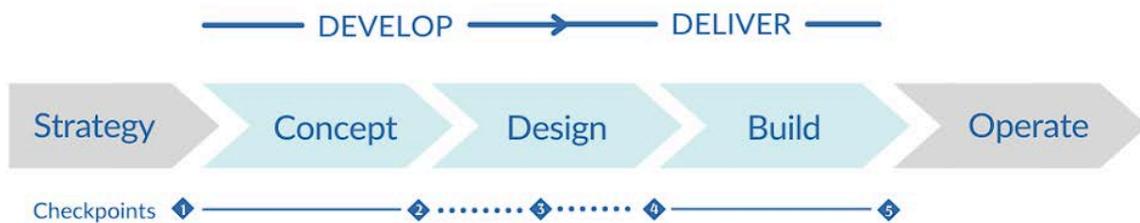
INTEGRATED INFRASTRUCTURE SERVICES DEPARTMENT (IIS)

Within the Integrated Infrastructure Services Department (the Department), the Infrastructure Planning and Design Branch establishes the initial project scope, schedule, budget, and preliminary design in coordination with interested parties such as other City departments or external parties. The Infrastructure Delivery Branch manages the detailed design. The detailed design transforms the Planning and Design Branch's preliminary design into contract drawings and specifications that the Delivery Branch can use to tender construction. The Delivery Branch also manages the build stage.

PROJECT MANAGEMENT

The Project Development and Delivery Model requires formal review at each of five checkpoints.

Figure 1: Project Development and Delivery Model



Each checkpoint requires certain mandatory deliverables that demonstrate the Department's use of project management controls over the project's:

- Scope
- Schedule
- Cost
- Quality
- Risks

- Communication
- Procurement
- Changes to any of the above

**Checkpoint 1 -
Authorization for Project
Initiation**

By Checkpoint 1, the design project team has reviewed and refined a business case outlining the project's purpose, preliminary scope, budget, schedule, and funding sources. Approval at this checkpoint authorizes the Planning and Design Branch to move to the concept phase.

**Checkpoint 2 -
Authorization for Design
Expenditure**

By Checkpoint 2, the design project team has assessed the project's feasibility and defined the scope of work. The project team has prepared deliverables such as a more detailed budget, scope, and schedule, risk registers, project charters, and a project management plan. This stage may also include procuring a design consultant, collecting requirements, or defining how interested parties will use the building. Approval at this checkpoint authorizes spending on project design.

**Checkpoint 3 -
Authorization for Capital
Expenditure**

By Checkpoint 3, the design project team has completed the development design, allowing for more accurate budgets, scopes, and schedules. The project team has updated the risk register, documented lessons learned, and evaluated the design consultant's performance. This is also the stage where, upon completion, the Design Project Manager formally hands the project over to the Delivery Project Manager. Approval at this stage authorizes spending on the detailed design and construction.

**Checkpoint 4 -
Authorization for
Construction Expenditure**

By Checkpoint 4, the delivery project team has completed the detailed design. Detailed design translates the approved design at Checkpoint 3 into approved contract drawings and specifications. The team has also tendered the work for construction using the detailed design drawings. Approval at this stage authorizes spending to complete construction.

Checkpoint 5 - Authorization for Project Closeout

By Checkpoint 5, the delivery project team has overseen construction. The team has verified construction completion, identified deficiencies and made sure contractors have corrected them. The project team has handed off to the operating business area or interested party. The team has also completed project closeout, including closing out contracts and completing a project closure report. The project manager has collected lessons learned and evaluated the construction manager's and prime consultant's performance. Approval at Checkpoint 5 signals that the Department has completed project closeout.

SELECTED PROJECTS

We selected the following projects for this audit:

Ortona Armoury Arts Centre Renewal



Photo credit: artshubortona.com

The Ortona Armoury Arts Centre renewal was a project to rehabilitate a historical City-owned building to create a safe and improved functional arts hub for Edmontonians. The project included significant replacements or upgrades of major mechanical, electrical, and structural components, while preserving historically significant elements.

