

February 2, 2021.

Ms. Jennifer Howe

Springbank Off-Stream Reservoir Project

Impact Assessment Agency of Canada

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Dear Sir/Madam:

Thank you for the opportunity to provide comments on the 20210104 Draft Environmental Assessment Report for the Springbank Off-Stream Reservoir Project.

We have serious concerns regarding the safety of the proposed Springbank Off-Stream Reservoir. Because of its location in the midst of communities and because the City of Calgary is only 18 km downstream, SR1 has been given the “Extreme” hazard rating which requires that it be designed to protect from a Probable Maximum Flood (PMF) or the Flood of Record. Alberta records show that floods 30% larger than the “estimated” 2013 flood occurred in 1879 and 1897 on the Bow AND ELBOW Rivers. However the proponent has advised that the Design Flood is for 1240 m³/s in spite of the fact that they report the Probable Maximum Flood figure is 2,770 m³/s.

In the Preliminary Design Report,

(https://www.nrcb.ca/download_document/2/83/10664/20201218-at-sir-to-nrcb-re-preliminary-design-report) submitted to NRCB by Alberta Transportation and Stantec, the

proponents advise that the Flood of Record was the June 2013 flood despite having advised in an earlier submission that “Several large historically observed floods occurred in 1879, 1897 and 1902 on the Bow AND ELBOW rivers prior to the beginning of systemic hydrometric monitoring Notice that incorporating historic flood records increases the magnitude of the 100 year to 1000 year flood peaks by 26% to 34%.”

In this Preliminary Design Report submission - under 3.2 Flood of Record – they described how they reached the crucial calculation for the Flood of Record: “Due to damage during the event, official data from gauging stations at Elbow River at Bragg Creek (05BJ004) and Elbow River at Sarcee Bridge (05BJ010) are unavailable. Water Survey Canada (WSC, 2015) supplied preliminary peak instantaneous flow for the Elbow River at Bragg Creek and Sarcee Bridge as 1150 m³/s and 1240 m³/s respectively. The City of Calgary provided an ESTIMATED inflow flood hydrograph into Glenmore Reservoir for the 2013 flood event based on reservoir flow and outflow analysis. The ESTIMATED INFLOW HYDROGRAPH PROVIDED BY THE CITY IS CONSIDERED THE FLOOD OF RECORD FOR THIS PROJECT.

In www.AdviceWaterManagementBowRiver-May-17-2017 the Bow River Basin Council advised, in a report to the City of Calgary (See 3.2 Floods) “One key difference between the estimated peak flows from the early 1900s and those measured during the 2005 and 2013 flood events is that the more recent events were moderated considerably by the existence and operation of six sizeable storage reservoirs upstream of Calgary (see Table 1). These reservoirs stored water and reduced peak flow downstream in Calgary by approximately 600 cms in 2013. Taking this into account would put the naturalized 2013 flood peak for the Bow River at Calgary (upstream of the Elbow River) at about 2400 cms – approximately the same peak as the 1879 and 1897 flood events”.

As the 2013 flood affected all the rivers in the Bow Basin river system, of which the Elbow is part, it is probable that the naturalized flood peak for the Elbow River was also much higher than the “ESTIMATED’ 1240 m³/s figure used as the design capacity for SR1 and wrongfully claimed to be the “Flood of Record”.

When building such vital infrastructure as a dam – especially one with an “Extreme” hazard rating, is it acceptable by Canadian Professional Engineers to use “guesstimates” for the design capacity?

On February 16, 2011, the President of The Canadian Society for Civil Engineering wrote a letter to the Minister of Transport, Infrastructure and Communities, The Honourable Chuck Strahl. On behalf of the CSCE, he advised:

“CSCE is concerned that infrastructure decisions in Canada are not being made with adequate consideration for the long term. Short term investment decisions, based solely on the lowest capital cost, are in the long term more expensive to taxpayers, disruptive to industry and the economy AND A RISK TO PUBLIC SAFETY.

In a time of limited funding for infrastructure, Canada needs to be making the best possible use of federal tax dollars. You have an opportunity to direct investment in Canada toward infrastructure projects which will be examples for generations to come of your government’s long term vision and commitment to the future of this country.

Canada USED to build for the long term and the federal government led this effort. In response to federal government leadership civil engineers were expected to meet the challenge – and we did. We built for the long term.

