

ALBERTA ENVIRONMENTAL APPEALS BOARD

Report and Recommendations

Date of Report and Recommendations – June 30, 2015

IN THE MATTER OF sections 91, 92, 94, 95, and 99 of the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12, and section 115 of the *Water Act*, R.S.A. 2000, c. W-3;

-and-

IN THE MATTER OF appeals filed by Joan Corbeil, Tania Demencuik, Terri Savitsky, and Paul Baumberg with respect to *Water Act* Approval No. 00349047-00-00 issued to the Municipal District of Bighorn No. 8 by the Director, South Saskatchewan Region, Alberta Environment and Sustainable Resource Development.

Cite as: *Corbeil et al. v. Director, South Saskatchewan Region, Alberta Environment and Sustainable Resource Development, re: Municipal District of Bighorn No. 8* (30 June 2015), Appeal Nos. 14-003-006-R (A.E.A.B.).

BEFORE:

Mr. Alex MacWilliam, Acting Chair;
Dr. Alan Kennedy, Board Member; and
Mr. Jim Barlishen, Board Member.

SUBMISSIONS BY:

Appellants:

Ms. Tania Demencuik and Ms. Terri Savitsky
represented by Mr. Neil Patterson; Ms. Joan
Corbeil; and Mr. Paul Baumberg.*

Approval Holder:

Municipal District of Bighorn, represented by
Mr. Derek King, Brownlee LLP.

Director:

Mr. Brock Rush, Director, South
Saskatchewan Region, Alberta Environment
and Sustainable Resource Development,
represented by Ms. Jodie Hierlmeier and Mr.
Gabriel Hill, Alberta Justice and Solicitor
General.

Intervenors:

Mr. Shane Jonker, River's Bend Development
Inc.

WITNESSES:

Appellants:

Mr. Paul Baumberg on behalf of Ms. Tania
Demencuik, and Ms. Terri Savitsky.

Approval Holder:

Mr. Dale Mather, Flood Recovery Director,
Municipal District of Bighorn; Mr. Doug
Johnston, TetraTech/EBA; Mr. Eric Beveridge,
Environmental Services, ISL Engineering and
Land Services; and Mr. Ralph Witten, Alberta
Transportation.

Director:

Mr. Brock Rush, Director, South
Saskatchewan Region, Alberta Environment
and Sustainable Resource Development; Mr.
Jim Choles, River Forecasting Section, Alberta
Environment and Sustainable Resource
Development; and Ms. Pauline Scoffield,
Water Technologist, Alberta Environment and
Sustainable Resource Development.

Intervenors:

Mr. Shane Jonkers, River's Bend Development
Inc.

Independent Witness:

Dr. Richard Guthrie, SNC-Lavalin Inc.

* Ms. Corbeil and Mr. Baumberg withdrew their appeals before the hearing.

EXECUTIVE SUMMARY

Alberta Environment and Sustainable Resource Development (AESRD) issued an Approval to the Municipal District of Bighorn No. 8 (the Approval Holder) under the *Water Act* for the construction of flood mitigation works in Pigeon Creek in response to the June 2013 floods.

Ms. Joan Corbeil, Ms. Tania Demencuik, Ms. Terri Savitsky, and Mr. Paul Baumberg, whose residences are in a condominium complex adjacent to Pigeon Creek, appealed the issuance of the approval. Ms. Corbeil and Mr. Baumberg withdrew their appeals before the hearing.

With respect to the appeals of Ms. Demencuik and Ms. Savitsky, the Board held a hearing to consider the following issues:

1. Did AESRD properly exercise its discretion regarding the size and scope of the proposed project when issuing the Approval?
2. Are the design requirements of the proposed project, including size and scope as specified in the Approval adequate to protect the environment and ensure public safety?
3. If AESRD's decision to issue the Approval was based on an invalid consent document, would the Approval be valid?

The Board found AESRD properly exercised its discretion when issuing the Approval. The Board also found the Approval would be valid even if the consent document signed by the President of the Condominium Association and submitted with the application was invalid.

With respect to the design requirements, the Board recommended the Approval be varied by requiring the Approval Holder to redesign the portion of the proposed project north (downstream) of the Trans-Canada Highway. The culverts at the highway have a capacity of 54 m³/s, thereby restricting the flow of water in the creek that can pass to the north side of the highway. According to Alberta Transportation there are no plans to change the size of the culverts unless design standards change. The Board recommended the proposed project north of the Trans-Canada Highway be redesigned to accommodate a maximum 54 m³/s flood event instead of the currently approved 82.7 m³/s flood event, and the redesign shall minimize the environmental impacts, including impacts to the vegetation. The Board encouraged the Approval Holder to involve the residents of Dead Man's Flats, the Pigeon Creek Condominium Association, and River's Bend Development Inc. in discussions regarding the redesign of the project, particularly with respect to alignment, avoidance of trees and vegetation, and remedial landscaping.

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I. INTRODUCTION

[1] This is the Board's report and recommendations in relation to the appeals filed by Ms. Tania Demencuik and Ms. Terri Savitsky (collectively, the "Appellants") regarding the issuance of Approval No. 00349047-00-00 (the "Approval") to the Municipal District of Bighorn No. 8 (the "Approval Holder" or "Bighorn").¹ Ms. Savitsky also requested a stay.

[2] Under section 99 of the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12 ("EPEA"), following a hearing the Environmental Appeals Board (the "Board") must prepare a report and provide recommendations to the Minister to confirm, reverse, or vary the decision made by the Director, South Saskatchewan Region (the "Director") of Alberta Environment and Sustainable Resource Development ("AESRD") that has been appealed.

[3] The Director issued the Approval to Bighorn under the *Water Act*, R.S.A. 2000, c. W-3, for flood mitigation work in Pigeon Creek, which flows from property within the Town of Canmore, through the Hamlet of Dead Man's Flats in the Municipal District of Bighorn No. 8, towards the Bow River in a south-north direction.

[4] The Board issued a partial stay until the Minister's decision was issued. The stay applied only to that portion of the project downstream of Station 1+060 and through Dead Man's Flats ("Phase 2").² The Board lifted the stay when the hearing originally scheduled for December 2014 was adjourned until May 2015, given Bighorn's concerns that flooding could occur during the 2015 freshet.

[5] The proposed flood mitigation work is required because of damage caused by the 2013 flood. It involves the creation of a man-made channel in the lower reaches of Pigeon Creek. Phase 1 of the project involves constructing the channel from the base of the waterfall at Thunderstone Quarry, heading north through land owned by the quarry, and along the west side

¹ Notices of Appeal were also received from Mr. Paul Baumberg and Ms. Joan Corbeil. Mr. Baumberg withdrew his appeal on November 25, 2014, and Ms. Corbeil withdrew her appeal on November 27, 2014.

² The Approval does not identify Phase 1 and Phase 2 of the proposed project. The Appellants' appeals and stay request refer to the lower part of the project downstream of Station 1+060, which they refer to as Phase 2. The Appellants refer to that portion of the project extending from the Thunderstone Quarry Waterfall to Station 1+060 as Phase 1. For clarity, the Board will use the terms "Phase 1" and "Phase 2" as defined by the Appellants.

of a north-south roadway, called George Biggy Sr. Road. The roadway and channel then intersect first at an off ramp from the Trans-Canada Highway and then at the Trans-Canada Highway itself, which runs east west. Under the off ramp and highway are pairs of culverts that restrict the flow of water to a maximum of 54 m³/s.

[6] Phase 2 of the project has the man-made channel picking up the water flow on the north side of the Trans-Canada Highway and carrying it northward, through the Hamlet of Dead Man's Flats under a roadway known as 2nd Avenue, between the land owned by the Pigeon Creek Condominium Association on the west side and land to the east owned by River's Bend Development Inc. The Appellants live in the Pigeon Creek Condominium complex. The man-made channel ends at the north end of the land owned by the Condominium Association, where it returns to a natural state and carries the water to the Bow River.³

[7] The Board held a public hearing in Canmore on May 21 and 22, 2015, to hear submissions on the following issues:

1. Did the Director properly exercise his discretion regarding the size and scope of the proposed project when issuing the Approval?
2. Are the design requirements of the proposed project, including size and scope, as specified in the Approval adequate to protect the environment and ensure public safety?
3. If the Director's decision to issue the Approval was based on an invalid document, would the Approval be valid?

[8] The Board found the Director properly exercised his discretion when issuing the Approval. The Board also found the Approval would be valid even if the consent document signed by the President of the Condominium Association and submitted with the application were invalid.

[9] With respect to the design requirements, the Board recommended the Approval be varied to require the Approval Holder to redesign the portion of the proposed project to the north

³ See: Appendix A: Exhibit 5, Aerial photo pre 2013 flood showing Bow River, Dead Man's Flats, 2nd Avenue, TransCanada Highway, Pigeon Creek pre 2013 flood alignment, Pigeon Creek post 2013 flood alignment, George Biggy Sr. Road, Thunderstone Quarry, and Waterfall. (Submitted by AESRD.) Appendix B: Exhibit 6, Aerial photo pre 2013 flood showing River's Bend, Footbridge, Appellants' Condos, Copperstone Resort, 2nd Avenue, 1st Avenue, and Pigeon Creek. (Submitted by AESRD.)

(downstream) of the Trans-Canada Highway. The culverts at the highway have a capacity of 54 m³/s, thereby restricting the flow of the creek that will cross to the north side of the highway. The Board recommended the portion of the proposed project north of the Trans-Canada Highway be redesigned to accommodate a maximum 54 m³/s flood event instead of the currently proposed 75 m³/s event or the design flood event of 82.7 m³/s, which was initially applied for by Bighorn. The higher flow volumes will not reach the proposed channel on the north side of the Trans-Canada Highway because the culverts at the highway restrict the flow of water.

II. BACKGROUND

[10] On April 3, 2014, Bighorn applied for approval of a flood recovery project in Pigeon Creek because of impacts from the June 2013 flood. At the request of Bighorn, the Director waived the Notice of Application requirements under section 108(1) of the *Water Act* on the basis that it was an emergency pursuant to section 108(6) of the *Water Act*.⁴

⁴ Section 108(1) of the *Water Act* provides:

“An applicant

- (a) for an approval,
- (b) for a licence,
- (c) for a renewal of a licence if the Director has decided to conduct a public review of the licence renewal,
- (d) for an amendment of
 - (i) an approval,
 - (ii) a preliminary certificate, or
 - (iii) a licence, or
- (e) for a transfer of an allocation of water under a licence,

shall provide notice of the application in accordance with the regulations.”

Section 108(6) of the *Water Act* states:

“Notwithstanding subsection (1), if the Director has received an application for an approval, a licence or an amendment of an approval, preliminary certificate or licence or the Director proposes to make an amendment on the Director’s own initiative, the Director may waive the notice requirement under subsection (1) if the Director is of the opinion that

- (a) there is an emergency,
- (b) the activity or diversion of water specified in the application for the approval or licence or the proposed amendment will result in a minimal or no adverse effect on the aquatic environment or on household users, licensees and traditional agriculture users, or
- (c) adequate notice of the subject-matter of the application or the proposed amendment has already been provided or given under this Act or the *Water Resources Act*, R.S.A. 1980, c. W-5.”

[11] On May 12, 2014, the Director issued the Approval to the Approval Holder authorizing the installation of bank protection (rip rap), channel re-alignment, construction or excavation of a new channel, the filling in of an existing channel, and the construction of berms affecting Pigeon Creek in SE 13-24-10-W5M, SW 18-24-09-W5M, and NW 07-24-09-W5M. The Notice of Decision to grant the Approval was posted at the post office kiosk in Dead Man's Flats on May 14, 2014.

[12] On May 19 and 20, 2014, the Board received Notices of Appeal from the Appellants, Mr. Baumberg, and Ms. Corbeil appealing the Approval. Ms. Savitsky also requested a stay of Phase 2 of the project. Their major concerns related to the large size of the proposed creek channel, the addition of extremely wide berms on each side of the channel, and the propose realignment of the channel near the condominium complex, which would move the current channel approximately 30 m farther away.

[13] On May 23, 2014, the Board wrote to the Appellants, Approval Holder and Director (the "Parties"), Mr. Baumberg, and Ms. Corbeil acknowledging receipt of the Notices of Appeal and notifying the Approval Holder and the Director of the appeals and stay request. The Board asked the Director to provide a copy of the documents upon which his decision was based (the "Record"). The Board also requested the Appellants, Mr. Baumberg, and Ms. Corbeil to provide answers to the stay questions.⁵

[14] Between May 27 and 30, 2014, the Board received the Appellants', Mr. Baumberg's, and Ms. Corbeil's responses to the stay questions.

[15] On May 30, 2014, the Board received a copy of the Record. The Board provided a copy of the Record to the Parties, Mr. Baumberg, and Ms. Corbeil on June 4, 2014.

