

Southeast Stoney Trail: A CEAA Screening Environmental Assessment
for a Canada Building Fund Project

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Abstract:

Southeast Stoney Trail (SEST) is a high standard freeway in the vicinity of the City of Calgary planned for construction by Alberta Transportation. This project is an integral part of the Calgary Ring Road freeway planned for Calgary since the 1970s to facilitate the transport of goods to markets, to divert trucks and other vehicles from urban road systems and to reduce inner-city congestion. Construction of SEST commenced in spring 2010 as a public-private partnership (P3) between the Province of Alberta and Chinook Road Partnership.

The P3 bidding phase for SEST commenced in March 2009, with the P3 agreement finalized on 30 March 2010. In May 2009, the Government of Canada announced that \$100 million in funding for the project would be available through the Building Canada Fund, subject in part to the requirements of the *Canadian Environmental Assessment Act*. Transport Canada committed to expediting the CEAA approval to maintain the planned construction schedule. An environmental assessment screening (EA) had not been undertaken specifically for the project. However, EAs previously completed by two different consultants for the East and South components of the Ring Road system addressed the entire Southeast Stoney Trail alignment.

In order to simplify the review and approval process and ensure that the impacts associated with the project were clearly documented, AMEC extracted and compiled the relevant information from the previous EAs into a single project-specific screening environmental assessment. This required careful consideration and merging of two different impact assessment approaches and results, to ensure the professional judgment in both consultant reports was not misrepresented. The EA was completed and submitted to federal regulators in early August of 2009. The Environmental Screening Report for the project was signed off in December 2009, allowing for the release of the Building Canada Fund monies. This turnaround was markedly shorter compared to other recent Alberta Transportation projects submitted under CEAA, suggesting there may opportunities to apply these efficiencies on future projects subject to CEAA approvals.

Introduction

Alberta Transportation (AT) is in the process of constructing a high standard freeway, named Southeast Stoney Trail (SEST), in the vicinity of the City of Calgary (the City). The roadway will be located in a dedicated right-of-way (ROW) within the Transportation & Utility Corridor (TUC). This roadway is a portion of a ring road system that will eventually encircle Calgary.

In early 2010 AT completed the process of soliciting bids for the design, build, construction and operation of the SEST under the public-private partnership (P3) model, which AT successfully applied to other Calgary and Edmonton ring road projects. The successful bidder, Chinook Road Partnership (a consortium of companies headed by SNC Lavalin Inc.), entered into an agreement with the province to design, construct, finance and operate the road for 30 years.

The commitment of federal funding to the project was a trigger for the *Canadian Environmental Assessment Act* (CEAA). Although the funding commitment was received early in the P3 process, it raised a concern as any commitments made during the federal process needed to be incorporated into the P3 contract. Obtaining federal sign-off under CEAA can be a time consuming process, with many projects requiring a year or more between submission of the Environmental Assessment (EA) and receipt of the Environmental Screening Report (ESR).

The SEST EA was prepared to meet the requirements of CEAA and to simplify the federal review process. The EA describes environmental and socio-economic aspects of the project area, evaluates the potential effects of the Project on those aspects and describes measures for mitigating potentially adverse effects. The availability of an EA focused on the proposed alignment allowed federal regulators to implement an accelerated review process. The accelerated process in turn allowed AT to maintain their proposed tender timelines

Location

The Project is located along the south and east perimeter of the City. The project layout and general project location are presented in Figure 1. The proposed roadway is approximately 25 km long, extending from the south side of the Stoney Trail/17th Avenue SE intersection, south along the east perimeter of the City to Highway 22X, then west to the east side of the Highway 22X/MacLeod Trail interchange.

The City has expanded east and south toward the TUC, and some residential subdivisions are developed directly adjacent to the proposed right-of-way. At present, the TUC east of the City traverses primarily agricultural lands. Most of those lands are cultivated, but pasture and hay land uses are more common at the southeast end. Localized wetlands are abundant along the route, with a concentration in the southeast portion of the route. South of the City the TUC comprises a provincial highway designated Highway 22X (also named Marquis of Lorne Trail within the City). Access along the existing Highway 22X alignment through the study area is currently controlled by traffic lights and stop signs.