In recent years however the vision of the long term has faltered. Canada is not building infrastructure that we will celebrate 100 years from now.

UNLIKE IN THE PAST, CIVIL ENGINEERS ARE NO LONGER INVOLVED IN THE INITIAL PROJECT ANALYSIS AND DESIGN. CIVIL ENGINEERS ARE ONLY ENGAGED AFTER THE DECISION TO BUILD

HAS BEEN MADE, TO ENSURE THAT WHAT OTHERS HAVE DECIDED TO BUILD CAN BE BUILT SAFELY.

CSCE rejects this abdication of responsibility for infrastructure analysis and design that has been pushed upon us and seeks an opportunity to help the federal government identify and support good infrastructure decisions. To this end CSCE recommends to the federal government

2. That national standards of sustainable infrastructure be developed with the assistance of the Canadian Society for Civil Engineering and be used to assess projects requesting federal funding.....

We will also lobby for the essential role that civil engineers can play in this long term visionary process.”

Engineers must build for “worst case scenario”, so we are sure an “estimated Probable Maximum Flood” design capacity would not have been used if CSCE had been involved in the choice of SR1.

The public need to trust “That national standards of sustainable infrastructure” have been developed with the assistance of the Canadian Society for Civil Engineering and are being used to assess projects such as SR1 that, if not built to the highest safety standards, could greatly endanger our City of Calgary and adjacent areas.

Since 2017 the regulators have repeatedly requested an official stamped, signed, copy of the Initial Design Concept from Stantec Consulting Ltd, providing their Permit to Practice and giving certification by their Professional Engineer in charge of the Project.

A Sign-Off Sheet was finally submitted in their December 18, 2020 submission as part of the Preliminary Design Report. However above the signatures of the seven Professional Engineers was the following caveat:

“In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages OF ANY KIND, if any, suffered by it OR ANY OTHER THIRD PARTY as a result of decisions made or actions taken based on this document.”

This raises an important question. Who will be accepting responsibility? Will it be Alberta Transportation, Alberta Environment and Parks, the engineers and bureaucrats who give regulatory approval for SR1 to proceed, or our elected officials in the Municipal, Provincial and Federal governments who take an oath of office to “serve the public interest”? Or will it be the unknowing “other third party” - the public and the taxpayers?

APEGA – the Alberta Engineering and Geoscience Association – have recently updated the Engineering and Geoscience Professions Act. They advise “For more than 100 years APEGA has been the authority on ethical, professional and technical competency to ENSURE THAT ALBERTANS ARE PROTECTED. This is why we’ve moved forward in making more than 160 recommended revisions to the Engineering and Geoscience Professions Act. This updated version of the Act will support ONGOING PUBLIC SAFETY, improve transparency and accountability, as well as PROVIDE MEANINGFUL CONSEQUENCES FOR THOSE WHO FAIL TO MEET THESE STANDARDS.”

Because a dam to be built on the outskirts of Calgary must be built to the highest safety standards, we believe it is of vital importance that SR1 is put on hold until the Alberta Legislature tables and votes on the Updated Engineering and Geoscience Professions Act.

Regarding 8.1 Effects of Accidents or Malfunctions – See Page 119/176 in the Draft EIA.

“An off-stream dam failure or breach could occur due to flooding. Additionally, overtopping could occur if the floodwater volume exceeds the probable maximum flood design and the emergency spillway fails to operate as anticipated (due to design error or debris blockage), or if the diversion inlet gates fail to shut once the reservoir reaches maximum capacity.”

“A dam failure or breach would result in inundation of surrounding areas, federal lands, lands used for traditional and non-traditional uses, as well as residential and commercial property and would have the potential for human injury or LOSS OF LIFE.”

As SR1 design capacity is less than the estimated requirement to protect from a 2013 flood, and the Flood of Record was 30% larger than the estimated 2013 flood peak, it seems there is a very high probability that an off-stream dam failure or breach will occur. This would have disastrous consequences for the over 1.3 million people who will be directly affected.

Deltares, the consultant hired to evaluate SR1 advised, under Additional Considerations:

“Temporary storage of water in a detention area is not a very robust measure, in the sense that it is effective up to a certain design condition, but when it is overcharged its effect is reduced to nil. When floods up to the size of the 2013 flood would be avoided, BUT ANYTHING ABOVE WOULD NOT BE REDUCED IN SIZE, THE AWARENESS OF THE PEOPLE IN THE FLOODPLAIN WILL FURTHER DECLINE, MAKING THEM (AND SOCIETY AT LARGE) EVEN MORE VULNERABLE.”