⁵ The Appellants were asked to answer the following questions:

1. What are the serious concerns of the Appellants that should be heard by the Board?
2. Would the Appellants suffer irreparable harm if the stay is refused?
3. Would the Appellants suffer greater harm if the stay was refused pending a decision of the Board, than the Municipal District of Bighorn No. 8 would suffer from the granting of a stay?
4. Would the overall public interest warrant a stay?
5. Are the Appellants directly affected by AESRD's decision to issue Approval No. 00349047-00-00 to the Municipal District of Bighorn No. 8?

[16] On June 9, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil that a temporary stay of Phase 2 of the project was granted pending completion of the submission process and the Board's final decision on the stay request. The Board asked the Director and Approval Holder to provide response submissions on the stay questions.

[17] On June 11, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil that based on the available dates provided by the Parties, the mediation meeting was scheduled for July 21, 2014.

[18] The Board received response submissions on the issue of the stay from the Director and Approval Holder on June 19 and 23, 2014, respectively. Mr. Baumberg, Ms. Savitsky, and Ms. Corbeil provided final responses on June 30, July 2, and July 8, 2014, respectively. Ms. Demencuik did not provide a final response.

[19] On July 10, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil that it was putting the stay decision on hold pending the mediation meeting.

[20] The mediation meeting was held on July 21, 2014, in Canmore. The appeals were not withdrawn, and the Board proceeded to determine whether the stay should remain in place until the Board held the hearing and the Minister made a decision.

[21] On August 12, 2014, the Board requested the Approval Holder advise the Board whether the Approval Holder wanted to proceed with construction under the Approval or agree to the temporary stay remaining in place.

[22] On August 12, 2014, the Board asked the Parties, Mr. Baumberg, and Ms. Corbeil to provide any preliminary motions they wanted the Board to decide and to specify the issues included in the Appellants' Notices of Appeal that should be heard by the Board at the hearing.

[23] On August 19, 2014, the Approval Holder notified the Board that it would like to proceed with construction of the proposed project.

[24] On August 20, 2014, Mr. Baumberg submitted a motion asking the Board to reverse the Director's decision to issue the Approval because the application for the Approval contained an error that voided the application.

[25] On August 21, 2014, the Board acknowledged receipt of Mr. Baumberg's motion and noted, without deciding, that it appeared the requested remedy could only be granted following a full hearing of the appeals. The Board requested the Parties provide comments on Mr. Baumberg's motion. On August 25, 2014, Mr. Baumberg provided an amended motion, and a further amendment was received on September 10, 2014.

[26] On August 25, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil that the stay was to remain in place. The Board's reasons for its decision were provided to the Parties on October 20, 2014.⁶

[27] Between August 31, 2014, and October 10, 2014, the Board received the Parties' comments on the issues for the hearing and Mr. Baumberg's motion as amended.

[28] On October 17, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil the issues for the hearing were:

1. Did the Director properly exercise his discretion regarding the size and scope of the proposed project when issuing the Approval?
2. Are the design requirements of the proposed project, including size and scope, as specified in the Approval adequate to protect the environment and ensure public safety?
3. If the Director's decision to issue the Approval was based on an invalid document, would the Approval be valid?

[29] In the Board's letter of October 17, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil that Mr. Baumberg's motion to cancel the Approval summarily was denied. The Board cannot make recommendations to the Minister unless a hearing is held, a resolution was reached in mediation, or all parties agree.

[30] The Board published the Notice of Hearing in the Bow Valley Crag and Canyon and the Rocky Mountain Outlook. Notice was also provided to the Town of Canmore, the Municipal District of Bighorn No. 8, River's Bend Development Inc., and the Pigeon Creek Condominium Association. A news release was forwarded to the Public Affairs Bureau for

⁶ See: Stay Decision: *Corbeil et al. v. Director, South Saskatchewan Region, Operations Division, Alberta Environment and Sustainable Resource Development*, re: *Municipal District of Bighorn* (20 October 2014), Appeal Nos. 14-003-006-ID1 (A.E.A.B.).

distribution to media throughout the Province. Notice of Hearing was also posted on the Board's website. The Notice of Hearing notified the public of the hearing and provided an opportunity for persons who wanted to make a representation before the Board to apply for intervenor status. In response to the Notice of Hearing, the Board received intervenor requests from the Town of Canmore ("Canmore") and from Mr. Shane Jonker on behalf of the River's Bend Development Inc.⁷ ("River's Bend").

[31] On November 21, 2014, the Board notified the Parties, Mr. Baumberg, and Ms. Corbeil, Canmore, and River's Bend that Canmore and River's Bend would be allowed limited participation in the hearing.

[32] On November 25, 2014, the Board received written submissions for the hearing from the Parties. Response submissions were received on December 4, 2014.

[33] On November 25, 2014, Mr. Baumberg notified the Board that he was withdrawing his appeal.

[34] On November 25, 2014, the Appellants received an email from Dr. Richard Guthrie, a consultant contacted by Mr. Baumberg, offering the services of a group of University of Calgary engineering students who were currently studying debris floods in the Bow River valley and could provide alternate designs for the work proposed for Pigeon Creek. Completion of the designs would require an adjournment of the hearing until the end of March 2015. In this email, Dr. Guthrie indicated the proposed design raised public safety concerns at the Trans-Canada Highway. The Board solicited comments on the adjournment request from the other Parties.

[35] On November 27, 2014, Ms. Corbeil notified the Board that she was withdrawing her appeal.

[36] On November 28, 2014, the Board notified the Parties that the adjournment request was denied. The Board further stated that it intended to call Dr. Richard Guthrie to

⁷ River's Bend Development Inc. is the developer of a residential/commercial project to be located on the east side of Pigeon Creek, across from the Pigeon Creek Condominiums.

provide evidence at the hearing to address the public safety concerns he had raised regarding the proposed project.

[37] On December 5, 2014, the Board notified the Parties, Canmore, and River's Bend that the intervenor application of River's Bend was dismissed for failing to provide written submissions as required by the Board.

[38] On December 5, 2014, the Board received a "will say" statement from Dr. Guthrie.

[39] On December 7, 2014, River's Bend wrote to the Board explaining why it did not provide its submission to the Board as requested.

[40] On December 8, 2014, the Approval Holder requested an adjournment of the December 11, 2014 hearing to allow it time to prepare properly a response to Dr. Guthrie's "will say" statement and to identify a witness from Alberta Transportation who could address any safety-related issues raised by Dr. Guthrie regarding the potential impacts of the project on the Trans-Canada Highway.

[41] On December 8, 2014, the Board notified the Parties, Canmore, and River's Bend that based on the explanation provided River's Bend could participate in the hearing as an intervenor.

[42] On December 8, 2014, the Board notified the Parties, Canmore, and River's Bend that it was granting the Approval Holder's request to adjourn the hearing scheduled for December 11, 2014. Reasons for the Board's decision were provided to the Parties, Canmore, and River's Bend on December 16, 2014.

[43] On January 6, 2015, the Board notified the Parties, Canmore, and River's Bend that it had reconsidered its August 28, 2014 decision to issue a stay of the Approval. The Board considered the delay in holding the hearing and the potential public safety concern raised by the Approval Holder regarding the 2015 spring freshet and determined the balance of convenience and the public interest had shifted such that continuation of the stay was no longer appropriate. Accordingly, the Board lifted the stay.

[44] On February 4, 2015, the Board notified the Parties, Canmore, and River's Bend that, based on the available dates provided, the hearing would be held on May 21 and 22, 2015.

[45] On February 24, 2015, the Board received a "will say" statement from Mr. Ralph Witten of Alberta Transportation on behalf of the Approval Holder.

[46] On April 27, 2015, the Board received supplemental submissions on the hearing issues from the Parties.

[47] On May 12, 2015, the Director provided an updated Record, including an amendment to the Approval extending the expiry date to May 10, 2016.

[48] The hearing was held on May 21 and 22, 2015, in Canmore.

III. WITHDRAWN APPEALS

[49] On November 25, 2014, Mr. Baumberg notified the Board that he was withdrawing his appeal. Pursuant to section 95(7) of EPEA, and the withdrawal of the appeal filed by Mr. Baumberg, the Board discontinued the appeal of Mr. Baumberg and closed Appeal No. 14-005.

[50] On November 27, 2014, Ms. Corbeil notified the Board that she was withdrawing her appeal. Pursuant to section 95(7) of EPEA, and the withdrawal of the appeal filed by Ms. Corbeil, the Board discontinued the appeal of Ms. Corbeil and closed Appeal No. 14-003.

IV. CONSULTANT'S REPORT

[51] Mr. Baumberg had initially contacted Dr. Guthrie, a geomorphologist, to prepare a report and provide evidence at the hearing. In his initial review of the proposed project, Dr. Guthrie indicated the proposed channel design would be more efficient at transporting sediment but did not adequately protect the environment, as there would be loss of habitat along part of the new channel due to its increased size and realignment. He believed the design could also result in a significant hazard to the infrastructure and users of the Trans-Canada Highway, thereby creating a public safety risk. When Mr. Baumberg withdrew his appeal, Dr. Guthrie was no longer retained by the Appellants. However, Dr. Guthrie then contacted the Appellants and their

counsel, expressing his concerns regarding the public safety risk. These concerns were forwarded to the Board.⁸

[52] Given the concerns raised regarding public safety, the Board believed it necessary to request further information from Dr. Guthrie. Subsequently, the Board requested that Dr. Guthrie attend the hearing and prepare a report (the “will say” statement) for the Board explaining the rationale behind his concerns.

[53] In his “will say” statement and at the hearing, Dr. Guthrie explained the Pigeon Creek profile has a gradient of less than five percent over the lower 80 percent of its length. He stated the low slope is important for two reasons:

1. water that lands on the watershed will come off the steep mountains very quickly, but it will slow down when it hits the relatively flat ground and enter the soil profile and lose energy; and
2. the timing and volume of water that reaches the highway will be reduced.

[54] Dr. Guthrie said Pigeon Creek is dominated by clear water floods rather than debris floods. He explained Pigeon Creek has a broad U-shaped valley, relatively disconnected from high-energy landslides, with large depositional areas upstream of the fluvial fan.

[55] Dr. Guthrie stated a channel disturbance was identified on the 1947 air photographs. According to the BGC Engineering Inc. Report (the “BGC Report”) prepared for the Approval Holder and included in the Approval application, this disturbance happened at least 20 years previously (prior to 1927) and might be related to the 1923 storm which produced comparable high flows in the Bow Valley watershed (399 m³/s in 1923 compared to 439 m³/s in 2013). Dr. Guthrie believed that, without more information, it is reasonable to assume debris floods will occur in the watershed in the future and these debris floods could pose a danger to the Trans-Canada Highway.

[56] Dr. Guthrie noted the BGC Report indicated the 2013 event was a clear water flood event above the waterfall near the fan apex, and the debris flood occurred because of the entrainment of stockpiled aggregate from the Thunderstone Quarry downstream of the waterfall.

⁸ See: Email from Dr. Guthrie forwarded to the Board, dated November 25, 2014.

[57] Dr. Guthrie stated there are opportunities to capture sediments transported in debris floods upstream of the highway, thereby reducing the risk to all downstream infrastructure and users. This would also reduce the required maintenance, as a debris capture structure could be designed not to capture sediment transported by normal flood events.

[58] Dr. Guthrie noted the peak discharge in the 2013 event was calculated by TetraTech/EBA to be 53.8 m³/s, equivalent to a return period of 1:1300 years.⁹

[59] Dr. Guthrie did not agree with TetraTech/EBA's assumption that the 2013 event was an outlier given the 2013 event produced flows of 439 m³/s in the Bow River valley and in 1923 flows were recorded at 399 m³/s. He also noted higher flows occurred in 1879 and 1897 and similar flows occurred in 1902 and 1932. Dr. Guthrie considered the return period of 1:1300 years for the 2013 event to be unrealistic.

[60] Dr. Guthrie stated that, based on the direct regression of the 24 hour peak flows, the 53.8 m³/s rate was approximately equal to the 1:100 year flood. Dr. Guthrie said that even though this might be slightly low, the results were a better match to the historical records of rainfall and flows and seem to coincide with the culvert design, which has traditionally accommodated the 1:50 or 1:100 year event.

[61] Dr. Guthrie stated TetraTech/EBA estimated the event magnitude by bulking up the flow to account for debris flow instead of considering the sediment sources for the debris flood, thereby predicting a debris flood with 643,000 m³ of transported material.

[62] Dr. Guthrie stated the volume as calculated would have the ability to cover the entire fan with almost 0.5 metres of sediment, or if it was limited to the aerial dimensions it actually occupied, the sediment would be over 10 metres high. As this did not occur, Dr. Guthrie said the bulking value used to determine design flows was incorrect in volume or duration or both.

[63] Dr. Guthrie stated TetraTech/EBA may have underestimated the frequency of the flood event as it may be more frequent than estimated, and TetraTech/EBA likely overestimated

⁹ See: Approval Holder's submission, dated November 25, 2014, at Tab 3, "Hydrologic Assessment and Hydraulic Analysis for Pigeon Creek." Prepared by TetraTech/EBA.

the magnitude of the event. Dr. Guthrie commented the magnitude estimation is a poor basis for design even though it is conservative.