Ring Road Background

The Calgary Ring Road System was conceived in the 1970's when a Restricted Development Area (RDA) was established around the City of Calgary. The intent of the TUC concept is to concentrate transportation and utility infrastructure into a single corridor, thereby minimizing the environmental footprint of these disturbances. Subsequently, several conceptual-level plans for the corridor were developed that defined the widths of the specific components including roadway, pipelines, power transmission lines, service access roads, roadway buffers and municipal services. Most of the lands for the approved portions of the ring road were acquired by the late 1980s. These approved portions include the entire ring road except for the southwest connection between Glenmore Trail and Highway 22X.

The City of Calgary continues to grow and the transportation system requires ongoing expansion to accommodate this growth. This expansion needs to be completed in a responsible manner within the identified constraints of the existing residential developments and environmentally sensitive areas such as Fish Creek Provincial Park and the Bow River Valley.

Construction on the Ring Road commenced in the mid 1990's with the Stoney Trail project, extending from the Trans-Canada Highway NW to Country Hills Boulevard. Development of the ring road continued with construction of the Stoney Trail Extension project commencing in 2005 and opening to traffic in 2009. The northeast leg of the ring Road, Northeast Stoney Trail, commenced in 2007 and opened to traffic in 2009. The Provincial objective is to have the Calgary Ring Road system substantially complete and open to traffic by 2015.

Although the Province's initiative to complete the Calgary Ring Road will improve the movement of highway traffic around the City, the ring road is also an important component of the Calgary transportation network and provides significant overall benefits and efficiency to the citizens of Calgary.

The SEST Project consists of the construction and operation of approximately 25 km of freeway within a corridor approximately 300 m wide. SEST is to be a high speed (110 km/hr), free flow, fully access controlled facility with nine interchanges, two flyover railway crossings and 29 total bridge structures. During grading, the sub-grade for the ultimate design of an eight to ten-lane cross-section will be constructed, with 4 to 6 paved during the initial stage of development. Additional lanes will be paved as required in the future by increased traffic volumes. The total graded width of the mainline road right-of-way will be approximately 100 m. Ramps for interchanges will require a wider right-of-way, which varies with the type of interchange.

Environmental Assessment Background

As components of earlier Functional Planning Studies, EAs had previously been prepared for both the East and South portions of the Ring Road. Together, these existing EAs addressed the entire SEST alignment, but contained information on portions of the Ring Road outside the SEST alignment. In order to simplify the process and ensure that the federal reviewers could focus on issues appropriate to SEST, AT chose to extract the relevant baseline information contained in the two existing EAs into a single new EA specific to the SEST alignment.

The component EAs include one prepared by Spencer Environmental Management Services Ltd. (Spencer) in 2006 for a portion of the TUC that included the North Component of the SEST project area, and one prepared by AMEC Earth & Environmental in 2009 for a portion of the TUC that includes the South Component of the SEST project area. The SEST EA was thus organized to reflect these two distinct components – the North and South Components. The North Component comprises the north-south portion of SEST, extending from the intersection of Stoney Trail and 17th Avenue to the intersection of Stoney Trail and Highway 22X (Figure 1). This portion of the ring road traverses mainly undeveloped agricultural lands and localized wetlands. The South Component comprises the east-west portion of SEST, from the intersection of Stoney Trail and Highway 22X to the intersection of Highway 22X and Macleod Trail. This portion of the ring road follows the existing Highway 22X alignment.

The primary focus of the SEST EA was to assess the potential environmental effects of the southeast portion of the ring road and achieve sign-off on the project from federal regulators under the *Canadian Environmental Assessment Act*. A secondary requirement was to clearly define the commitments made during the federal process. The existing EAs had been prepared on behalf of AT as part of a due diligence environmental management process and originally were not binding on the P3 contractors. However, once the mitigation measures identified in the EA were incorporated into the ESR, they EA would become legal commitments that AT would require the successful P3 contractors to fulfill.

Public-Private Partnership

On March 30, 2010, an agreement was entered into with Chinook Road Partnership (a consortium of companies headed by SNC Lavalin Inc.) for the design, construction, operation, and maintenance of SEST under the public-private partnership (P3) model, which has been used successfully by AT on other Calgary and Edmonton ring road projects (Alberta Transportation 2010). The construction phase is scheduled for completion in late fall 2013. Maintenance of this portion of the ring road will be handled by Chinook Road Partnership until 2043.

