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Main points

The Department of Learning is responsible for the overall quality of education in Saskatchewan. Adequate educational facilities contribute to quality education. The Learning sector depends upon about \$5.2 billion of infrastructure to provide educational services and programs to the public.

By law, school divisions and provincial post-secondary institutions (partners) need the Minister of Learning's approval before they undertake new construction or major renovations to their facilities. This provides the Department with mechanisms to help ensure the necessary infrastructure is in place for the education system.

To ensure that partners complete construction projects as expected, the Department needs to be aware of the risks faced on projects. Typically, project risks fall into three broad categories:

- ◆ economic risks – e.g., cost overruns, access to financing;
- ◆ capacity risks – e.g., availability of staff and contractors with needed capabilities, incorrect needs analysis; and
- ◆ construction risks – e.g., poor construction, expanding project scope, safety and environmental concerns.

In this chapter, we report on how well the Department manages these risks for capital construction projects it approves. We recommend the Department improve its practices to manage those risks.

We found the nature and level of the Department's involvement on projects varies based on its assessment of the capability of its partner to successfully manage the project. The Department needs to document these assessments to ensure the risks are mitigated.

For universities and regional colleges, the Department had adequate processes to receive information throughout project construction to manage the risks. For school divisions, it did not. The Department needs to obtain such information. This information allows the Department to know, on a timely basis, problems in completing projects.

Introduction

The Department of Learning is responsible for the overall quality of education in Saskatchewan. It acknowledges the link between adequate educational facilities and student success.¹ It estimates that it depends on about \$5.2 billion of infrastructure² to provide educational services and programs to the public.

This infrastructure is comprised of land, facilities, and equipment located within school divisions, universities, and training institutions and facilities rented from Saskatchewan Property Management Corporation (SPMC).

In this chapter, we call the various educational institutions within the learning sector “partners.” The key partners include all 99 school divisions, the University of Regina, the University of Saskatchewan, the Saskatchewan Institute of Applied Science and Technology (SIAST), and the eight regional colleges.³

Managing infrastructure is always complex. It involves not only maintaining existing infrastructure to the expected level of service but also ensuring the necessary infrastructure is available at the right time, in the right location, and at a reasonable cost. Infrastructure is typically expensive. It is critical that spending on infrastructure is managed carefully and addresses identified needs.

The involvement of numerous partners makes the management of infrastructure more complex. It is important that each partner have a clear understanding of who is responsible for what and to whom. Various provincial laws provide the Department and its partners with a framework for determining these responsibilities.

¹ Securing Saskatchewan's Future: Provincial Response – Role of Schools Task Force Report, February 2002, pp 1, 13.; *Saskatchewan Post Secondary Education and Skills Training Sector Strategic Plan 2001-02 to 2005-06: Work-in-Progress*, June 2001, pp. 3.

² Infrastructure includes all physical assets used to provide public services. Infrastructure includes physical assets that the Government purchases, constructs, or leases. It also includes capital assets that the Government pays others to operate to provide public services.

³ The eight regional colleges are: Carlton Trail Regional College, Cumberland Regional College, Cypress Hills Regional College, North West Regional College, Parkland Regional College, Prairie West Regional College, Southeast Regional College, and Northlands College.

By law, all partners must obtain approval of the Minister of Learning before they undertake a capital project (e.g., new construction, or major renovations to existing buildings). Universities must seek the Minister's approval for capital projects that will cost more than specified dollar thresholds. Partners must obtain the Minister's approval even if they do not request money from the Department to pay for the project.

The Department must review and approve its partners' financing arrangements (e.g., borrowing) related to the proposed projects. In addition, the Department has the authority to set building standards and specifications, provide financial help, and request further information from the partners as it deems necessary (e.g., long-term capital plans).

This framework provides the Department with mechanisms to help ensure the necessary infrastructure is in place for the education system. Working with its partners, the Department must balance the needs of the education system for appropriate infrastructure with other needs of the education system (such as delivery of education, research, development).

The Department expects its partners to make requests for capital projects based on their identified and documented needs for infrastructure. Working with its partners, it uses defined criteria to evaluate the requests.

The Department receives almost 500 requests for capital projects each year from its partners. The bulk of the requests come from school divisions. Typically, it approves about one-third of the requests. Many of the projects take more than one year to complete.

In 2001-02, 99 school divisions⁴ own and operate 778 schools in Saskatchewan. These schools serve approximately 181,000 Kindergarten to Grade 12 students. Divisions spend over \$120 million each year to maintain and operate these facilities.⁵

The University of Regina and University of Saskatchewan collectively spend over \$23 million each year to maintain and operate their

⁴ The number of school divisions decreased to 82 in early 2004.