[64] Dr. Guthrie noted the highway culverts have a capacity to pass water at 54 m³/s, and were designed using the runoff depth approach and not a frequency analysis. Dr. Guthrie said the culverts are designed to handle a 1:100-year flow, which is the same clear water flow modeled by TetraTech/EBA for the 2013 event.

[65] Dr. Guthrie stated the culverts are not engineered to accommodate the design event and would be partially or completely plugged if a debris flood reached the culverts.

[66] Dr. Guthrie noted the channel designed by TetraTech/EBA could accommodate an 87 m³/s flood and have one-metre of freeboard. He stated the channel would be effective at keeping a debris flood as modeled within the channel. Dr. Guthrie said the capacity of the channel is 3.4 times greater than the calculated design flood (i.e. the channel as designed could convey about 300 m³/s). He said the rationale for the increased capacity is to extend the life of the channel as the bottom of the channel fills with sediment. Dr. Guthrie explained the channel would still have to be maintained. He stated a maintained channel will keep a debris flow within its banks, but it will convey the material directly to the highway culverts, which have a capacity less than the design event. Dr. Guthrie stated the channel as designed will create a channelized debris flood moving material further down the fan to the highway.

[67] Dr. Guthrie noted the channel was conservatively designed to reduce maintenance and be effective over the long term at keeping flood flows and debris flows within its banks, but the channel would still need to be maintained.

[68] Dr. Guthrie stated a debris flood will be transported downstream to the highway where it will overwhelm the culverts and spread out across the roads, and the highway would become the new apex of the fan. He said the debris that will accumulate in the channel during regular floods might be entrained by the debris flood or very high flows, increasing the concentration of sediment and the volume of the debris flood that hits the highway, thereby increasing the risk. Dr. Guthrie said the highway is heavily used, and the transfer of risk to the highway is unacceptable.

[69] Dr. Guthrie stated that sediment can be captured above the highway thereby limiting downstream events to clear water flows, reducing the risk to residents, infrastructure, and the highway, and possibly reducing the environmental impact. He explained maintenance would be limited to post debris flood events. Dr. Guthrie stated a well-designed sediment basin may eliminate the need for the size of channel currently proposed.

V. DIRECTOR'S DISCRETION IN ISSUING THE APPROVAL

A. Submissions

1. River's Bend

[70] River's Bend stated its developable lands are not in a floodway or a flood fringe. River's Bend said it, along with the Approval Holder, protected the community during the 2013 flood, and it was "only by good luck that we were able to keep the flood waters from wiping out the existing community."¹⁰ River's Bend said there continues to be an emergency and "good luck" is not considered a mitigation measure. River's Bend explained the current design of Pigeon Creek is not capable of handling a major flood event. Currently the berms that are in place on the downstream reaches of Pigeon Creek were put in place during the 2013 flood to prevent damage to existing properties in Dead Man's Flats.

2. Appellants

[71] The Appellants expressed concerns with respect to the proposed design of the creek remediation project, including concerns with respect to the size of the design, the re-alignment of the creek, the loss of the natural environment, including vegetation and wildlife, resulting from the proposed 100 foot wide disturbance for the channel and berms, increasing to a width of 170 to 200 feet when the required clear cutting is included. The Appellants suggested the project is primarily intended to protect River's Bend property, which is located on the other side of the creek, and not to restore Pigeon Creek to a creek channel similar to what previously existed.

[72] The Appellants suggested the BGC Report completed for Canmore included a less invasive and more environmentally friendly design for Dead Man's Flats. The Appellants explained the BGC Report recommended the installation of debris nets upslope from the waterfall or a berm constructed out of geomechanically-reinforced soil could be built within the boundaries of Thunderstone Quarry. The Appellants stated this method would allow for storage of significant volumes of debris material and provide easy access to remove deposited material after flood debris events. It would allow the creek to stay in its natural path, since the flow would be clear and unlikely to plug the culverts at the Trans-Canada Highway.

[73] The Appellants requested the Board reverse the Approval and require the Approval Holder to have a full discussion with the citizens of Dead Man's Flats before the application is accepted by the Director and an Approval issued.

[74] The Appellants stated that, under section 37(4) of the *Water Act*,¹¹ an applicant who does not own the land in fee simple, if required by the Director, must submit written consent of the owner of the land. The Appellants noted that, under section 108(6) of the *Water Act*,¹² the Director may waive the notice requirement if the Director is of the opinion that there is an emergency, and if notice is waived under section 111 of the *Water Act*, notice of the decision must be provided, in accordance with the regulations, to any directly affected person.¹³

¹⁰ River's Bend submission, dated December 7, 2014, at page 2.

¹¹ Section 37(4) of the *Water Act* states:

"If an applicant for an approval does not own the land in fee simple or the undertaking to which the approval is to be appurtenant, if required by the Director, the applicant must submit the written consent of the owner of the land or of the undertaking as part of the application for the approval."

¹² Section 108(6) of the *Water Act* provides:

"Notwithstanding subsection (1), if the Director has received an application for an approval, a licence or an amendment of an approval, preliminary certificate or licence or the Director proposes to make an amendment on the Director's own initiative, the Director may waive the notice requirement under subsection (1) if the Director is of the opinion that

- (a) there is an emergency,
- (b) the activity or diversion of water specified in the application for the approval or licence or the proposed amendment will result in a minimal or no adverse effect on the aquatic environment or on household users, licensees and traditional agriculture users, or
- (c) adequate notice of the subject-matter of the application or the proposed amendment has already been provided or given under this Act or the *Water Resources Act*, R.S.A. 1980, c. W-5."

¹³ Section 111(2) of the *Water Act* states if the Director issues an approval:

[75] The Appellants noted AESRD and the Approval Holder have been in discussion regarding funding and mitigation plans for Pigeon Creek since August 17, 2013, but the Approval Holder applied for the Approval under section 108(6) of the *Water Act* on the basis that there was an emergency. The Appellants argued the Director improperly exercised his discretion because there has been no emergency since the June 2013 flood.

[76] The Appellants argued the project is beyond what is necessary to mitigate flood events in the future and will damage the environment and impact wildlife.

[77] The Appellants stated the only reason the Director allowed the project, as applied for, was due to the development planned by River's Bend. The Appellants said that, if Bill 27 comes into effect, the Approval Holder may have to review the development planned by River's Bend. The Appellants noted the development by River's Bend has not been built yet but, if it proceeds, it will have to be concerned about being in the floodway.¹⁴ The Appellants believed the Director should have knowledge of the legislation and the Government's concerns about building in the flood plain of Pigeon Creek. The Appellants noted Bill 27 allows for exemptions for municipal authorities, and there will be changes to the *Municipal Government Act*, R.S.A. 2000, c. M-26, which will control, regulate, or prohibit use or development of land located in a floodway.

[78] The Appellants noted ISL Engineering and TetraTech/EBA designs did not discuss alternatives such as those discussed in the BGC Report. The Appellants questioned whether the Director discussed alternatives with the Approval Holder or just reviewed and approved the designs provided by ISL Engineering and TetraTech/EBA. The Appellants stated the BGC Report suggested alternatives to the current project such as berms and nets at the waterfall so there could be a clear flow down to Dead Man's Flats thereby eliminating the need to enlarge the creek channel to accommodate debris floods. The Appellants stated the Director

“... the Director must

- (a) if notice of the application or proposed changes was waived by the Director under section 108(6), ensure that notice of the decision is provided, in accordance with the regulations, to any directly affected person....”

¹⁴ The Board notes that at the hearing, River's Bend explained that construction had started at the site.

chose to disregard the environmental concerns and the concerns of the citizens of Dead Man's Flats. The Appellants preferred the BGC Report alternatives.

[79] The Appellants questioned whether the Director followed the purpose of the *Water Act*.

[80] The Appellants stated there is a duty of fairness that requires decisions be made by an impartial decision-maker without bias. The Appellants argued the Director is biased in this case.

[81] The Appellants argued that, due to the Director's bias in favour of the Approval Holder, the Director could not properly exercise his discretion regarding the size and scope of the project when he issued the Approval.

[82] The Appellants agreed with Dr. Guthrie that TetraTech/EBA: (1) over-estimated the magnitude of the flood; (2) underestimated the frequency of flooding; and (3) designed a channel that will keep annual flooding and debris and larger events within the channel, but will transfer the risk associated with a debris flood directly to the highway and presents a substantial public safety issue.

[83] The Appellants said the shortening of the length of the channel would likely result in higher floodwater velocities and more risk to the highway and public safety.

[84] The Appellants had concerns that the proposed size and location of the channel were not necessary, and designing for a 1:1000 year flood event (it was the Appellants' understanding a 1:1000 year event was the basis for the design) would be damaging to the environment.

[85] The Appellants stated that if the gradient and size of the creek are changed, any future event will destroy the end of the creek where it enters the Bow River, and even spring run-offs over time will change this area, negatively affecting the entrance to the Bow River.

[86] The Appellants said that increasing the gradient of Pigeon Creek, which currently has a low gradient, would increase the speed of the water, and any entrained debris that settles over time. In addition, debris in each annual flood would have a higher velocity when it reached the highway culverts. They stated this would create more danger and more risk to public safety.

[87] The Appellants noted Dr. Guthrie's calculations determined Pigeon Creek is generally dominated by a clear flow flood and not a debris flood.

[88] The Appellants stated the proposed design is unnecessary. They noted Dr. Guthrie believed the culverts are adequately designed for clear water floods but would be partially or completely plugged if a debris flood reaches them.

[89] The Appellants stated that leaving the creek to follow its natural course and gradient and doing some work to accommodate a 1:300 year flood event with a sediment pond upstream to deal with debris floods would result in a safer and more natural creek. The Appellants argued it would be better to have a sediment pond upstream of the waterfall instead of a large channel with freeboard to accommodate a 1:1000 year flood event.

[90] The Appellants suggested the quarry could be utilized to keep the creek free of debris and allow only clear flow to pass through the culverts, thereby reducing risk to the public.

[91] The Appellants explained that during the 2013 flood, the culverts were completely plugged with debris, causing water and debris to flow down the side of the Trans-Canada Highway and ultimately cross the highway. The Appellants believed the culverts were designed for a 1:100 year clear flow flood, and any significant debris flood would be beyond the culverts' design capacity. The Appellants believed that, if there were no sediment pond upstream, the culverts would be overwhelmed by a debris flood, no matter how large the channel was.

3. Approval Holder

[92] The Approval Holder stated the application for the Approval was supported by a series of engineering documents. The Approval Holder explained the project:

1. is a short term mitigation strategy, necessitated by the impacts of the 2013 floods;
2. is intended to mitigate the risk of future flooding to the public, property, and infrastructure; and
3. was intended to be completed prior to the 2014 spring freshet, but is now intended to mitigate against potential impacts from the 2015 spring freshet.

[93] The Approval Holder noted the only mandatory obligation imposed on the Director when considering an application for an Approval is that he must consider the matters and factors set out in the relevant water management plan,¹⁵ which in this case is the 2006 Approved Water Management Plan for the South Saskatchewan River Basin (“South Saskatchewan River Basin Water Management Plan”). The Approval Holder submitted there is nothing in the Approval that is contrary to the matters and factors set out in the South Saskatchewan River Basin Water Management Plan and, therefore, the Director discharged his mandatory obligation as set out in the *Water Act*.

[94] The Approval Holder stated sections 38(2)(b) and (c) of the *Water Act* grant broad discretion to the Director to determine other factors and issues which he might consider relevant to determining whether an approval should be granted and impose any conditions that may be warranted. The Approval Holder said the Director may exercise his discretion to consider the size and scope of the project if he determines they are relevant factors under sections 38(2)(b) or (c) of the *Water Act*. The Approval Holder submitted the issue is whether the Director’s decision fell within a range of possible options given the Director’s discretion.

[95] The Approval Holder submitted the Director’s actions would only be *ultra vires*, or beyond the Director’s jurisdiction, if they were outside the range of possible options. The Approval Holder said the Director’s jurisdiction would be lost if he acted with an improper intention, including acting in bad faith, for an unauthorized purpose, or acting on an irrelevant consideration. The Approval Holder argued that, unless the Appellants can demonstrate the Director approved the size and scope of the project in bad faith or considered irrelevant considerations, or he acted for a purpose outside of his jurisdiction, then it must be concluded the Director exercised his discretion properly.

[96] The Approval Holder submitted there is no evidence in the Record to suggest the Director acted improperly in the exercise of his discretion. The Approval Holder said the Record

¹⁵ See: Section 38(2)(a) of the *Water Act*:

“In making a decision under this section, the Director

(a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing an approval, as specified in an applicable approved water management plan....”

shows the Director turned his mind to and exercised his discretion in determining the factors to be considered in reviewing the application and in the issuance of the Approval.