The public-private partnership (P3) contract is valued at \$769 million (2010 dollars [Alberta Transportation 2010]). This compares to an estimated cost of \$1.8 billion for the same project using traditional delivery (Alberta Transportation 2010). The Alberta government will advance \$232 million during the construction phase while the federal government is providing \$100 million through the Major Infrastructure Component of the Building Canada Plan. Once the road opens to traffic, the Alberta government will make monthly payments over the remaining 30 years of the contract.

In order to minimize risk for the private companies involved in the P3 bidding process and ensure all mitigation measures were clearly defined early in the bidding process, AT required that a single Project EA be prepared for submission to federal regulators under CEAA. All mitigation measures and environmental commitments identified in the EA were clearly identified in table format to ensure the P3 proponents could easily understand and incorporate the items into their respective bid packages.

CEAA Approval Timeline

On March 2, 2009, the Government of Alberta announced its' intention to move forward with the SEST project that would be constructed as a P3. On May 22, 2009, Prime Minister Stephen Harper announced federal funding for the project under the Harper Government's Building Canada Fund, triggering the requirement for a CEAA screening.

Preparation of the SEST EA commenced on May, 26 2009. Because EAs had previously been prepared for the North and South components of the alignment and no significant additional field work was required, preparation began immediately of a focused EA for the project. A Project Description was submitted on June 5, 2009, providing a clear picture to federal regulators of the project limits and potential impacts associated with the project.

On August 21, 2009 a complete environmental assessment for the SEST was submitted to Transport Canada, identified as the Project Responsible Authority and the Federal Environmental Assessment Coordinator under CEAA. After an intensive review a final Environmental Screening Report (ESR) including approval sign-off was jointly prepared by Transport Canada, the Federal Transportation Agency, Department of Fisheries and Oceans, and Environment Canada, and was provided to AT on December 22, 2009, a time period of 4 months.

In order to facilitate the review process, AT required that a table be included in the mitigation section that identified all potential effects of the project identified in the EA. The effects were grouped by Valued Ecosystem Component (VEC) to facilitate review by various regulators. Mitigation measures associated with each effect were included in the table, and the severity of each residual effect associated with project was assessed. Summarizing the impacts in table format provided a valuable visual tool, clearly associating mitigation measures with specific potential impacts and demonstrating how the mitigation measures affected the severity of impacts assessed for each VEC.

Throughout the process, federal regulators demonstrated a desire to work cooperatively with AT to ensure the review was completed in a timely fashion. Requests for clarification were provided early in the review process and each request was provided as it arose. This allowed AT to begin work on addressing individual requests as the review was ongoing, rather than receiving a list of items for clarification near the end of the process. Early drafts of the ESR were circulated to AT's EA team to ensure that the document accurately reflected the information provided in the EA. Regular communications between the regulators and AT ensured all parties were aware of how the review was progressing and identified any difficulties at an early stage.

Ultimately, the desire to ensure that money provided under the federal infrastructure funding program was able to enter the economy in a timely manner was a major driver in expediting the review process. In the case of SEST, the timely review under CEAA allowed AT to ensure the federal ESR sign-off was in place well in advance of awarding the P3 contract for the project. This in turn provided the teams bidding on the contract a better understanding of the environmental commitments they would need to address during the P3 process.

Comparison to Other Project EAs Reviewed under CEAA

Several comparable highway projects in Southern Alberta have undergone review under CEAA in recent years. A comparison of the time required to complete the CEAA review process and achieve ESR sign-off for each of the projects is provided in Table 1.

Table 1: Recent CEAA Approval Timelines in Southern Alberta

Project	EA Submitted	ESR Received	Review Period
Southeast Stoney Trail	August 2009	December 2009	4 months
Highway 1A	March 2009	February 2010	12 months
Northwest Stoney Trail	August 2004	February 2005	6 months
Highway 63	August 2006	December 2008	28 months
Southwest Calgary Ring Road*	September 2006	n/a	30 months

* - CEAA review process terminated in June 2009 due to Tssu T'ina Nation decision not to proceed with project

The Highway 1A:04 Upgrading project, located approximately 45 km west of the City of Calgary, involved the widening and realignment of a 30 km section of road in a rural setting, including replacement of new watercourse crossings on tributaries to the Bow River and erosion protection works on the Bow River. Most of the project, (23 km) is located within the Stoney Indian Reserve. Transfer of federal lands under the *Indian Act* and an authorization for Harmful Alteration, Disturbance or Destruction of fish Habitat under Section 35(2) of the *Fisheries Act* triggered the need for an EA under CEAA. A project description for the work was submitted to INAC in June 2007 and the Final Terms of Reference were provided to AT in December 2007. The Notice of Commencement was placed on the CEAA public registry on July 11, 2007. The EA report was submitted to INAC on March 29, 2009. The finalized ESR was provided to AT on 29 April 2010, a time period of 12 months.