The Proponent stated: “Failure or breach of the off-stream dam during a design flood could release up to 77,771,000 cubic meters of water. The Proponent predicted that the probability of a design flood occurring any given year would be 0.5 percent.”

“The Proponent concluded that following the application of safeguards and contingencies, NO accidents or malfunctions would be of unacceptable risk. Further the Proponent stated that

the likelihood of the aforementioned accidents or malfunctions is low; therefore there is a low likelihood that a significant adverse environmental effect would occur as a result.”

Since the consequences of a dam failure or breach releasing 77,771,000 cubic meters of water upstream of Calgary would be a catastrophic event with the probability of much loss of life, we find this conclusion “no accidents or malfunctions would be of unacceptable risk” incomprehensible and dangerous, especially when the conclusion is based on an assumption that a flood of larger capacity than 77,771, 000 is not a likely probability, despite the fact that massive flooding due to extreme weather events has been happening regularly in Canada and the US in recent years.

Quebec dams which are built to the 1-1000 year level have been severely tested on more than one occasion during the last five years.

See: <https://www.thestar.com/news/Canada/2019/04/25/Quebec-officials-warn-of-possible-dam-failure-on-rouge-river-affecting-250-people.html>. It reports:

“Simon Racicot, director of production and maintenance with Hydro-Quebec, told reporters the dam at Chute Bell was built to withstand what he called a millennial flood. ‘That means a flood that happens every 1000 years’ he said. Hydro workers discovered earlier in the day the millennial level of water had been reached. ‘We are confident that the structure is solid.... We are entering into an unknown zone right now – completely unknown.”

“According to the utility’s website, the concrete dam was built in 1942, is 19 metres high and also 60 metres long. It has the capacity to hold back 4 million cubic metres of water.”

This dam is not close to a large city and in the midst of communities as the proposed SR1 would be, yet Quebec have built it to the 1-1000 year level (not smaller than 1-100 year level) and it still was severely tested by an extreme weather event such as are happening regularly across Canada and the U.S. in the last few years.

Based on the information we have presented, we respectfully request that the Agency re-evaluate the view expressed regarding: Climate Change - (See 8.2.4 Agency Analysis and Conclusion – Page 126) “That the Proponent has designed the Project to account for the effects of the environment on the Project. Climate change may result in floods of a higher frequency and size than anticipated, however, the Project is designed to manage a flood of the design flood volume and has additional capacity if needed. The Agency is of the view that the project design and mitigation measures proposed by the Proponent would avoid or reduce potential effects”.

Summary:

. SR1 has an “Extreme” hazard rating which demands it must be built to withstand a PMF.

- . The PMF is acknowledged as being 2,770 m³/s
- . The Design Flood is 1,240 m³/s
- . The Design Capacity of SR1 is one third less than the Design Flood of 1,240 m³/s
- . When a Probable Maximum flood occurs, and we do not know when (it could be this year, next year or many years in the future) SR1 will be unable to fulfill its purpose “to reduce the effects of future extreme flood events on infrastructure, water courses and people in the City of Calgary and downstream communities”. Instead, the consequences of a dam breach or failure will result in consequences much more harmful for the City of Calgary and its citizens than if it had never been built.

Alternative Means:

The 2013 flood was a devastating event for Calgarians. Many are still suffering from physical and financial harm and stress caused by the flood. We saw the distress of those whose homes and businesses were flooded, those who were unable to work or reach their homes in the downtown area and we wondered how this could happen in an advanced country such as Canada. Calgary has been built on a floodplain where two large rivers – the Bow and the Elbow – converge, so we, as citizens, expected that effective flood management would be in place upstream, since being close to steep, snow-capped granite mountains ensures an unacceptable risk of spring floods. There are at least six upstream dams on the Bow river capable of reducing spring high flows, but – after the 2013 flood – we learned that there is only the Glenmore Reservoir on the Elbow River and it was shown to be ineffective in protecting a city that has grown so much since 1934. If SR1 cannot provide full protection to Calgarians from a known threat, leaves many residents still at risk from overland and groundwater flooding, leaves upstream communities such as Bragg Creek, Tsuut’ina Nation, Redwood Meadows unprotected, except for berms (which have proven useless in floods in 2005 and 2013 – and still allow groundwater flooding to homes), why have our provincial and municipal governments focused only on SR1, since July 2014, and refused to consider alternatives recommended in government department reports and by the CEAA (now IAAC)?