[97] The Approval Holder stated the size and scope of the project were factors considered by the Director given the Director considered the methods that will be used to isolate water during construction, the methods to reduce sediment release, the capacity of Pigeon Creek at the confluence of the Bow River to accommodate the volume of water the excavated channel is capable of conveying, and specifics of the mitigation measures proposed in the reports submitted with the application for the Approval.

[98] The Approval Holder submitted that, in the absence of evidence, the Director's exercise of his discretion in reviewing and issuing the Approval was *ultra vires*, the Board should give deference to the Director's decision to authorize the project on the terms set out in the Approval.

[99] Mr. Ralph Witten, a witness for the Approval Holder, stated that, regarding the question of additional risk to the Trans-Canada Highway from the proposed upstream work:

1. it is difficult to predict the net impact of the proposed work on the debris flow potential at the highway crossings, but it is expected to be minor;
2. compared with the size of the basin, the proposed upstream work is minor and does not appear to be constrictive;
3. the nature and extent of the work is not expected to significantly alter the timing or magnitude of a runoff event at the highway crossing;
4. the proposed works are expected to have minimal impact on debris flow and water flow, so any additional risk to the highway should be minor; and
5. the crossing structures may require some maintenance during and after significant high water and debris flow events.

4. Director

[100] The Director explained the applicant determines the project design and the need for the project and it is not the Director's role to assess the design of or need for the project.

[101] The Director noted the Approval Holder described the primary purpose of the project was to re-establish a channel with increased capacity to provide for seasonal high flow

events. The Director said the Approval Holder emphasized the need for the project, stating it is a short-term mitigation strategy that would allow time to identify a long-term mitigation plan.

[102] The Director explained that AESRD staff reviewed the application, reports, and comments from internal referrals, and the Director relied on the work done by AESRD when he reviewed the file. The Director stated he met all statutory requirements of the *Water Act* that required him to consider the matters and factors specified in the applicable approved water management plan. The Director said he considered the matters and factors in the South Saskatchewan River Basin Water Management Plan that were relevant to the application, including: (1) existing, potential, and cumulative effects on the aquatic environment; (2) existing, potential, and cumulative hydraulic, hydrological, and hydrogeological effects; and (3) First Nation rights and traditional uses. The Director noted the *Water Act* says the Director may consider other factors when deciding whether to issue an approval, including public safety and any other relevant matter.

[103] The Director stated he properly and reasonably exercised his discretion with regard to the size and scope of the project when he issued the Approval.

[104] The Director explained that Pigeon Creek can currently be described as being an “emergency channel,” which was created when Bighorn removed material deposited after the June 2013 flood to create a temporary channel to convey creek flow. The Director noted the Approval Holder proposed an engineered channel with increased capacity to accommodate seasonal high flow events. According to the Director, to increase capacity of the creek, the channel needs to be widened and bermed. The Director considered the proposal to be a reasonable solution given the impacts of the 2013 flood and the possibility of future debris floods on the creek.

[105] The Director stated the creek will not be moved 30 metres away from the Appellants’ condominiums, and the side of the creek closest to the Pigeon Creek Condominiums will, for the most part, not change significantly from its current location. The Director explained the creek channel will be widened in the direction away from the Appellants’ condominiums and bermed to handle seasonal flow events.

B. Rebuttal Submissions

1. Appellants

[106] The Appellants stated the Director improperly exercised his discretion, because he did not consider relevant information, particularly information regarding the development planned by River's Bend and Bill 27. The Appellants believed that, if Bill 27 were passed, the Approval Holder would have to reconsider the development planned by River's Bend because it is located in a floodplain. The Appellants stated the Director should have been aware of Bill 27, considered the development planned by River's Bend, and been aware of the regulations that would have to be enforced by AESRD.

[107] The Appellants stated the Director acted in a biased way and always in the best interest of the Approval Holder and against the Appellants' interests. The Appellants said there was no "emergency situation" when the application was filed (i.e. the Notice of Application should not have been waived) and nothing happened during the freshet in 2014.

[108] The Appellants considered the BGC Report a more valuable report with a number of suitable alternatives compared to the design filed by TetraTech/EBA, but the Director ignored the alternatives presented.

[109] The Appellants stated the Director is a decision maker under the legislation, and his decisions should be made using an open procedure with an opportunity for those affected to put forward their views and evidence and have them considered by the decision maker.

2. Approval Holder

[110] The Approval Holder stated that, even though the Appellants suggested they brought the appeals forward on behalf of all Albertans, the citizens of Dead Man's Flats, and adjacent landowners, the Appellants' concerns are narrower. The Approval Holder said the Appellants are only speaking for themselves and not for the other condominium owners or the residents of Dead Man's Flats. The Approval Holder stated it represents the larger public interest.

[111] The Approval Holder noted Bill 27, the *Flood Recovery and Reconstruction Act*, S.A. 2013, c.-21, was given Royal Assent on December 11, 2013, and the amendments to the *Municipal Government Act*, R.S.A 2000, c. M-26, as contemplated by Bill 27 had been adopted and were in force at the time of the Director's decision. The Approval Holder noted the Appellants' submission that the Approval Holder would have to review the development planned by River's Bend after Bill 27 comes into force was incorrect.

[112] The Approval Holder acknowledged that no regulations have been adopted pursuant to the amended sections of the *Municipal Government Act*, but the Approval Holder has existing restrictions with respect to development in the floodway.¹⁶

[113] The Approval Holder noted the events described in the Appellants' submission regarding bias of the Director related to interactions with AESRD staff after the Notices of Appeal were filed and are irrelevant to determining the Director's mindset when considering the Approval Holder's application. The Approval Holder submitted there was no impropriety arising from the facts described by the Appellants.

[114] The Approval Holder submitted there is no evidence the Director's decision was based on anything other than those criteria directed by the *Water Act* and EPEA.

3. Director

[115] The Director noted that Bill 27 came into force on December 11, 2013, thereby amending the *Municipal Government Act* to allow the Lieutenant Governor in Council to make regulations respecting development in floodways. No regulations have been made. The Director said that municipal decision-makers do not have to consider Bill 27 because the amendments made to the *Municipal Government Act* do not yet apply to municipal decisions.

[116] The Director noted the decision to approve the River's Bend development project is a municipal decision and not the Director's decision.

¹⁶ See: Approval Holder's submission, dated December 4, 2014, at Tab 2: Municipal District of Bighorn No. 8 – Land Use Bylaw No. 04/10.

[117] The Director explained that, in the application, the Approval Holder submitted engineering plans prepared by TetraTech/EBA, not BGC. AESRD staff reviewed the project design as submitted and determined whether the proposed design is reasonable within the context of the *Water Act*. The Director stated it is not AESRD's role to choose the project design, and AESRD is not the proponent's consultant.

[118] The Director said it was clear the application was submitted as a short-term mitigation project intended to provide immediate public safety and infrastructure protection, and the Approval Holder intended to work with Canmore to develop a long-term mitigation plan.

[119] The Director explained that issuing the Approval does not preclude the Approval Holder from applying for future mitigation activities in the creek.

[120] The Director noted the Appellants preferred BGC's options of debris nets upstream of the waterfall or a berm within the Thunderstone Quarry, but these options fall under the jurisdiction of Canmore and would require its input and, in the second option, consent from Thunderstone Quarry. The Director said that, even with the debris nets, the flood hazard would remain because the water from a flood event would not be captured in the nets.

[121] The Director explained the BGC Report was prepared for Canmore, so most of the mitigation options focus on the upstream portion of Pigeon Creek. The Director noted the BGC Report set out conceptual options for the downstream portion of Pigeon Creek, specifically that there should be as much room as possible on the lower fan for flood flows to spread out so excessive erosion or flooding would not be confined to a narrow channel. The Director stated BGC presented an option of installing setback dykes on either side of the creek by Pigeon Creek Condominiums and the development by River's Bend in order to achieve a wider floodplain. The Director suggested a wider floodplain may be constrained by the presence of titled land in Dead Man's Flats.

[122] The Director submitted the Approval achieves the same outcome as recommended in the BGC Report, to build a larger space to contain flood flow on the lower portion of the alluvial fan, but having a deeper, bermed channel instead of dykes.

[123] The Director explained the work authorized by the Approval terminates at the end of the Hamlet's infrastructure, but the creek continues to flow another 800 metres through a series of shallow braided channels passing through a heavily vegetated and treed area before it reaches the Bow River. The Director said this area would allow flood flows to spread out and for sediment to be deposited before reaching the Bow River.

[124] The Director distinguished the Board's decision in *Hanson and Lindberg v. Director, Northern Region, Operations Division, Alberta Environment and Sustainable Resource Development ("Hanson")*¹⁷ stating that in *Hanson*, the Board found the Director did not consider all the requirements of a provincial policy regarding wetland restoration and compensation. The Director stated in these appeals, there is no suggestion the Director did not consider the requirements of a provincial policy, and there is no obligation on the Director to determine the appropriate design options for an applicant.

[125] The Director noted the Appellants appeared to argue the Director's behaviour in these appeals indicated he did not properly exercise his discretion at the time he issued the Approval. The Director questioned how behaviour during a quasi-judicial appeal process can retroactively taint the decision being appealed. The Director noted there is nothing in the Record that suggests he did not approach the Approval decision with an open mind.

[126] The Director explained he is automatically a party to an appeal of his decision, and within the appeal process, it is proper for him to explain his decision and why he made the decision. The Director stated the appeal process is a quasi-judicial process in which the Director is considered "adverse in interest" to appellants even though this is not the Director's choice.

[127] The Director said the proposed project design considered both current culvert capacity and the possibility that Alberta Transportation may upgrade the culverts in the future. The Director explained the project is designed to move water and debris equivalent to that experienced in the 2013 flood and, in his opinion, the culverts as they are, in conjunction with the project design, will help protect the infrastructure within Dead Man's Flats. The Director

¹⁷ See: *Hanson and Lindberg v. Director, Northern Region, Operations Division, Alberta Environment and Sustainable Resource Development*, re: County of St. Paul (20 February 2014), Appeal Nos. 13-005 and 006-R (A.E.A.B.).

said that if Alberta Transportation upgrades its culverts in the future, the project design authorized by the Approval will carry water and debris flows within the proposed channel.

[128] The Director stated the proposed design is meant to ensure public safety now and in the future.

[129] The Director stated the Board should disregard the Appellants' submission regarding fish and species at risk because the Board previously found these were not valid issues for the hearing.

[130] The Director stated the *Sandstone Springs Development Corporation v. Director, Southern Region, Operations Division, Alberta Environment and Sustainable Resource Development*, (“Sandstone”)¹⁸ decision referred to by the Appellants is not comparable to these appeals. The Director noted that in Sandstone, the Board upheld the Director's decision to cancel a preliminary certificate where the applicant had withheld an expert report that would have provided information relevant to the Director's decision. The Board held the Director's decision to cancel the preliminary certificate based on a material misrepresentation was correct. The Director stated that in the current appeals, Pigeon Creek Condominium's written consent was valid, and there was no material misrepresentation. The Director stated the wording error in the access consent form, “lessee” instead of “landowner,” is not material. The Director said that if the Board finds the Pigeon Creek Condominium consent is invalid, the appropriate step is to provide an opportunity to correct the situation.

[131] The Director noted the Appellants initially were never concerned about the highway and their concerns were focused on the design of the channel past their condominiums. The Director stated it is Alberta Transportation's role to determine the adequacy of its highway infrastructure to accommodate flood flows. The Director stated the proposed channel closely follows the route that existed before the 2013 flood, so it is unlikely the proposed alignment increases the risk to public safety downstream of the highway.

¹⁸ See: *Sandstone Springs Development Corporation v. Director, Southern Region, Operations Division, Alberta Environment and Sustainable Resource Development*, (15 May 2013), Appeal No. 12-043-R (A.E.A.B.).

C. Analysis

[132] The first issue before the Board is whether the Director properly exercised his discretion in issuing the Approval, including the size and scope of the project.

[133] The *Water Act* provides the Director with broad discretion in determining whether an approval should be issued for specific projects. The Director explained he reviews an application and receives advice and technical input from AESRD staff with the relevant expertise for the specific project. In this case, the Director received advice from an AESRD wildlife biologist, a fisheries habitat biologist, an Aboriginal relations specialist, and from river forecast staff. Based on his review of the project and the advice he received from the AESRD staff, the Director issued the Approval.

[134] In order to show the Director did not properly exercise his discretion when issuing the Approval, the Appellants must demonstrate the Director considered information that was not relevant, failed to consider evidence that was relevant, acted outside his jurisdiction, or his decision was not *bona fide*. There was no evidence presented by the Appellants to support any such conduct by the Director.

[135] It is not the Director's role to advise project proponents regarding the size, scope, need, or design of a project. The Director reviews an application to determine the impacts on the environment and how the impacts can be mitigated. The fact the Director did not assess the size of the proposed project does not demonstrate that he did not consider relevant information or that he failed to perform his obligations under the legislation.