The Northwest Stoney Trail Expansion project located in northwest Calgary was the second portion of the Calgary Ring Road to be constructed. The project consisted of approximately 24 km of new roadway including two new watercourse crossings. Federal funding for the project under the Canadian Strategic Infrastructure Fund and an authorization for Harmful Alteration, Disturbance or Destruction of fish Habitat under Section 35(2) of the *Fisheries Act* triggered the need for an Environmental Assessment under CEAA. The Environmental Assessment was submitted to federal regulators in August 2004 and the finalized ESR was provided to AT in February 2005, a time period of 6 months.

Highway 63 is the main transportation corridor between Edmonton and Fort MacMurray, Alberta. AT is in the process of twinning the existing two-lane highway by adding two additional lanes from the Highway 55 junction near Atmore, Alberta, to a point north of Mariana Lake, a total length of 146 km. The roadway will be upgraded to provincial expressway standards with safer intersections, a wide median divider and paved shoulders to help accommodate oversize loads. Federal funding for the project and an authorization for Harmful Alteration, Disturbance or Destruction of fish Habitat under Section 35(2) of the *Fisheries Act* triggered the need for an Environmental Assessment under CEAA. An EA was submitted to federal regulators in August 2006 and the final ESR report was provided to AT in December 2008, a time period of 28 months.

The Southwest Calgary Ring Road project is located in southwest Calgary and was to be constructed to complete the ring road connection between Highway 22X to the south, extending north to Glenmore Trail in the vicinity of the Sarcee Trail intersection. A project description for the project was submitted on 18 March 2005. The EA was submitted to federal regulators in September 2006 and went through a review process including regulator Supplemental Information Request meetings and submission of two Supplemental Information Request responses, the last being submitted September 2007. Following this, the review process was effectively stalled pending a decision by the Tsuu T'ina First Nation (TTN) to proceed with the project through their reserve lands. On 30 June 2009, the TTN voted down the project proposal and the file was closed 30 months after the EA was originally submitted to federal regulators.

Conclusion

The Southeast Stoney Trail Project received \$100 Million from the Government of Canada under the Building Canada Fund subject in part to the requirements of the *Canadian Environmental Assessment Act*. Transport Canada committed to expediting the CEAA approval to ensure the infrastructure stimulus spending money was released in a timely fashion and to maintain the planned construction schedule. The EA for the project was submitted to federal regulators in early August of 2009. The Environmental Screening Report for the project was signed off in December 2009, a total turnaround time of approximately 3 months. This turnaround was markedly shorter compared to other recent Alberta Transportation projects submitted under CEAA.