Budget: Original approved budget was \$12.1 million; final actual cost was \$16.3 million

Schedule: Original approved completion date was July 2022; final actual completion date was July 2024

Iron Works Building Rehabilitation



The Iron Works Building rehabilitation was a project to renovate the recently purchased, City-owned 1909 Iron Works Foundry into a facility for lease to future potential tenants. Phase 1 involved design and construction of repairs to the building envelope to protect and preserve the building from further deterioration. Phase 2 involved full building rehabilitation, including mechanical, electrical, and life-saving systems, and common areas. Phase 3 involved interior work to prepare the building for tenant use. Phase 3 was removed from the project scope to remain within the overall budget.

Budget: Original approved budget was \$26.4 million to complete the project in 3 phases; actual cost was \$26.4 million to complete Phases 1 and 2 only

Schedule: Original approved completion date was April 2024 (Including Phase 3); actual completion date was October 2025 (excluding Phase 3)

Mill Creek Pool Rehabilitation



The Mill Creek Pool rehabilitation was a project to upgrade and replace the filtration, disinfection, mechanical, and electrical systems to meet current building codes as well as health and safety standards. In addition to anti-entrapment drains and accessibility enhancements, the rehabilitation included a new water slide and sundeck, and new paint.

Budget: Original approved budget was \$6.5 million; final actual cost was \$6.5 million

Schedule: Original approved completion date was September 2024; final actual completion date was July 2024

Consistently Review Project Deliverables

KEY FINDINGS

We found that the Department initiated projects after completing business cases and budgets. The Department based its budgets on itemized lists and had professional cost consultants review them. They identified roles and responsibilities. They also procured consultants and contractors fairly, transparently, and in accordance with Corporate Procurement guidelines.

However, in the three projects we reviewed, the Department did not consistently review and approve key project deliverables.

INCONSISTENT REVIEW AND APPROVALS

At the end of each stage of the City's Project Development and Delivery Model, the Department requires review and approval of a checkpoint readiness package. This package includes all of the required deliverables, which are specified in a supporting checklist. By signing off, reviewers are confirming that the deliverables are complete and accurate, and approvers are authorizing that the project should advance to the next stage.

The Department did not consistently review and approve project deliverables. We found reviewers did not sign some checkpoint readiness packages, or omitted dates. For Mill Creek Pool, the project team had not completed some project deliverables one year after the project closed.

For other project deliverables, reviewers and approvers signed them off, but some deliverables were missing, incomplete, or unsupported. Below are examples of issues we found relating to missing operating impacts of capital estimates and project

closure reports, incomplete risk registers, and unsupported change requests.

No Operating Impacts of Capital Estimates

In all three projects, the Department did not include operating impacts of capital estimates, despite being mandatory deliverables at multiple checkpoints. Operating impacts of capital include the costs associated with operating or maintaining a capital asset after it has been put into use.

For Iron Works, the City was expecting a non-profit organization to be the future tenant for the space. The Department made Phase 2 design decisions in collaboration with the expected tenant. When the City drafted the formal lease agreement, it calculated annual maintenance fee. This fee was three times higher than what the expected tenant was paying in their existing location. This factored into their decision not to move forward with the lease. Had the City calculated and communicated these costs sooner, they may have known that the new building would be unaffordable to their expected tenant. The City could also have started looking for a new tenant sooner.

No Project Closure Report

For Mill Creek Pool, the project closure report had not been completed one year after the Final Acceptance Certificate was issued. The Final Acceptance Certificate signals the end of the contract, when all deficiencies covered by the warranty period have been corrected. The Department uses the project closure report to formally compare anticipated outcomes from the business case to actual outcomes achieved.