[136] It is the Board's view that the Director properly exercised his discretion in issuing the Approval. He sought advice from personnel at AESRD with the relevant expertise. As part of the review, the Director explained he was cognizant of the applicable legislation and, given the location of the proposed project, he considered the South Saskatchewan River Basin Water Management Plan. There is no indication the Director considered irrelevant information or failed to consider relevant information.

[137] That being said, the Board is concerned with the thoroughness of the review undertaken of the Approval application form. This in no way raises doubt on the thoroughness

of the review undertaken of the project or the documents attached to the application. What does concern the Board are the responses provided in Question 7 on the application form, where it asks: “Is your proposed activity going to impact any other landowners, licencees, household or traditional agricultural land users? If yes, how? What measures are proposed to reduce the impact?” The Approval Holder indicated on the form that there were no other landowners that would be impacted. Yet, included with the application were three documents from landowners (Thunderstone Quarry, River’s Bend, and Pigeon Creek Condominiums) who would be impacted by the proposed project and whose consent would be required before the project could proceed. This inconsistency should have alerted the Director to scrutinize the application in more detail or seek clarification with respect to this issue.

[138] A second issue with respect to the review of the Approval application form is “Vegetation Management.” When questioned by the Board, the consultant from ISL who completed the application form for the Approval Holder stated the questions in this part of the application form were not on the form when he previously worked with AESRD. The questions were:

- “1. Describe your plans to minimize vegetation removal from the construction site.
2. Describe your plans for revegetation of disturbed areas (i.e. planting of native vegetation, mulching, hydro-seeding, etc.).”

As a result, the consultant from ISL did not provide answers to these questions.

[139] The Board does not consider his explanation to be a valid reason for failing to answer these questions on the Approval application form. The questions are on the application form and should have been addressed. Even if he considered the question as not applicable in the specific circumstances, that should have been indicated and reasons provided. Given the size of disturbance that will occur to accommodate the proposed berms, some explanation should have been included. Large numbers of trees will have to be removed and vegetation that is becoming established in the existing berms will be destroyed because of the proposed project. If the application form had been completed, flagging the anticipated impacts to vegetation, the Director would have been alerted to the extent of the impact on the vegetation in the area of the proposed project. There should have been some steps taken in the proposed plan to minimize the

disturbance to vegetation, whether it is for sustaining the aquatic environment or for the protection of the area's natural ecosystem.

[140] The Board appreciates that, at the time the application was received, AESRD was inundated with applications to respond to the 2013 flooding in southern Alberta. The Board also recognizes that many projects had to be started as soon as possible to mitigate immediate impacts or prevent further damage. However, this was not a reason for applicants to ignore certain questions on the form or for AESRD not to review the form critically to ensure it was properly completed and that the information provided was consistent with the accompanying plans.

[141] In this case, the Board does not believe the Director acted outside his jurisdiction when issuing the Approval because he based his decision on the advice provided by those with the applicable expertise within AESRD, and they based their opinions on the information attached to the form, not the form itself.

[142] The Appellants referred to Bill 27, the *Flood Recovery and Reconstruction Act*, which came into force in December 2013. This Act amended the *Municipal Government Act* and provides for regulation making powers to control, regulate, or prohibit use of floodways and flood fringes as identified by AESRD. It is the responsibility of the municipality to comply with the *Municipal Government Act* and any regulations when they are in place. It is not the Director's role to ensure compliance by the municipality. Even so, the Director stated he was aware of the *Flood Recovery and Reconstruction Act*. However, he was also aware that no regulations were yet in place.

[143] River's Bend stated its development is not located in a flood fringe or floodway. The Board understands the area may not be on the mapped Bow River flood fringe or floodway but not all tributaries, such as Pigeon Creek, have been mapped. Although the development may not be in the Bow River flood fringe or floodway, it may be in the flood fringe or floodway for Pigeon Creek. Although AESRD has been working on mapping major rivers in the province, the 2013 flood event demonstrates the importance of also mapping tributaries to the rivers to determine flood fringes and flood ways.

[144] On review of the submissions, the evidence presented, and the Record, there is no indication the Director was biased. It appears to the Board that the Director acted professionally and did his best to carry out his legislated mandate in the difficult circumstances following the June 2013 flood. The Board also found no evidence to indicate the Director acted outside his jurisdiction, considered irrelevant information, failed to consider relevant information, or that his decision was not *bona fide*.

[145] There was an extensive discussion at the hearing regarding the amendments to the *Municipal Government Act* resulting from the passage of Bill 27, the *Flood Recovery and Reconstruction Act*. These amendments allow the Lieutenant Governor in Council to make regulations to control, regulate, or prohibit use or development of land located in a floodway. Once regulations are enacted, their enforcement will pertain only to those floodplains where flood fringes and floodways have been delineated. During evidence presented by Mr. J. Choles of the River Forecasting Section of AESRD, it became evident that studies being undertaken for Bighorn contained definitions for floodplains (i.e. Flood Intensity Rating of Low, Medium, and High) that were inconsistent with the floodway and flood fringe definitions that AESRD utilizes, that are contained in Bighorn's Land Use Bylaw, and that will become a requirement for enforcement once regulations are passed. The Board strongly suggests that, as a best practice, all flood studies undertaken in Alberta provide information that is consistent with AESRD's standard definitions for delineation of floodways and flood fringes. Undertaking flood studies that use inconsistent terminology to what is used by AESRD provides less useful information as it is more difficult to compare the results of the studies and the information gathered. Regrettably, the information gathered in the draft Pigeon Creek Hazard Assessment, May 2015 study by TetraTech/EBA will have limited value in delineating the floodway and flood fringe of Pigeon Creek in a manner consistent with AESRD's usual practice. This is something that should be avoided in the future.

VI. DESIGN OF PROJECT

A. Submissions

1. River's Bend

[146] River's Bend explained the Province has expended significant resources to conduct creek hazard mitigation through short-term and long-term mitigation projects. River's Bend stated there will be two separate but complementary phases of the work to be completed on Pigeon Creek; first, a channel defining project, and second, an upstream storage project. River's Bend stated the short-term mitigation design of the proposed project is not the final plan.

[147] River's Bend explained that, when the creek downstream of the bridge filled up with debris, the water began to affect the existing development of the Hamlet of Dead Man's Flats because it was down gradient as well as downstream from the bridge. A berm was built on the south side that diverted the water away from the Hamlet and onto River's Bend property, and River's Bend accepted the damage to its property in order to protect the existing development in Dead Man's Flats.

[148] River's Bend argued any reference to Bill 27 and its treatment of flood plains is false, because Bill 27 refers to floodways and flood fringes, which are very different from a flood plain.

2. Appellants

[149] The Appellants stated that if Alberta Transportation does not enlarge the culverts at the Trans-Canada Highway and Pigeon Creek and there is a similar flood to the 2013 event, the project design approved by the Director would not prevent the culverts from plugging, causing flooding over the highway and down the highway median.

[150] The Appellants noted the designed area of disturbance along Pigeon Creek will be 170 to 200 feet wide (including the 100-foot creek bed at the top of the berm and 35 to 50 feet on each side of the berm). This will result in a large area of trees and vegetation being destroyed.

[151] The Appellants stated the project design is much larger than what exists further upstream from Dead Man's Flats, including at the highway and in the Canmore area. The Appellants questioned whether, given the proposed project, the additional debris in a flood event would make it through the culverts installed at the Trans-Canada Highway.

[152] The Appellants said Pigeon Creek, a tributary to the Bow River, is a classified creek, and is important to aquatic life. The Appellants stated that to protect the aquatic life in the Bow River and the lower reaches of Pigeon Creek, the amount of debris and silt should be minimized by using catch nets or settling basins farther upstream as recommended in the BGC Report. The Appellants said that a design that accommodates debris flow into the Bow River rather than reducing or eliminating the debris does not seem to be an environmentally sound strategy. The Appellants suggested the flow into the Bow River should be as clear as possible to prevent damage to the aquatic environment.

[153] The Appellants stated wildlife in the area would be affected by the removal of the trees and by construction of un-vegetated berms.

[154] The Appellants submitted the Director did not consider the mitigation strategies suggested in the BGC Report but only considered the design as filed in the application.

3. Approval Holder

[155] The Approval Holder submitted the design requirements of the project, including its size and scope, are adequate to protect the environment and ensure public safety. The Approval Holder retained TetraTech/EBA to develop short-term mitigation measures for flood protection to protect people, property, and infrastructure living or located on the alluvial fan of Pigeon Creek.

[156] TetraTech/EBA explained the section of Pigeon Creek that was considered extended from the waterfall (fan apex) to the Bow River. TetraTech/EBA stated the proposed flood protection, an armoured channel, was designed to carry the largest recorded event, which occurred in June 2013 and estimated to be 82.7 m³/s.

[157] TetraTech/EBA stated the designed channel can convey the design event of 82.7 m³/s and provide an additional one-metre freeboard above the predicted water surface elevation to account for sedimentation accumulation over time.

[158] TetraTech/EBA explained that, through consultation with the Approval Holder, the preferred option required:

1. decommissioning the existing channel that was created during the 2013 flood;
2. excavating a new channel and armouring the channel to protect it from erosion;
3. increasing channel capacity, armouring the banks, and adding the left berm; and
4. armouring the right bank adjacent to the road.

[159] TetraTech/EBA stated that various designs of the channel realignment were presented to property owners in Dead Man's Flats until an agreement was reached on the existing design. It explained the primary concern was to minimize encroachment on private property while following as much as possible the pre-flood creek alignment.

[160] TetraTech/EBA said it modified the design to minimize any environmental impacts, including impacts on fish, migratory birds, and wildlife, while achieving its goal. TetraTech/EBA noted its design considers:

1. the need to restrict when work can be performed to minimize impacts on fish;
2. the need to restrict when work can be performed to minimize impacts on migratory or nesting birds;
3. the need to conduct a nesting survey;
4. limiting the extent of the project to minimize impacts on the wildlife corridor; and
5. keeping the footprint of the project, as much as possible, within the general footprint of the historic location of the creek.

[161] TetraTech/EBA stated Pigeon Creek has a total drainage area of approximately 57.3 km² with an average slope of 11 percent. The mean annual flood for Pigeon Creek is 6.75 m³/s, and the 200-year peak flow was determined to be 36.2 m³/s.

[162] TetraTech/EBA said the June 2013 flood, which reached a maximum daily peak flow of 53.8 m³/s, corresponds to a 1:1300 year return period. This was later changed to 75 m³/s and a 1:400 year event. The 2013 flood was a debris flood, which is "...characterized as a nonhomogeneous, non-Newtonian transient flood with sediment concentrations that had typically exceed 20% by volume and can range up to 35%."¹⁹ TetraTech/EBA explained an increase in sediment concentration changes the fluid properties from a clear water flood, which can affect hydraulic parameters such as peak flow, flow depth, and flow velocity.

[163] TetraTech/EBA stated an event like the June 2013 flood would be contained within the proposed new channel alignment, with the exception of areas adjacent to and in between the road crossings. It said the restricting structures, such as bridges and culverts, were not designed to handle the 2013 debris flood event and would be overtopped in the event of a debris flood.

4. Director

[164] The Director noted the Approval Holder's application focused on public safety by:

1. asking the Director to waive notice of application to alleviate another possible emergency situation along Pigeon Creek; and
2. implementing short-term mitigation options prior to the 2014 spring freshet to protect people, property, and infrastructure where possible.

[165] The Director said the Approval Holder indicated there were extensive damages to businesses and infrastructure due to the 2013 flooding.

[166] The Director stated the Approval Holder's consultant, TetraTech/EBA, explained the Pigeon Creek Condominiums were likely spared further damage during the 2013 floods because water and debris escaped the channel over the right bank at the sharp bend just downstream of the wooden bridge. The Director noted TetraTech/EBA stated that, with the development planned by River's Bend and associated flood protection, the creek will not be

¹⁹ Approval Holder's submission, dated November 25, 2014, at Appendix A, TetraTech/EBA Report, Pigeon Creek Hydrological Analyses Hydraulic Modelling, at page 5.

allowed to follow that same path, and a smaller channel would not provide them as much protection.

[167] The Director said that, according to TetraTech/EBA:

1. the proposed channel takes into consideration the 2013 flood event;
2. allows a 1.0 metre freeboard above the predicted water surface elevation from the 2013 flood to account for accumulation of sedimentation and debris over time; and
3. the predicted water level downstream of the highway assumes the Alberta Transportation culverts do not obstruct the event, which means that, even if the culverts are upgraded in the future, the proposed channel would accommodate debris and clear flow flood events.

[168] The Director stated it was reasonable for him to rely on the Approval Holder and its consultants to design a project that ensured public safety. The Director stated he “...is *convinced* that the project – as designed – ensures public safety.” (Emphasis in original.)²⁰

[169] The Director considered it reasonable to base the design of the project on the 2013 flood and 1.0-metre freeboard given the debris flood that Pigeon Creek experienced. The Director supported a precautionary and conservative project design for Pigeon Creek given the damage to infrastructure caused by the 2013 flood and the possibility of future debris floods.