3.2 Alternative Means of Carrying out the Project. (Page 30)

“CEAA requires that environmental assessments of designated projects take into account alternative means of carrying out the Project that are technically and economically feasible, and consider the effects of any such alternative means.”

To our knowledge, the only “Alternative Means of Carrying out the Project” that has received an independent professional study was the McLean Creek Dam (MC1) which would demand an Extreme hazard rating and the design capacity was one-third smaller than SR1.

An Alberta Watersmart Report – “2013-Great-Flood-and-Action-Recommendations-Feedback.pdf.” on Page 6/134 – under “1. Anticipate and plan for more extreme weather events” .

“Alberta, and specifically southern Alberta, should be prepared to experience larger and more frequent extreme weather events in the future, including both floods and droughts. This is important because these events have huge impacts on people and on our economy. These impacts are costly and are likely to become more costly as Alberta’s population grows.”

“... flood and drought events in the past were far more severe than we have experienced during the mid to late 20th century. The pre-historic record (Figure 1) suggests that we should be prepared for extreme weather events that are worse in terms of severity and frequency than the ones we have experienced in recent history. For example, the 2013 flood was one of five similar sized flood events on the Bow River in 130 years (Figure 2). History would suggest that we should consider the recorded maximum and minimum flow levels in our infrastructure and response planning. As a further complication, this planning must take drought into account, as flooding and drought can occur right after one another (e.g. 2001 and 2002 were major drought years, while 1995, 2005, 2011 and 2013 were major flood years) or even in the same year.”

See Figure 2 – Page 7/134. Maximum water Discharge in the Bow River at Calgary between 1879 – 2013. Source: Report on Six Case Studies of Flood Frequency Analysis Prepared for Alberta Transportation and Civil Engineering Division Civil Projects: April 2001. Figure 5.1 p44.

SR1 does not fulfill or take into consideration the stated recommendations of the Watersmart Report to protect from flood and drought or to accommodate more extreme and frequent floods and droughts that the Report predicts.

Another Report was undertaken by the 2013 Community Flood Mitigation and Advisory Panel – See “Flood Mitigation Measures Elbow River, Sheep River and Highwood River Basins”.

Page 7/120: 1:0 Introduction.

“The Community Flood Mitigation Advisory Panel, hereinafter referred to as the Panel, was created in July 2013 to advise the Government of Alberta on possible flood mitigation measures that may be implemented to reduce future flood damages..... To date the Panel has instructed Stantec to address the Elbow River, Sheep River and Highwood River Basins with the design objective being mitigation of a flood event identical to that of June 19-21, 2013. As part of the review the Panel advised that any recommendations made should follow a systems approach to the mitigation and it was felt that the best solutions were those that served all Albertans wherever possible.”

Page 9/120: 2.0 Elbow River Basin

Detention Storage Sites:

“Three potential sites were initially identified for possible consideration. Upon helicopter investigations undertaken on August 6, 2013, two of the sites were chosen as potential favourable storage locations and their locations revised. The proposed detention storage locations are shown on Figure 2-4. Both sites are located upstream of Bragg Creek. Site EQ1 is located on the Elbow River at the junction of Quirk Creek. Site EC1 is located on Canyon Creek about 4 km north of secondary Highway 66.

Page 24/120: 6.0 Closure

“Five dry dam sites are proposed for the upper watersheds of the Elbow River, Sheep River and Highwood River basins to mitigate potential future flooding damages to private property and increase public safety. Two sites on the Elbow River will reduce the estimated 2013 flows at Bragg Creek by nearly 60%. One site on the Sheep River will reduce the estimated 2013 flow at Black Diamond by about 60% and two sites on the Highwood will reduce the estimated 2013 flows at High River by nearly 60%.

These dry dams will not result in permanent loss of habitat or impacts to fish and wildlife due to the absence of permanent water behind the dams. Construction of the dry dam structures themselves will temporarily impact only a small percentage of local vegetation which will be mitigated through landscaping of the fill slopes.”