⁵ Government of Saskatchewan, 2002 Saskatchewan Education Indicators Kindergarten to Grade 12, p.38, 42.

infrastructure.⁶ The universities serve about 30,000 students. SIAST spends \$17 million each year to rent facilities from SPMC and manage capital improvements. SIAST serves about 13,500 full-time students each year. The eight regional colleges collectively spend about \$3 million each year to operate facilities. They own some of these facilities and rent others from SPMC. The colleges serve about 4,000 full-time students and many part-time students.

The successful completion of approved capital projects helps the Department and its partners meet identified educational infrastructure needs. To help ensure projects are completed on time, within budget, and as planned, the Department must oversee whether partners carry out their responsibilities.

Audit objective

The objective of this audit was to assess the adequacy of the Department's processes to ensure its partners meet requirements for completing approved capital construction projects. The audit focused on processes used for the twelve-month period ending September 30, 2003. Partners include school divisions, University of Regina, University of Saskatchewan, SIAST, and the eight regional colleges.

Audit approach and criteria

Throughout the audit, we followed the *Standards for Assurance Engagements* established by The Canadian Institute of Chartered Accountants.

We used criteria to assess the adequacy of the Department's processes. These criteria focus on processes with the greatest influence on engaging partners and helping them to be effective. We based these criteria on a review of literature, work of other auditors, and discussions with management. The Department agreed with the criteria.

To ensure partners meet requirements for completing approved capital construction projects, the Department's processes should:

⁶ University of Regina and University of Saskatchewan financial statements for the year ended April 30, 2003.

- ◆ establish requirements for construction projects;
- ◆ confirm partner acceptance of responsibilities for construction projects;
- ◆ routinely use reliable information on the status of the project; and
- ◆ address concerns.

The audit focused on processes used by the Department as opposed to those processes used by its partners. The processes that the Department used for each partner group (e.g., school divisions) varied. Where the Department relied on processes used by its partners, we expected the Department to have processes to ensure its reliance was justified.

Our audit focused on major construction and renovation projects. During the twelve-month period ending September 30, 2003, there were 32 of these projects underway with an approximate total cost of \$83 million. Of these 32 projects, school divisions had 23 projects, regional colleges had one, universities had eight, and SIAST had none. The Department shared a portion of the cost of most of these projects.

Conclusion

For the twelve-month period ending September 30, 2003, the Department had adequate processes to ensure its partners met requirements for completing approved capital construction projects except for the following. The Department needs better processes to monitor the status of school division projects during construction. In addition, it needs to improve its processes to assess and monitor the risks of each approved project.

Key findings by criteria and recommendations

In this section, we describe, in more detail and in italics, the processes we expected. We also set out our key findings by criteria, and make two recommendations for improvements.

Establish requirements for construction projects

To ensure that partners are aware of the Department's requirements for capital construction projects, we expected the Department to have processes:

- ◆ *to ensure that each project has appropriate design specifications to meet the identified needs;*
- ◆ *to approve the total cost and costs by key stage for each project;*
- ◆ *to approve the timing of key stages for each project;*
- ◆ *to approve the financing for each project;*
- ◆ *to ensure project team members have appropriate qualifications;*
- ◆ *to ensure that the Department has sufficient information to monitor the projects (e.g. actual costs compared to planned costs, stage complete compared to target completion dates); and*
- ◆ *to communicate authority and responsibility for project changes and cost overruns.*

Receipt of information during the construction phase is important to help monitor larger projects. Comparison of actual timing and costs to plans enables early identification of problems. It also makes possible timely decisions on corrective action and increases the likelihood of successful completion of the project.

The nature and level of the Department's involvement in construction projects varied for each partner group. In part, this variation reflected the differing legislative responsibilities of the Department and each group. It was also due to the Department's assessment of the capability of the partner group to successfully manage capital projects. In making this assessment, the Department considered the partners' experience in managing past projects and their capacity to manage projects.

In general, the Department was more involved in projects at regional colleges and less involved in projects at the two universities.

The Department worked closely with all partners to define the purpose of each proposed project. That is, the Department and its partners identified the infrastructure needs that each project addressed. The Department reviewed and approved each project's total cost, completion date, and financing arrangements.

The Department required all partners to identify and request approval of changes to projects. Requests for changes were usually due to unforeseen needs (e.g., air quality concerns) or unanticipated increases in total project costs. The Department used review and approval processes similar to those used for initial project requests.

Where the Department worked with school divisions and universities, the Department generally made cost overruns the responsibility of these partners. The partners showed a clear understanding of this requirement. They pursued additional money from the Department as they saw appropriate.