[170] The Director explained the project design increases channel capacity in order to decrease the risk of damage to infrastructure in future flood events. The Director said the proposed project design will give the Appellants a higher level of protection than they had before the 2013 flood or that they currently have with the emergency channel.

[171] The Director noted the project design will lessen the inner slopes to a 2:1 pitch and outer slope to a 3:1 pitch, which will be less steep than the existing inner and outer slopes of the emergency channel.

[172] The Director confirmed public safety was a key factor in his decision.

[173] The Director stated the matters and factors under the approved South Saskatchewan River Basin Water Management Plan require him to consider any effects on the

²⁰ Director’s submission, dated November 25, 2014, at paragraph 58.

aquatic environment when deciding to issue an approval. The Director noted the *Water Act* defines “aquatic environment” to include organic and inorganic matter, living organisms and their habitat, and their interacting natural systems. The Director said when considering the effects of a project on the aquatic environment, it includes considering the effects on the creek itself as well as the species that live in and around the creek.

[174] The Director explained the ISL Engineering Qualified Aquatic Environmental Specialist report provided with the application found limited fish habitat within Pigeon Creek and the channel lacked habitat features that could support a healthy fish population. The Director said the AESRD fisheries biologist also noted the absence of fish in Pigeon Creek.

[175] The Director explained an AESRD biologist reviewed the updated project plans and noted the following:

1. A wildlife corridor exists adjacent to the Bow River, but the project will not extend to that area. There were no concerns with wildlife movement provided the project did not extend to the Bow River.
2. Restricted activity periods for migratory birds and animals. If activities took place during these periods, then a qualified biologist should conduct a preconstruction survey to identify any active nests. The Approval Holder agreed to provide the preconstruction survey by a biologist. The AESRD biologist identified no additional requirements for authorizations relating to migratory birds or wildlife for the project.

[176] The Director believed the impacts to wildlife would be appropriately mitigated if the recommendations of the AESRD biologist are followed.

[177] The Director submitted the aesthetics and quality of life concerns expressed by the Appellants are outside the issues set for the hearing and should not be considered by the Board. In his view, if these concerns are to be considered, they should not trump a design that ensures public safety and mitigates the impacts of future debris floods on Pigeon Creek.

[178] The Director explained an engineer with AESRD’s River Forecast Section reviewed the application and updated plans with respect to effects of the proposed project on the hydraulic effects (water flows) and hydrological effects (impacts on the hydrologic cycle) on a water body. The Director said the engineer noted that:

1. the new design shortens the length of the creek and increases its slope, resulting in higher velocities;
2. the channel design includes large riprap that should provide protection along the channel;
3. straightening the channel will likely result in gravel being deposited in the channel;
4. berms up to two metres high at the downstream end of the channel can trap the deposited gravel; and
5. on-going maintenance would be required for the design to be effective over the long term.

[179] The Director said the main concern was the ongoing required maintenance to remove sediment build-up. The Director stated concerns regarding higher velocity flows should be mitigated by the approved design.

[180] The Director stated the project design is adequate to protect the environment and to ensure public safety. The Director argued that, if the Board finds the project design is adequate, there is no basis to reverse or vary the Director's decision.

[181] The Director stated the Appellants' concerns regarding the steep slopes or impacts on wildlife may relate to the emergency channel, not the proposed project, but if these concerns relate to the proposed project, the Appellants have not provided any expert evidence to support these concerns.

[182] The Director said individual aesthetic preferences should not override broader societal interests such as public safety, particularly when public safety is supported by expert evidence and design.

B. Rebuttal Submissions

1. Appellants

[183] The Appellants agreed with Dr. Guthrie's opinion that the proposed design was a hazard to the infrastructure and users of the highway, and without upstream storage or an approved design to accommodate debris flow under the highway, it results in a decrease in public safety.

[184] The Appellants noted Alberta Transportation has no plans to change the size of the culverts.

[185] The Appellants explained that, during the 2013 flood, the bank was built up by River's Bend, causing the creek to bend and causing most of the damage to Dead Man's Flats. The Appellants stated a better solution would be not to allow development on the floodplain.

2. Approval Holder

[186] The Approval Holder had no supplemental submission to Dr. Guthrie's "will say" statement.

C. Analysis

[187] The proposed project was built to the event on record (the 2013 flood), which was initially determined to be equivalent to a 1:1300 year event. It was not until the latest report, completed by TetraTech/EBA for Canmore,²¹ was provided to the Board that it was shown the event of record was equivalent to a 1:400 year event, substantially less than the 1:1300 year event used to design the proposed project. A 1:400 year event corresponds to a flow rate of 75 m³/s, compared to 82.7 m³/s flow in a 1:1300 year flood event as presented in the application.

[188] The project as it is currently proposed has the capacity to carry 82.7 m³/s, but with the additional one-metre of freeboard, it could effectively pass flows of about 300 m³/s.

[189] The entire length of Pigeon Creek from the waterfall above the Thunderstorm Quarry to the footbridge near the confluence with the Bow River is proposed to be built to accommodate the 1:400 year event. The Approval Holder explained this will allow water, sediments, and debris to be carried towards the Bow River if such an event occurs again. However, evidence presented at the hearing indicated that Pigeon Creek is primarily a clear

²¹ The Town of Canmore retained TetraTech/EBA to complete a risk hazard assessment for Pigeon Creek. The Town provided the Board and the Parties with copies of the report, titled "Pigeon Creek Hazard Assessment, May 2015." However, the report was "issued for review" and contained only interim recommendations. An "issued for use" report will be provided to the Town after the Town has had the opportunity to review the current document and after the completion of the assessment of the risk is completed. The hazard report is not publicly available at this time.

water basin, and the significant amounts of debris deposited during the 2013 flood were almost entirely the result of stockpiled aggregate at the Thunderstone Quarry being washed downstream.

[190] The Board is of the view that, since the event of record now has a lower estimated flow, from 82.7 m³/s to 75 m³/s, the size of portions of the project can also be reduced and a redesign will be necessary. The width of the channel and the height of the berms can be reconfigured to reflect the reduced peak flow. Evidence was presented that the height of the berms could now be lowered approximately 20 cm. This would also reduce the footprint of the project.

[191] In reviewing the proposed plan, it is clear the culverts under the Trans-Canada Highway and the east bound off ramp will be limiting factors to the carrying capacity of Pigeon Creek downstream and to the north of the Trans-Canada Highway. An overflow spillway at the east bound off ramp (the first public road crossed by Pigeon Creek) has been designed to divert flows greater than the 1:100 year flow to the west to protect the Trans-Canada Highway. At the hearing, the representative for Alberta Transportation unequivocally stated that Alberta Transportation did not intend to change the size of the culverts under the highway, and it was willing to accept all the risks associated with the culverts capable of handling flows of only 54 m³/s, or a 1:100 year flood event. When asked, he explained the culverts were expected to last 75 years, and unless design standards change, replacement culverts would remain the same size given the challenges of constructing under a major highway.²²

²² At the hearing, the following question and response were provided:

“Mr. Barlishen: If you had the (TetraTech/EBA) information six months prior that the flood event of 2013 was estimated to be 75 m³/s, would that have changed your selection of the culvert size?”

Mr. Witten: That would have been highly unlikely because those culverts are still adequate for a 1:100 year flow and that is (inaudible) standard. If you are designing for a dam or something you would use a 1:1000 year. It is the risk we are willing to take. It is historical 1:100 but it is design flow that we use to determine discharge.”

In addition, in response to a question from the Appellants’ counsel, Mr. Witten stated at the hearing:

“Mr. Witten: We don’t design our culverts or our bridge structures for any more than a design flow for a 1:100 year. We are willing to take the risk of having to remove some debris.”

[192] With the culverts designed for a 1:100 year event, the culverts are only capable of handling 54 m³/s. Even if the water flow upstream of the culverts reaches 75 m³/s, as soon as it reaches the off ramp culverts, only 54 m³/s will be able to flow through the culverts, the remainder being forced to the west down the overflow spillway and along the south side of the Trans-Canada Highway. The Approval Holder's consultant acknowledged that, in a 1:400 year flood event, the culverts would be overwhelmed regardless as to whether the channel was there. On the north side of the Trans-Canada Highway, Pigeon Creek passes under 2nd Avenue in Dead Man's Flats. These culverts were washed out in the 2013 flood and were replaced with culverts having a similar capacity of 54 m³/s. River's Bend recently replaced the wooden bridge crossing that allows access to its property with culverts having a capacity of 54 m³/s. In a distance of 300 m, Pigeon Creek passes four sets of culverts, all having the limiting capacity of 54 m³/s before reaching the portion of the channel that passes by the Appellants' residences in the Pigeon Creek Condominiums. Constructing these lower reaches of Pigeon Creek to a capacity of 75 m³/s would serve no purpose because that amount of water would not be able to reach that portion of the creek due to the limiting effects of the upstream culverts. Constructing the project to that size downstream of the highway would result in damaging the environment more than is necessary. The project as currently approved would involve removing large numbers of trees and disturbing the banks along the creek, although this was not identified on the Approval application form. This disturbance is more than would be required if the downstream portion of the project was designed to accommodate the 54 m³/s flow of a 1:100 year flood event. The Board notes that a good portion of the trees that will need to be removed and the banks that will have to be disturbed are on private land.

[193] In addition, the current design allows for the top of the berm to be wide enough to allow vehicular traffic to access the area for maintenance purposes. When questioned at the hearing, the Approval Holder's consultant said some flat surface is required on the top of the berm, but it could be limited to the width of a walking path. Since the project needs to be redesigned to reflect the most recent data available, the Board suggests the Approval Holder consider reducing the width of the top of the berms, particularly downstream of the Trans-Canada Highway.

[194] Given the estimated volume of water that could reach the creek downstream of the highway and the impact of the proposed project on the environment, the Board recommends the Approval be varied, requiring the Approval Holder to redesign the proposed project to accommodate flood flow rates of a maximum of 54 m³/s on the portion of the creek downstream of the Trans-Canada Highway culverts. The redesign of the project must be approved by the Director. Any changes to the channel design upstream of the Trans-Canada Highway will be at the discretion of the Approval Holder, with final approval from the Director. The Board reinforces the concerns voiced at the hearing regarding the need to complete the portion of the project upstream of the highway as expeditiously as possible. To remove the largest threat from flooding along Pigeon Creek requires the isolation of the Thunderstone Quarry from the creek flow so as to eliminate the possibility of entraining stockpiled aggregate materials in any future floods.

[195] Reducing the size of the proposed project downstream of the Trans-Canada Highway may provide the Approval Holder additional space to accommodate that section of the creek to make it appear as natural as possible. As stated by the Board previously, the original plan did not consider the impacts the proposed project would have on the vegetation. The Approval application form did not indicate any measures would be taken to minimize impacts on the vegetation. The Board also recommends the redesign incorporate different methods to minimize the removal of trees and vegetation and encourage re-vegetation of the area to a more natural state as soon as possible.

[196] At the hearing, the Approval Holder argued the Board does not have the ability to overturn a policy decision of a municipality. The Board agrees. In this case, the Board is commenting on the relative environmental effect of the project and whether steps can be taken to mitigate those impacts. The Board is not interfering with the Bighorn's decision to construct flood mitigation works in Pigeon Creek. The Board did not hear evidence to alleviate its concerns regarding the environmental effects of the proposed channel design. This is particularly important in this area because of its tourism industry and the need to retain as much of the natural environment as possible. The Board recognizes that flood mitigation measures need to be undertaken along Pigeon Creek, but the measures must be appropriate for the

predicted flood events and the infrastructure currently in place. The Board believes that an appropriately designed remedy for flood mitigation and retaining or incorporating features that will enable the project to blend into the natural environment are not mutually exclusive objectives.

[197] The Approval Holder argued the project needs to be constructed to meet future standards. The Board must look at whether the project meets the appropriate standards of today. According to the executive summary in the report completed for the Approval application, the project was designed to allow for future channel widening. Given the maximum flow limitations set by the size of the culverts under the highway and the off ramp, and two additional culvert crossings on the north side of the highway, the Board questions the need to consider future widening of the channel. Based on the evidence before the Board, the culverts are the limiting factors in the size of the project downstream of the Trans-Canada Highway, and the evidence before the Board was that the size of the culverts will not be changed in the future unless design standards are modified. Based on the evidence of Mr. Witten from Alberta Transportation, it is very unlikely that these design standards will be changed. Therefore, any channel work downstream of the highway culverts need only meet the capacity of these culverts to transport creek flow. In addition, changes that will prevent aggregate stored at Thunderstone Quarry from becoming entrained into Pigeon Creek should prevent the type of flood that occurred in 2013 from reoccurring. The Approval Holder state the long-term mitigation strategy would address how debris floods would be dealt with. This indicates the current Pigeon Creek project need only accommodate clear water floods, supporting the Board's recommendation to redesign the channel north of the Trans-Canada Highway to accommodate flood flows of a maximum of 54 m³/s.