Page 114/120: Appendix D

Preliminary Site Review:

“The first step in the selection of suitable sites for the proposed dry dams was finding a location that would minimize the material required for the construction of the dry dams and would minimize the impact on the natural environment as well as existing facilities such as roads, buildings, pipelines, oil and gas facilities and farm structures. Using the Province of Alberta topographic mapping, possible locations were identified and coordinates were established for the sites so that an aerial review could be completed for each of the sites to confirm the suitability of the location for the proposed Dry Dams. Lastly, **land ownership** was considered as it was thought that in order to complete the facilities in a timely manner, **it was best if they were located on Public Lands.**”

Design and Constructability Considerations – Dry Dams.

. Safety is of utmost importance and the Dam Safety Guidelines should be adhered to as part of the detailed design of the design dams.”

It seems all of the recommendations above for **“the selection of suitable sites for the proposed dry dams”** were ignored with the choice of SR1 and instead the site chosen will

- . maximize the material required for the construction of SR1. (Will require moving vast tons of earth to construct the earthen walls – using an army of earth-moving equipment on the outskirts of the busy city of Calgary, greatly inconveniencing the public and adding risks to public health and traffic movement).
- . maximize the impact on the natural environment, causing extensive & costly ongoing remedial work.
- . cause extensive and costly changes to roads, building, pipelines, oil and gas facilities, and farm structures.
- . has already caused great stress and substantial financial costs to **landowners**, who are ranchers and farmers whose families have been good stewards of the land for generations, who are faced with expropriation of their homes and businesses.
- . The Dam Safety Guidelines which require SR1 to be designed to accommodate a Possible Maximum Flood have not been adhered to.

The 2013 Community Flood Mitigation Report recommendations to manage floods in the headwaters of the Elbow, Highwood and Sheep Rivers, (which provide a high percentage of the water needs in the South Saskatchewan River Basin) would fulfill the requirements for water management outlined in:

The 2014 – 2024 (amended February 2017) South Saskatchewan Regional Plan, (which includes the Bow Basin river system): Strategic Plan – p.11.

“The agriculture industry is the number one renewable and sustainable resource in the South Saskatchewan Region and will continue to generate substantial social, economic and environmental benefits into the future. In 2011, farm cash receipts amounted to \$4.5 billion (43 percent of the provincial total of \$10.4 billion and the region also accounted for approximately half of the province’s \$12.2 billion revenue for sales in food and beverage manufacturing. The region also contains a significant beef processing sector as well as processing facilities for poultry and dairy products, potatoes, sugar beets, canola and cereals (flour, feed and distilling).

Page 12. “The South Saskatchewan Region contains almost 65 percent of Canada’s irrigated lands.”

Page 77. “Water: To the west in the region, the eastern slopes of the Rocky Mountains provide the major headwaters for the region **and more than 75 percent of the region’s water supplies**. Watershed management and headwaters protection is the top priority for both water supply and water quality.”

Page 111. Agriculture.

“Municipalities are expected to:

8.20 Limit the fragmentation of agricultural lands and their premature conversion to other non-agricultural uses, especially within areas where agriculture has been identified as a primary land use in the region. Municipal planning, policies and tools that promote the efficient use of land should be used where appropriate to support this strategy.”

8.23 Utilize or incorporate measures which minimize or mitigate possible negative impacts on important water resources or risks to health, public safety and loss to property damage due to hazards associated with water, such as flooding, erosion and subsidence due to bank stability issues, etc., within the scope of their jurisdiction.”

The decision to evaluate only SR1 and MC1 was made in the period between October 2013 when the above “2013 Community Flood Mitigation Advisory Panel” report was submitted to the Proponent, and July 2014. This was a very rushed decision for a project that will have such a huge impact on the future safety and financial opportunities for our Province, and involves the security of our priceless mountain water supplies.

Deltares was hired to choose between SR1 and MC1. Once they provided their choice of SR1 the Alberta Government focused on SR1 alone. The only reason we have been given for this choice is that SR1 would have a larger catchment area than upstream sites. However this assumption ignores much scientific evidence provided in various reports by respected experts. Dr. John Pomeroy, who spent years researching the river flows in the Bow Basin, and is now the Head of “Water Futures – the Effect of Global Warming on our Water Supplies” has said the best place to protect from future flooding is in the most Eastern Valley of the Rocky Mountains. It has been acknowledged that 80% of flood waters come from the mountains. Stantec, in their Probable Maximum Flood Analysis dated August 7, 2015 (P.26) stated “most of the 2013 runoff in the Elbow River Basin was generated from the mountainous part of the watershed upstream of Bragg Creek.”