Incomplete Risk Registers

Iron Works and Ortona had incomplete risk registers despite reviewer signoff. For Iron Works, we found that 3 of 42 risks had no mitigation strategy, and 14 risks had no contingency cost estimates. For Ortona, 5 of 20 risks lacked analysis of likelihood and impact, risk management strategies, and contingency cost estimates.

In the Iron Works risk register, the Department also did not identify potentially losing the project's additional grant funding as a risk. This meant that the Department did not have mitigation strategies in place when this risk materialized. We confirmed that the loss of grant funding was out of the Department's control, but resulted in a \$2 million reduction in available project funds.

Unsupported Change Requests

For the Iron Works project, the Department did not have sufficient supporting documentation for the change requests, but still approved them.

In 2022, the project managers requested \$7.3 million through a Project Change Request. They supported it with a budget summary, which included the following costs:

- \$308,000 from the first portion of the Canada Cultural Spaces Fund grant they received
- \$4.5 million to complete Phase 2
- \$2.5 million to complete Phase 3

Directors within the department approved this change request. However, we were unable to reconcile some of the line items in the budget summary to support justifying the cost. For example, the Phase 3 cost estimate from the cost consultant was \$3.5 million but the budget summary listed it at \$2.5 million.

In 2023, project managers re-requested funds for Phase 3 completion in another Project Change Request. This \$5.1 million change request included the following costs:

- \$3.6 million to complete Phase 3
- \$200,000 for equipment for the expected tenant
- \$510,000 for North Annex improvements
- \$410,000 for a tenant parking area
- \$360,000 for consultant and management allowances

They supported the Phase 3 completion portion of this request with a third-party quote of \$3.6 million. As they had already

requested \$2.5 million in 2022, their total request for Phase 3 completion was \$6.1 million, despite the quote being \$3.6 million. The directors within the department also approved this, despite not having a documented explanation for why the project team duplicated the request.

The Department encountered significant unforeseen conditions in Phase 1 and Phase 2 of the project. The Department had to re-build foundations and entire walls that they were not expecting to have to replace. They used the \$2.5 million budget allocated to Phase 3 in the 2022 Project Change Request to cover these additional costs in Phase 1 and 2. As a result, by 2023, there were no remaining funds to cover Phase 3, which is why the Department requested funds again. The decision-making and rationale appear to be reasonable, prioritizing building rehabilitation over tailoring the building for tenant use. However, the project team did not share this information in the second change request and directors within the department still approved it.

WHY THIS IS IMPORTANT

Without appropriate review, key deliverables may not be accurate or complete, resulting in potentially preventable cost overruns and delays. This may also result in using incorrect information to inform project decisions.

RECOMMENDATION 1

Based on our review of the three selected projects, we recommend the following:

Consistently review and sign off its key project deliverables to verify that they are accurate and complete.



Responsible Party

Deputy City Manager, Integrated Infrastructure Services



Accepted by Management

Management Response

In the fall of 2025, project document management processes were updated, and Integrated Infrastructure Services launched an internal awareness campaign on effective documentation and recordkeeping. Actions will include:

- Reinforcement to sustain ongoing improvements.
- Review and assessment of the effectiveness of the document practice updates.
- Conduct review of current template and approval requirements for greater efficiency.



Implementation Date

December 31, 2026

Consolidate, Analyze, & Share Lessons Learned

KEY FINDINGS

Project managers document some lessons learned within spreadsheets in their individual project folders.

However, the Department could improve how it reviews lessons learned. We found that the Department does not:

- Consistently consolidate lessons learned from all projects into a repository.
- Formally analyze lessons learned for overall insights.
- Formally share these insights.

INCOMPLETE CONSOLIDATION

Project managers should upload their lessons learned spreadsheets into eBuilder, the City's project management information system, as part of project closeout. eBuilder consolidates the uploaded lessons learned into a repository.

In practice, we found that project managers do not consistently upload lessons learned into eBuilder. The project manager did not upload lessons learned for Mill Creek Pool.