[198] The representative for River's Bend explained River's Bend was willing to have the berm (or dyke) on the north side of Pigeon Creek constructed on its property. River's Bend explained that one of the conditions for developing its property was that a berm would have to be constructed to minimize potential flood impacts. If the Approval Holder did not construct the berm, the development would have to construct its own berm (i.e. dyke) on its property. This is one alternative that should be considered when the proposed project is redesigned. River's Bend

volunteered to have the berm built on its property because, whether the berm is the Approval Holder's or River's Bend's, it must be constructed.

[199] When redesigning the portion of the project downstream of the highway, the Approval Holder should solicit input from the residents of Dead Man's Flats, the Pigeon Creek Condominium owners, and River's Bend and consider ways to minimize the removal of trees and vegetation, including retaining the original channel alignment and providing a remediation plan for all the disturbed areas to encourage vegetative regrowth. As well, since the design is no longer directed at debris floods, the need to maintain high flow velocities is no longer required and retaining bends would be desirable to slow flood flows and minimize bank erosion. The amount of freeboard required should be re-examined in light of the four sets of culvert controls that exist immediately upstream. The offer by River's Bend to place the north side berm (or dyke) on its property should be investigated to see if the project footprint could be reduced. The need to shift the channel 30 metres further away from the Pigeon Creek Condominiums should also be re-examined in view of the fact that the project terminates less than 100 metres from this location. The Board recognizes there are limitations as to what can be achieved while maintaining the integrity of the project and that the Director must approve the new design.

[200] The intent of the proposed project is to protect people and infrastructure from future flood events similar to the 2013 event, while minimizing impacts to the environment. The completed channel should try to resemble the natural state as much as possible, but the Board recognizes it cannot be returned to the pre-2013 flood state.

[201] Dr. Guthrie raised concerns regarding the impacts of the proposed project on public safety, in particular the impacts on the Trans-Canada Highway. The Board believes his concerns have been addressed. Alberta Transportation has accepted all responsibility regarding the size of culverts under the highway and off ramps. The Board encourages the Approval Holder to work with the other entities involved in the remediation of Pigeon Creek to ensure the most robust plan is in place to prevent aggregate from the stockpiles at the Thunderstone Quarry from becoming entrained in future flood waters.

[202] The Board recommends the Approval be varied, requiring the Approval Holder to redesign the proposed project to accommodate maximum flood flow rates of $54 \text{ m}^3/\text{s}$ on the

portion of the creek downstream of the Trans-Canada Highway culverts. Changes to the portion of the creek upstream of the Trans-Canada Highway will be left to the Approval Holder. Changes to the project must receive final approval from the Director.

VII. IMPACT OF VALIDITY OF DOCUMENT ON APPROVAL

A. Submissions

1. River's Bend

[203] River's Bend explained it was invited to participate in discussions about the proposed short-term mitigation project, as were the Pigeon Creek Condominium owners. River's Bend stated that, at the final stakeholder meeting when input had been received and collated into a design that had broad support, Mr. Derek Ryder, the Pigeon Creek Condominium Association President at the time, was asked if he was authorized to make agreements on behalf of the condominium owners, and he responded that he had that authority.

2. Appellants

[204] The Appellants stated the consent letter signed by Mr. Derek Ryder was signed by Mr. Ryder as a "lessee," not as a "landowner" as required under section 37(4) of the *Water Act*.²³ The Appellants explained that, under section 37(4) of the *Water Act*, an applicant who does not own the land in fee simple, if required by the Director, must submit written consent of the owner of the land. The Appellants argued that, under the law, a lessee is not the same as a landowner and, since the signature of the landowner is required under section 37(4) of the *Water Act* and it was signed by a "lessee," the work authorized under section 37(4) of the *Water Act* was invalid.

[205] The Appellants submitted the authorization of the landowner is required to protect the landowner's rights and to protect the applicant since the authorization defines the scope of work and the parties' liabilities.

²³ Section 37(4) of the *Water Act* states:

"If an applicant for an approval does not own the land in fee simple or the undertaking to which the approval is to be appurtenant, if required by the Director, the applicant must submit the written consent of the owner of the land or of the undertaking as part of the application for the approval."

[206] The Appellants submitted the Approval is invalid because the Director required the Approval Holder to have consents from the landowners, including the Pigeon Creek Condominium Association, but Mr. Ryder consented as a lessee not as a landowner. Therefore, the Approval Holder had not received the proper consent of the landowners.

[207] The Appellants argued the Approval was issued in error due to an invalid document and, therefore, the Board should recommend the Approval be reversed since it affects a landowner's rights.

3. Approval Holder

[208] The Approval Holder noted the allegedly invalid document in question is the consent signed by Mr. Derek Ryder, then President of the Pigeon Creek Condominium Association. The Approval Holder stated that it is beyond the jurisdiction of the Board to determine whether the consent was validly given by the President of the condominium association, but the Board can consider the impact of an invalid consent on the validity of the Approval.

[209] The Approval Holder argued the Director has no obligation to require, as part of an application, the consent of an affected landowner or legal interest holder. The Approval Holder noted the mandatory components of an application as stated in section 37 of the *Water Act*.²⁴ The Approval Holder said sections 37(2) and 37(4) of the *Water Act* give the Director the

²⁴ Section 37 of the *Water Act* provides:

- “(1) A person who applies for an approval must
- (a) make an application to the Director in a form and manner satisfactory to the Director,
 - (b) submit the information, including but not limited to plans and specifications, required by the Director, ... and
 - (d) provide notice of the application in accordance with Part 8.
- (2) The Director may require an applicant to submit any additional information including but not limited to plans and specifications the Director considers necessary within any time period required by the Director.
- (3) The Director may deem an application for an approval to be an application for a licence.
- (4) If an applicant for an approval does not own the land in fee simple or the undertaking to which the approval is to be appurtenant, if required by the Director, the applicant must submit the written consent of the owner of the land or of the undertaking as part of the application for the approval.”

discretion, but not the obligation, to require additional information as part of the application. The Approval Holder stated that, while the consent of a landowner may be required at the discretion of the Director, consent is not a mandatory requirement of the application process or a precondition to the Director having the jurisdiction to consider an application for an Approval.

[210] The Approval Holder noted there is nothing in the Record suggesting the Director required the consent to be submitted for consideration in the application process, nor does the *Water Act* require the Director review and consider every supporting document submitted with an application. The Approval Holder stated the Director's obligation is limited to exercising his discretion to determine what factors and issues are relevant and then weighing those factors in good faith.

[211] The Approval Holder explained the decision to seek and submit the consent was its decision as a *bona fide* representation that it was discussing the project with affected landowners, as represented by the President of the Condominium Association. The Approval Holder stated the question of whether the consent is valid does not change its purpose for submitting the consent and it does not change the Director's treatment of it in processing the application.

[212] The Approval Holder stated the Director was entitled to rely on the purported validity of the consent in good faith, and there is no evidence the Director acted improperly in accepting the consent on its face value. The Approval Holder noted that, when consent is required by the Director, it is obtained to ensure potentially affected landowners are aware of the application.

[213] The Approval Holder stated the consent is not intended to ensure entry on the affected lands is authorized or that legal interests have been acquired, but to ensure landowners or other legal interest owners are aware of an application that potentially impacts their legal interests. The Approval Holder explained that, if the validity of the consent is successfully challenged, it may impact the Approval Holder's ability to proceed with aspects of the project authorized by the Approval, but it does not invalidate the Approval itself. The Approval Holder argued that even though the Appellants disagree with the President's actions in issuing the consent, it cannot invalidate the entire regulatory process.

[214] The Approval Holder submitted it would not be practical for the Board to require the Director to assess the validity of a consent submitted as part of an application, because it is beyond the Director's expertise to determine the scope of affected legal interests or the legal validity of an alleged consent.

[215] The Approval Holder submitted that, as there is no mandatory obligation on the Director to require consent as part of the application or to consider the consent as one of the factors to be reviewed in making his decision, the actual validity of the consent is irrelevant to the determination of whether to grant the Approval and has no impact on the validity of the Approval.

3. Director

[216] The Director noted the document that is allegedly invalid is the Pigeon Creek Condominium Association's authorization to access the condominium's common property. The Director stated that, regardless if the document was valid or not, he could rely on the document.

[217] The Director noted the *Condominium Property Act*, R.S.A. 2000, c. C-22, clearly states the condominium corporation is "responsible for ... the control, management and administration of its real and personal property and the common property."²⁵ The Director further noted the *Condominium Property Act* states the "powers and duties of a corporation shall, subject to any restrictions imposed or direction given in a resolution passed at a general meeting, be exercised and performed by the board of governors."²⁶

[218] The Director acknowledged the project will impact the condominium common property, so any consent to access or alter the common property must come from a member of the condominium corporation's Board of Directors. The Director said Mr. Ryder held himself out as being the President of the Condominium Association and as having the authority to sign the "Property Access and Work Authorization" form to allow the Approval Holder access to the condominium's common property.

²⁵ Section 37(1) of the *Condominium Property Act*.

²⁶ Section 28(7) of the *Condominium Property Act*.

[219] The Director stated the inclusion of the words “legal lessee” rather than “landowner” is irrelevant, because Mr. Ryder presented himself as having authority to bind the condominium corporation and, under the *Condominium Property Act*, the President can bind a condominium corporation.

[220] The Director said he relied on the access authorization in good faith. The Director explained he does not independently verify the authority of those who provide authorizations unless there is an obvious reason to do so and, in this case, there was no obvious reason. The Director stated Mr. Ryder represented himself as having the requisite authority to bind the condominium corporation, and it was reasonable for the Director to rely on this.

[221] The Director stated that, under the *Condominium Property Act*, a *bona fide* third party who does not have notice of a condominium’s restrictions is protected from being affected by the condominium corporation’s failure to follow them. The Director said this allows him to rely on the authorization even if the condominium corporation placed restrictions on Mr. Ryder’s authority to sign the access authorization as a representative of the Board of Directors since the Director is clearly a *bona fide* third party without notice. The Director stated that, if Mr. Ryder did not follow internal protocols or restrictions on his authority, it is a civil matter between the condominium owners and the Board of Directors.

[222] The Director explained that not every type of error, omission, or invalid document would render an approval invalid. He stated it would have to be a material error on a critical component of an approval that could not be remedied in other ways.

[223] The Director recognized that obtaining consent from an affected landowner is often a part of the approval process, but the *Water Act* only requires landowner consent if required by the Director. The Director explained that, if the required consent was invalid, the usual corrective action would be to ask the applicant to obtain the valid consent or ask whether the project could be redesigned so as not to impact the land in question. The Director said that, if neither of these options were possible, he might consider canceling or suspending the approval on the basis the approval was issued in error or the approval holder made a material misrepresentation in obtaining the approval. The Director stated it is a very high standard to meet in order to cancel or suspend the approval, and that standard was not met in this case.

[224] The Director stated the Board needs to receive all of the facts regarding the access authorization before making its recommendations to the Minister. The Director said that canceling an approval is a drastic measure especially when alternate remedies are available. The Director noted the Appellants provided no evidence that they represent the condominium corporation or can speak on behalf of the condominium corporation with respect to the common property.

B. Rebuttal Submissions

1. Appellants

[225] The Appellants stated that, pursuant to section 37(4) of the *Water Act*, once the Director required the Approval Holder to obtain a signed consent from the landowner, then it must be done. The Appellants noted the Director said that landowner consent is only required when the Director asks for it. The Appellants stated that, in this case, the Director required landowner consent, not a “lessee” consent.

[226] The Appellants argued that since the *Water Act* refers to obtaining consent from the landowner not the lessee, the document provided was invalid.

C. Analysis

[227] Under section 37(4) of the *Water Act*, the Director has the discretion to ask that landowner consent be provided as part of an approval application. In this case, the Director explained he did not request the documents to show that landowners’ consents were received. The Approval Holder explained it provided the documents because the documents were commonly requested by the Director. The Director stated at the hearing that if these consents had not been voluntarily submitted with the application, he would have requested the documents.

[228] The Appellants argued the consent was invalid because it indicated it was signed by the then President of the Condominium Association as a “lessee” not as a “landowner” as required under section 37(4) of the *Water Act*. The form used was a standard form document prepared by the Municipal District of Bighorn No. 8 entitled “Property Access and Work Authorization.” It was signed by the Condominium Association President at that time, Mr.

Derek Ryder, above a signature line below which were the pre-printed words “Property Lessee’s Signature.” At the beginning of this document, it was stated that Mr. Ryder certified he was the “legal Lessee or authorized agent of the legal Lessee.” The words “authorized agent of the legal Lessee” were circled, apparently by Mr. Ryder, according to the evidence of Mr. Dale Mather. The document provided that Mr. Ryder, in his capacity as agent, authorized the Approval Holder and its contractors to enter the condominium property to carry out certain work described therein in relation to a drawing prepared by TetraTech/EBA, including but not limited to, debris removal, berm construction, and channel re-alignment.