As expected by *The Education Act, 1995* and regulations, the Department was extensively involved with school divisions in the initial phases of each project. The Department provided divisions with guidelines to set out its common requirements for proposed projects.

These guidelines identify eligible capital project areas and money available for school construction. In addition, the guidelines set out the Department's expectations of the school divisions for the following areas:

- ◆ specific design of projects for common types of projects;
- ◆ information requirements on expected project costs (e.g., tender requirements, detailed cost estimates specific to design) and on financing arrangements (e.g., borrowing);
- ◆ required project manager qualifications (i.e., provincially registered architect or engineer) for larger projects (i.e., in excess of \$75,000); and
- ◆ requirements for the school division's assessment and selection of the project consultant.

These expectations are consistent with those set out in law.

Some school division projects extended over more than one fiscal year. For some of these projects (i.e., those where the division tenders significant parts of the project in stages), the Department required the divisions to provide it with current estimates of the expected costs for that year.

The Department uses the guidelines to evaluate projects and work through the project approval process. The guidelines help school divisions to have a common understanding of the process. In addition, the

Department ensures the school divisions engage, through written contracts, project managers and consultants with expected expertise appropriate for the project. School divisions provide the information expected in the guidelines.

The Department did not request or expect school divisions to identify or provide it with information on the planned or actual timing of key stages of projects or on the expected or actual cost of key stages.

Rather the Department relies on the school divisions to complete the projects as planned. It does not assess the adequacy of the processes that each school division uses to manage approved projects. Because school divisions vary in size and capacity, their ability to successfully manage a project might vary. Without assessing the adequacy of processes that each division uses, or requesting additional information from divisions, the Department risks that school divisions may not successfully complete projects and that it may not become aware of problems until it is too late.

For regional colleges, the Department is directly involved in managing approved projects. The Department assigns a qualified department official (e.g., professional engineer) to each project team. It reviews architects' plans. It analyzes construction tenders, proposed construction schedules, and expected cash flows. Its member on the project team provides it with ready access to key information about the status of projects during the entire construction phase.

For the universities, the Department had assessed each university as having solid capability to manage construction projects. Department officials show familiarity with the universities' processes. They note that each university has a well-defined process for approving project plans, tendering, managing construction, and reporting. These processes include reporting of comparisons of actual results to plans at key stages of the projects. The Department notes that each university required the use of qualified individuals on projects. The Department did not document its assessment of the universities' processes. Such documentation would enable the Department to demonstrate that its reliance on these processes is appropriate.

The Department works closely with each university to define the need for each project. It requires the universities to provide it with the information that they gave to their Boards of Governors (or committees thereof) about the status of projects. In addition, the Department has a liaison for each university. It expects these liaisons to share information obtained about approved projects with other key Department personnel.

In general, the Department's information requirements focused on receipt of information necessary to manage its share of project costs and to ensure that partners completed the projects. It did not require partners to provide information showing whether projects were being completed as planned (that is on time, within overall budgeted costs, and consistent with specifications).

For universities and regional colleges, the Department successfully 'piggy-backed' on information produced by these partners to manage the projects. As a result, it received adequate information throughout the project. For school divisions, it did not request or receive similar information.

- 1. We recommend that the Department obtain from school divisions comparisons of planned and actual costs and timing by key stage for each approved project.**

Confirm partner acceptance of responsibilities for construction projects

To ensure that partners accept their responsibilities for completing capital construction projects, we expected the Department to have processes:

- ◆ *to ensure all partners are aware of and agree with their responsibilities; and*
- ◆ *to resolve conflicts that arise.*

The legislation sets out the overall responsibilities of each party for capital projects. The Department relies on its approval processes to communicate these responsibilities and other expectations to each partner.

The Department uses its on-going communications with partners to ensure they understand and accept their responsibilities. For regional

colleges, the Department uses its participation on the project teams to ensure the colleges are aware of and accept their responsibilities. For universities, it uses its regular meetings with facility management, senior university management, and boards. For school divisions, it uses its guidelines along with periodic meetings with the school division officials.

Disputes in approved capital construction projects can arise at two levels. They can occur between the partner and a contractor engaged on a project or between the partner and the Department.

The Department expects its partners to have processes to resolve disputes that could occur during projects (e.g., unsatisfactory contractor work). The Department requires school divisions to have performance, labour, and materials bonds on projects. These bonds help to protect the school divisions if the contractors fail to meet their contractual obligations.

The Department reviewed the universities' processes for resolving disputes with contractors and found that they were sufficient. For regional colleges, the Department was directly involved in resolving disputes through its involvement on the project team.

The Department notes that disputes with its partners were infrequent and are typically resolved through discussions between the Department and partner officials.