If the recommended five dams for the Elbow, Sheep and Highwood rivers had been funded with a full independent study by well-respected professionals in the Environmental, Engineering and Geoscience fields, is it possible that we could already have flood and drought management for our vital water resources in the Eastern Valleys of the Rocky Mountains?

Instead, leases to study open pit mining for metallurgical coal in our Eastern Slopes have been given out. These Eastern Slopes contain the headwaters of the Bow Basin rivers which are vital for our priceless water supplies!

In the Draft Environmental Report, under 3.2.2 – Views Expressed, the Agency noted:

“Public comments received during the technical review of the EIS indicated that the Proponent should consider alternative means of reducing the effects of future extreme floods on

infrastructure, water courses and people, such as the McLean Creek Dam, the Tri-River Joint Reservoir of Alberta and the Micro-Watershed Impounding Concept.”

Despite millions of dollars being distributed to those with legitimate objections to SR1, which have caused years of delay in providing urgently needed flood protection to our many river communities who live in fear of another catastrophic flood, the provincial government refused to finance the study of upstream solutions which offer the possibility of flood protection and water conservation in a much more timely manner than SR1 would offer.

Were the recommended “comparative assessments of every option” ever conducted? We know that for the Tri-River Joint Reservoir of Alberta they were not. This proposal was presented to Premier Notley and Environment Minister Phillips in July 2015. They forwarded it to Mr. Andrew Wilson, Director Strategic Integration and Projects, Resilience and Mitigation Branch, Alberta Environment and Parks, for study. TRJR was summarily rejected for reasons that showed no true consideration had been given to it (as SR1 had already been chosen), and all further efforts to obtain an evaluation were ignored. After the election of the new UCP government further efforts were made to obtain a feasibility study for TRJR and they again resulted in a letter from the new Environment Minister to contact the same Mr. Wilson who had refused to obtain a proper evaluation previously. Mr. Wilson advised, without any evidence to support his claim, that TRJR had received a “high level” evaluation.

Following the CEEA directive of August 31, 2018 “to evaluate the Tri-River Joint Reservoir (TRJR) as an alternative flood mitigation option”, no assessment was requested from respected, credible and dedicated professionals, such as usually are engaged for such studies and instead Alberta Transportation and Stantec, who are clearly biased in favour of SR1, were tasked with this assessment. Instead of an in-depth study, by unbiased professionals, of a project that could offer incalculable benefits to this province and Canada if found to be feasible, AT/Stantec used an on-line website for their unprofessional assessment and distorted the information the website provided.

From the submissions publicly available, we see that the Micro-Watershed Impounding proposal was summarily dismissed just as TRJR was. CEEA documentation shows that both proposals start with examining the Alpine Mountain snow and storm precipitation watershed as the foundation for developing a flood mitigation Initial Design Concept. These projects would provide the necessary protection from the inundation and destructive current surge resulting from water pouring down the steep, impervious granite mountains, that occurred in 2013. This destructive initial flow surge destroyed thousands of camping sites, riverside day recreation sites, upstream road, bridges, hiking trails, hundreds of camp toilets, fire pits with log storage debris and hundreds of garbage storage containers. Without upstream protection, such as the TRJR and/or MWI and/or EQ1 or EC1 proposals would provide, ALL of this polluting material and debris will be transported to the proposed SR1 Diversion Canal and into the Off-

Stream Reservoir, where contaminants can accumulate and incubate until after the flood resides (presuming, of course, that it could contain the flood in the first place).

Note: For pictorial evidence of the millions of dollars of damage that occurred upstream in our Kananaskis country tourist and recreation area, and will happen again without upstream protection, please see the book “The Great Kananaskis Flood – A Disaster that Forever Changed the Face of Kananaskis Country” by Gilleen Daffern and Derek Ryder.

Millions of dollars were spent by Alberta Environment and Parks to restore the affected highways and trails, but Albertans have lost many of their favourite recreation areas in the mountains close to Calgary. When the next flood comes, unless there is upstream flood management provided, riverbanks will again be eroded, trees and boulders washed into the rivers, highways, bridges and trails destroyed. It seems our governments do not learn from experience. After the 2005 flood, over \$1.5 million was spent to repair Harvie Passage in Calgary; unknown funds were spent to repair damage along riverbanks in other Calgary areas, and then the 2013 flood came along and damaged Harvie Passage and the riverside areas again.