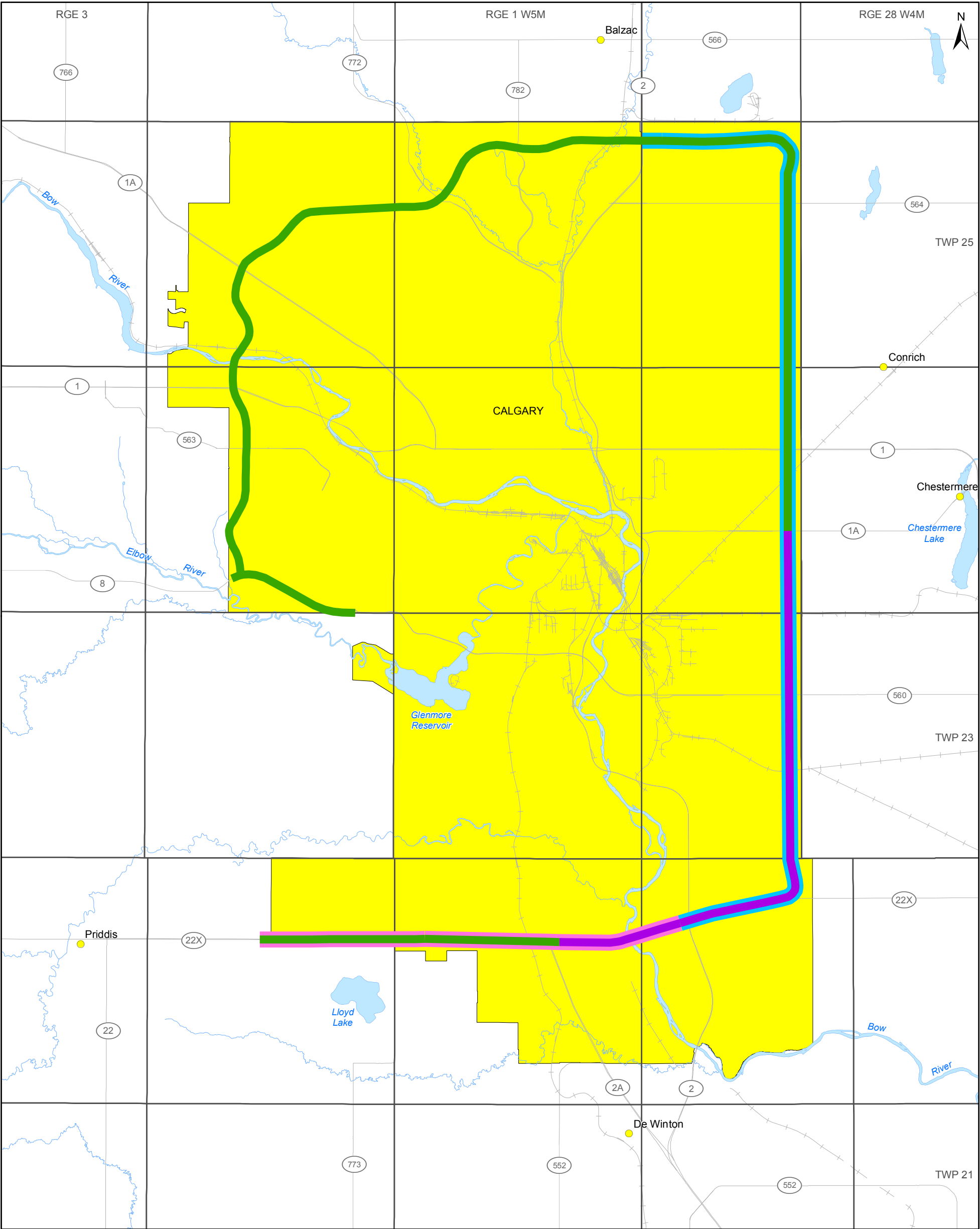
As environmental assessments continue to become more complex, review times are not likely to decrease. Combined with recent changes such as those caused by the Red Chris decision, there is potential for increased workloads on federal regulators and subsequently longer timelines for review of projects under CEAA. In order to ensure timely review of future projects, proponents will have to work closely with federal regulators. This may include incorporating tools such as an impact and mitigation table to assist reviewers in clearly understanding the relationships between impacts and mitigations associated with the project. Regular communications between the proponent and reviewers can also help clarify any outstanding issues and allow proponents to provide additional information, if required, at an early stage of the review process. However, in order to ensure that future CEAA reviews are completed in a timely manner, federal regulators will need to commit to expediting future projects on an ongoing basis.

References

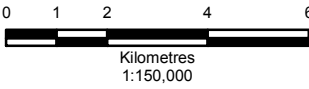
Alberta Transportation. 2010. Southeast Calgary Ring Road. Available at: <http://www.transportation.alberta.ca/eastgp.htm>

Figure 1: SEST Project Location

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- Legend**
- Southeast Stoney Trail Alignment
 - Calgary Ring Road
 - East Freeway Study Area
 - South Calgary Ring Road Study Area



Alberta Transportation
Southeast Stoney Trail

Project Location

DATE: May 2010	Figure 1		
PROJECT: CE03896	Fig01 Project Location 10-05-03		
ANALYST: CP	QA/QC: TR	IC	IC
PROJECTION/DATUM: 3TM 114 NAD83			