Routinely use reliable information on the status of the project

To monitor the status of projects, we expected the Department to have processes:

- ◆ *to review information about the actual state of projects against the originally approved plan i.e., for costs and stage of completion;*
- ◆ *to review the status of key risks identified for projects; and*
- ◆ *to assess the reliability of information provided by partners.*

Monitoring projects is important to ensure that the partners complete the project as expected, do not waste resources, and mitigate risks (e.g., cost overruns, safety hazards, etc.) to acceptable levels. Effective monitoring depends on the receipt of timely and sufficient information. It increases the opportunity for timely identification and resolution of problems or

concerns (e.g., delays, sub-standard quality of work, project changes that could affect the ability of the project to meet agreed-upon needs).

To ensure that partners complete construction projects as expected, the Department needs to know the risks faced on projects. Typically, project risks fall into three broad categories:

- ◆ economic risks – e.g., cost overruns, access to financing;
- ◆ capacity risks – e.g., availability of staff and contractors with needed capabilities, incorrect needs analysis; and
- ◆ construction risks – e.g., poor construction, expanding project scope, safety, and environmental concerns.

As described above, in general, the Department's processes to monitor projects focused on receipt of information sufficient to manage its share of project costs.

The Department used processes to limit its economic risk over its share of project costs. For example, for all partners, the Department capped the amount of funding it would contribute to each project. It made its partners with alternative sources of money responsible for cost overruns. For school divisions, the Department withheld 50 per cent of its approved share until it had received the certificate of substantial completion from the architect or engineer. Also, as noted earlier, the Department required school divisions to obtain bonds from contractors. For regional colleges, it used construction contracts to make contractors responsible for cost overruns. For all partner groups, the Department periodically inspected project sites but did not consistently document the results of these inspections.

The Department expected its partners to use processes to identify and mitigate the remaining risks (i.e., capacity and construction risks) on the approved projects. However, the Department did not expect its partners to document a comprehensive risk analysis for each proposed project. Documented risk analyses would help the Department ensure that it and its partners can manage significant risks.

The Department used some processes to assist in the mitigation of project risks. Through guidelines, it required school divisions to use processes (e.g., engage qualified professionals) that helped reduce

potential capacity and construction risks. For regional colleges, its project team member ensured the team shared concerns about risks as they arose.

The Department was aware of the processes that the universities used to assess project risks and to set strategies for mitigating those risks. The Department assessed these processes as adequate. The Department did not formally document its assessments of these processes.

For universities and regional colleges, the Department received sufficient information on the actual costs and timing of projects compared to plans by relying on its partners' processes. For university projects, it received regular updates on the status of risks through its regular meetings with senior university officials. Also, the Department provided the universities with guidance on how to handle specific risks. For regional colleges, the Department, as an active member of the project teams, was directly involved in identifying and mitigating risks on projects. It regularly received information on project costs and status. Through informal means, the Department ensured project teams took appropriate action to resolve concerns as they arose.

Except as noted earlier for school division projects that were tendered in stages, the Department did not request or receive information on costs or project status for school division projects during the construction phase.

The Department primarily used its ongoing relations with the partners to assess the reliability of the information it received. Occasionally, it used its construction professionals (e.g., professional engineers) to assist in this assessment. In addition, the Department relied on certification by external construction professionals (e.g., engineers or architects) of some of the key information it received.

- 2. We recommend that the Department document its assessment of the processes that its partners use to identify and mitigate significant risks or set its own processes to identify and mitigate significant risks on approved capital projects.**

Address concerns

To ensure that partners manage potential problems on projects, we expected the Department to have processes:

- ◆ *to ensure partners identify and adequately mitigate project risks (e.g., economic, construction, and capacity);*
- ◆ *to ensure the Department is aware of the risks and strategies to mitigate them;*
- ◆ *to approve appropriate proposed changes to projects;*
- ◆ *to evaluate the reasonableness of the changes; and*
- ◆ *to provide ideas/assistance to alleviate risk.*

As described above, the Department relies on its partners to assess and manage risks on projects. It did not require partners to document identified project risks for its review or approval. By not formally documenting significant risks prior to or during construction, the Department and its partners may face problems that they could have avoided.

In addition, the Department expects its partners to make timely requests for changes to projects. It treats these requests in a similar manner to initial project requests. It uses similar processes to review and approve them.

The Department did not formally assess the adequacy of the processes each of its partners used to identify and mitigate risks. It is important that the Department take steps to ensure its partners have adequate processes. This will help the Department decide whether it is appropriate to rely on its partners' processes.

Management's response

Management states that:

The Department has reviewed the conclusion and recommendations contained in the audit of Learning – Processes for Capital Projects. Steps will be taken to address areas recommended for improvement and a progress report will be provided.

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