The biased, unsupported assumptions, with no opportunity for rebuttal, provided to CEAA by the Proponent, cannot be accepted as fulfilling the CEAA directive of August 2018 to evaluate Alternative Means.

3.2.3: Agency Analysis and Conclusion (Page 36)

“The Proponent considered the cost-effectiveness, technical feasibility, reliability, potential environmental effects, and feedback from the public and indigenous nations on the identified means of carrying out the Project. Based on its review of the EIS and other information, the Agency is satisfied that the Proponent has sufficiently assessed alternative means of carrying out the Project for the purposes of assessing the environmental effects of the Project under CEAA 2012.”

We were greatly disappointed with the above Agency decision and do not agree with it.

We have attended most of the Flood Mitigation Information sessions provided and provided our feedback, along with other members of the public. What we have learned, based on our experiences, is that the decision to consider only SR1 for flood mitigation structure was already decided before the first Information Session, and that feedback from the public was not the purpose of the sessions, but instead they were only to tick off the boxes required in order to obtain necessary regulatory approval.

What led to this decision was:

1. The homeowners along the river downstream of the Glenmore Dam are being led to believe that SR1 will protect their properties, when in fact it will only make a difference if the flood is less than the 2013 event.
2. Homes that received groundwater flooding in Bowness, Elbow Park, Rideau and other areas along the river downstream of Glenmore Dam in 2013 will be affected again unless the floodwaters on the Bow and Elbow are held back upstream by the six dams on the Bow and water management dams capable of holding back a PMF upstream on the Elbow, plus the Glenmore Dam.
3. Calgarians place high value on their river parks and walkways and do not want the proposed berms along their rivers that restrict their opportunities to enjoy access to them.
4. Bragg Creek residents have objected strongly to berms along the Elbow River and their complaints have been ignored. They have also objected strongly to logging and removal of valued trees in their area, but these objections have also been ignored.
5. Redwood Meadow residents suffered terribly in the 2005 and 2013 floods. Supposedly protective berms, which they fought hard with sandbags to protect in both floods, were overcome and the rip-rap used washed through the community and caused much damage. Many homes also suffered from groundwater flooding because the flood surge had not been held back upstream.
6. Calgary has a large population who place high value on their local recreation areas. The 2005 and 2013 floods damaged their favoured recreation areas at Bragg Creek hamlet, Allen Bill Pond, Elbow Falls and the many picnic spots in the area. Without upstream flood mitigation, these areas will be lost to us.
7. The catastrophic damage that Bragg Creek suffered in the 2013 flood showed that the Elbow River can be an uncontrollable, destructive force that sweeps away all in its path. The proposed berms will be unable to hold the river back from a flood as large or larger than the 2013 flood, just as the berms in High River built after the 2005 flood could not hold back the Highwood River in 2013. Instead, water that got behind the berms could not get back to the river and destroyed a whole new subdivision, causing much social distress and financial losses.
8. The decision to expropriate private land from ranchers and farmers is contrary to Canadian values and has caused great distress to landowners who have cared for this land for generations. Why, and by whom, was this hastily made decision made to choose private land instead of public lands for flood mitigation? This decision went against the recommendations of the 2014-2024 South Saskatchewan Regional Plan to “limit the fragmentation of agricultural lands” and the recommendations of the 2013 Flood Mitigation Advisory Panel that “in order to complete the facilities in a timely manner, it was best that they were located on Public lands”. Instead, flood protection

to our river communities has been delayed by years, at enormous cost to taxpayers, and great unnecessary distress to the landowners.

Thank you again for your invitation to comment on the Agency Draft Environmental Assessment Report. Our involvement and research on the Project has convinced us that SR1 is not supported by the Public who have had the time and opportunity to study it, will cause great harm when tested by the next large flood, and will cripple the Alberta economy for generations to come with loss of opportunity to manage our priceless water resources in a manner that is supported by our most respected professionals in the environmental, engineering and geoscience professions.

Respectfully,

David and Noelle Read.

c.c. Federal Minister of Environment and Climate Change
Federal Minister of Infrastructure