Since it went live in October 2022, only 24 of 245 projects (9.8 percent) have lessons learned uploaded into the eBuilder repository. There were an additional 61 projects that contained links to lessons learned spreadsheets within their eBuilder profile, but did not upload them into the repository. Project managers can only access these spreadsheets if they have access to the project's folder, which is generally restricted to that project's team.

LIMITED ANALYSIS

The Department does not perform an analysis to group lessons by theme or type of project. This would also allow the

Department to see trends over time, and highlight common issues that may be recurring on projects.

LIMITED SHARING

The Department does not formally share common lessons learned across similar projects. The Department requires project managers to review lessons learned from similar projects before starting their own. However, without this formal sharing, it is difficult for them to do so. In both the Iron Works and Ortona projects, they did not review lessons learned from similar projects. An up to date repository in eBuilder, as well as an easy way to filter for similar projects would have made it much easier to identify and share common lessons learned.

WHY THIS IS IMPORTANT

Consolidating, analyzing, and sharing lessons learned helps the Department to continuously improve, and to prevent making the same mistakes. A repository also helps preserve this knowledge after project managers leave the City.

RECOMMENDATION 2

Based on our review of the three selected projects, we recommend the following:

Consistently consolidate, analyze, and share lessons learned to use insights and mitigate risks for new projects.

Responsible Party



Deputy City Manager, Integrated Infrastructure Services



Accepted

Management Response

Actions will include:

- Reinforcing the current project management information system database through strong communication, including the importance of sharing lessons learned.
- Evaluating alternative data mining methodologies and implementing them as appropriate. This may include the use of artificial intelligence platforms, for searching and reviewing project lesson learned logs across the numerous projects.

**Implementation Date**

December 31, 2026

Clear Public Reporting

KEY OBSERVATIONS

The Department provides regular quarterly public updates on its infrastructure projects through the Building Edmonton website. Compared to seven other municipalities across Canada, the Department publicly reports more information, more clearly, than six of them.

The Department calculates “on-time” and “on-budget” results by comparing the project’s current forecast against its original approved budget and schedule. The Department enters the original approved budget and schedule at the start of each of the design and build stages as the baseline. The Department changes the baseline if the Business Partner or Council initiates a scope change and Council approves it. Business partners could be other business areas within the City or external parties.

The Department requires variance explanations for internal and Council reporting. Project managers must provide reasons for why projects are over budget, schedule, or scope for internal reporting. The Department shares variance explanations with Council through the quarterly Significant Capital Project Update report.

For the three projects we sampled, public reporting was clear for Ortona and Mill Creek Pool. Ortona was delayed and over budget and reported as such on the Building Edmonton website. Mill Creek Pool was on budget and completed early, which was also accurately reported.

However, for Iron Works, we found the capital project reporting to the public was unclear.

As we did not review Building Edmonton website data beyond our three samples, we cannot conclude on how pervasive these issues are. As a result, we did not make a recommendation.

UNCLEAR REPORTING

The Iron Works project consisted of 3 phases. In spring of 2022, Council approved a scope change that increased the budget to \$21.3 million. This scope change was to take the project to completion of all 3 phases. Then, in 2023, the Department requested another \$5.1 million increase to the budget for a scope change to complete the project due to unforeseen site conditions and loss of grant funding. Council approved the scope change and additional budget. This increased the baseline budget for the project, per the Department's reporting methodology, and the project shows as "on-budget".

However, as mentioned earlier in the report, only \$1.5 million of the second scope change was for newly scoped items such as tenant equipment, North Annex improvements, and tenant parking. The remaining \$3.6 million was a re-request for phase 3 funding. The project shows as "on-budget" despite being \$3.6 million over its initial estimate to complete all 3 phases.

As well, the budget was spent only on Phase 1 and Phase 2, not on all 3 phases as intended. This use of the funds is not explained on Build Edmonton.

ACKNOWLEDGEMENT

We would like to thank the staff and management of the Integrated Infrastructure Services Department for their cooperation and assistance during this audit.