[229] The Board accepts the form included by the Approval Holder in its application was perhaps not as clearly worded or phrased as it should have been. The Approval Holder explained it was the standard consent form it has used in the past. The document did not refer to a landowner. Mr. Ryder relied on the representation made by the Approval Holder that it was a valid form, and the Approval Holder relied on the representation made by Mr. Ryder that he had the authority to sign on behalf of the Pigeon Creek Condominium Association. When a document such as this is provided to the Director, and the cover letter states Mr. Ryder had the authority to sign on behalf of the Pigeon Creek Condominium Association, it is not the Director’s role to investigate whether the document complies with condominium bylaws or the *Municipal Government Act*. If it appears the document is valid, he is entitled to accept it on face value.

[230] In this case, there was nothing to indicate to the Director that Mr. Ryder did not have the authority to sign on behalf of the Pigeon Creek Condominium Association. Since the document appeared to be valid, the Director did not have any reason to question the validity of the consent.

[231] The document at issue does not impact the Director’s assessment of the proposed project. It was essentially a document indicating the representative of the Condominium Association had knowledge of the proposed project.

[232] If the proposed project proceeds, the Approval Holder is still required to enter into an agreement with the Pigeon Creek Condominium Association for access to its land, whether it

is a right-of-way agreement, land purchase or swap, or some other arrangement. This agreement, whatever form it takes, is still required before work can proceed on the project.

[233] One of the purposes for including a landowner consent with the application is to demonstrate to the Director that landowners have been notified of the proposed project and that an application was being filed with the Director. Although this appears to be the intent of this document, the Appellants explained they were not made aware of the proposed project until the Notice of Decision was posted.

[234] At the hearing, the Approval Holder said it attended a Condominium Association meeting in April 2015 to discuss the proposed project in an effort to obtain consent to access the Condominium Association's property. Given the concerns expressed by the Appellants and the Condominium Association members after the meeting, the Board strongly encourages the Approval Holder to continue discussions with the residents of Dead Man's Flats, and in particular residents of Pigeon Creek Condominiums, in an effort to come to an amicable resolution and avoid the possible need for expropriation of the required property.

[235] The Director acknowledged there are risks with proceeding with a Notice of Decision instead of a Notice of Application. The major drawback is that the first opportunity for those who may be directly affected by the activity applied for to make their views known is by way of an appeal to the Board.

[236] When a Notice of Application is used, publication of the notice gives directly affected persons the opportunity to file Statements of Concern that must be addressed by the project proponent to the satisfaction of the Director prior to an approval being issued. Here, the Director relied on the consent document provided by the Approval Holder as an indication that some directly affected persons were aware of the proposed project. Unfortunately, with respect to the Pigeon Creek Condominium Association, evidence presented in the appeals suggests this was not actually the case. The evidence presented at the hearing by the Approval Holder's consultant from ISL indicated that he was unclear of the purpose of the consent document. Although he appeared to view the consent document as consenting to access the condominium lands, the Director viewed the consent document as acknowledging the affected landowners were aware of the proposed project, not a formal access agreement. It may be useful for AESRD to

provide written direction to explain what a consent document should contain. This would eliminate confusion for applicants, the Director, and the general public. It would enable those seeking consent to explain the purpose of the document to the intended signatories.

[237] The Director has the discretion to require the landowner's consent be included in the application for the Approval. The Board did not have to determine if the consent document was invalid. In this case, even if the consent document was invalid, the Approval itself is valid.

VIII. RECOMMENDATIONS

[238] For the foregoing reasons and pursuant to section 99 of the *Environmental Protection and Enhancement Act*, the Board recommends the Approval be varied by requiring the Approval Holder redesign the portion of the proposed project downstream of the Trans-Canada Highway to:

1. accommodate a maximum 54 m³/s flood event;
2. minimize the environmental impacts, particularly to the vegetation; and
3. consider the factors identified by the Board in its Report and Recommendations.

The redesign must be approved by the Director.

[239] With respect to sections 100(2) and 103 of EPEA, the Board recommends that copies of this Report and Recommendations, and of any decision by the Minister, be sent to the following:

1. Ms. Joan Corbeil;
2. Mr. Neil Patterson, on behalf of Ms. Tania Demencuik and Ms. Terri Savitsky;
3. Mr. Paul Baumberg;
4. Mr. Shane Jonkers, on behalf of River's Bend Development Inc.;
5. Town of Canmore;
6. Dr. Richard Guthrie;
7. Mr. Derek King, Brownlee LLP, on behalf of the Municipal District of Bighorn No. 8; and

8. Ms. Jodie Hierlmeier and Mr. Gabriel Hill, Alberta Justice and Solicitor General, on behalf of the Director, South Saskatchewan Region, Alberta Environment and Sustainable Resource Development.

[240] The Appellants and Approval Holder reserved their right to submit final costs applications. The Board requests that an application for costs be provided to the Board within two weeks of the date of the issuance of the Minister's Order with respect to this Report and Recommendations. The Board will then provide the Parties with information regarding the submission process should a costs application be made.

Dated on June 30, 2015, at Edmonton, Alberta.

- original signed -

Alex MacWilliam
Acting Chair

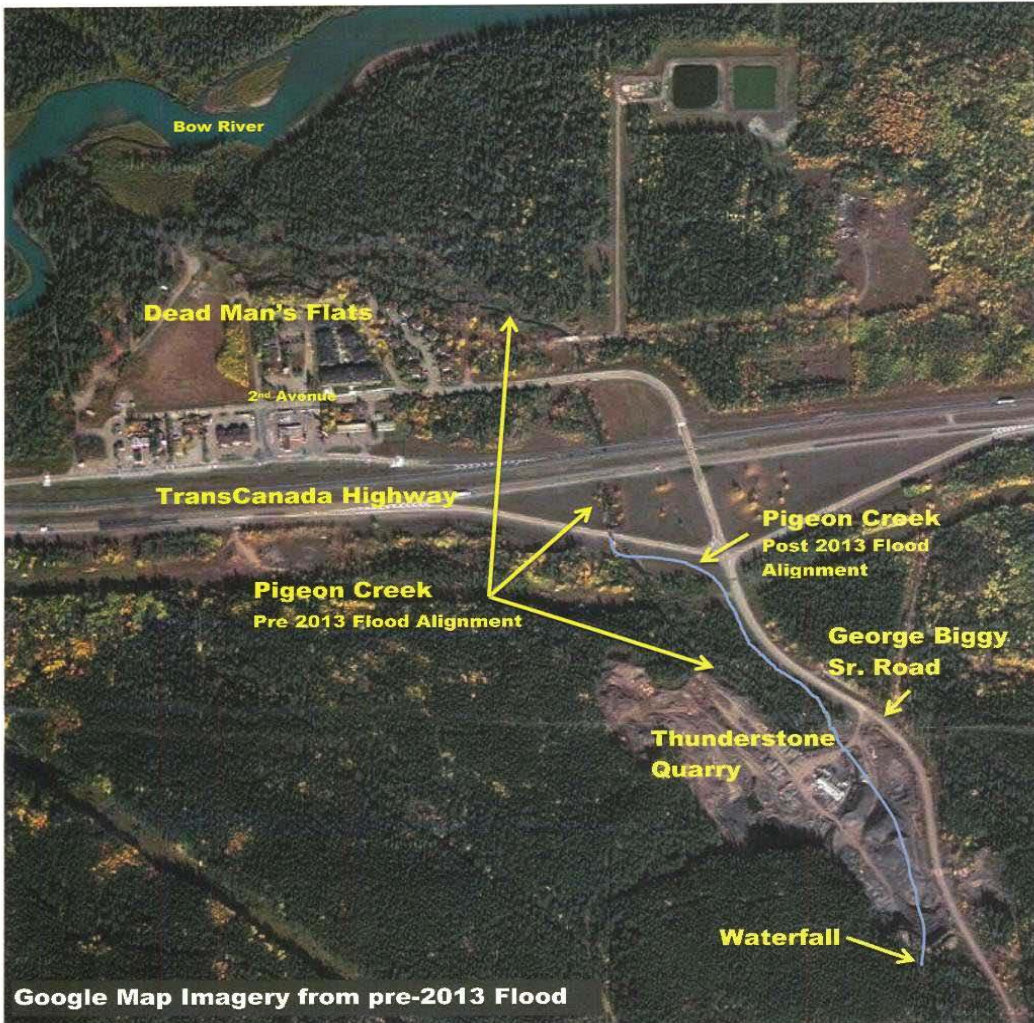
- original signed -

Alan Kennedy
Board Member

- original signed -

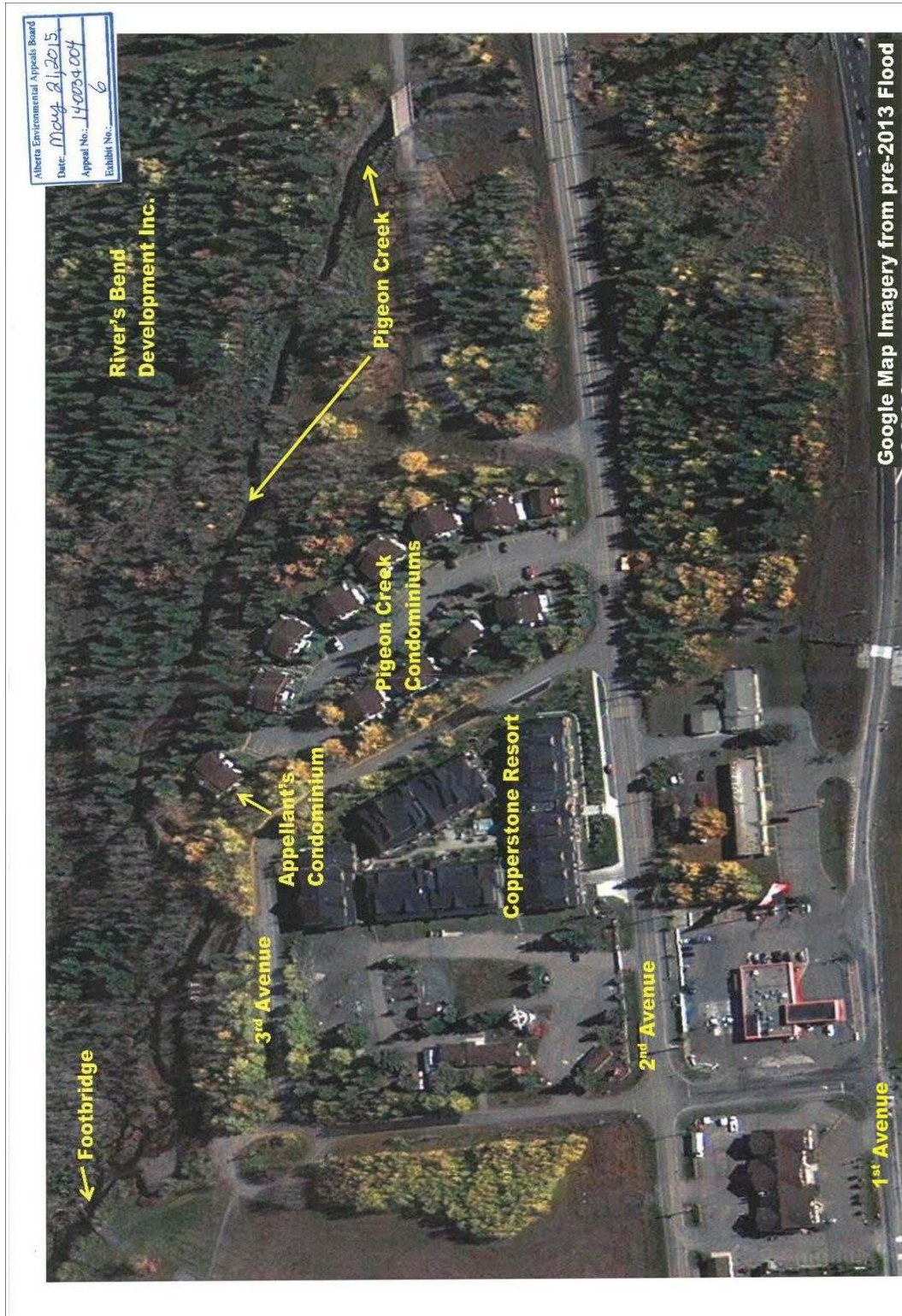
Jim Barlishen
Board Member

APPENDIX A



Alberta Environmental Appeals Board
Date: <i>May 21, 2015</i>
Appeal No.: <i>14-0034-004</i>
Exhibit No.: <i>5</i>

APPENDIX B





ALBERTA
ENVIRONMENT AND PARKS

*Office of the Minister
MLA, Lethbridge West*

**Ministerial Order
33/2015**

*Environmental Protection and Enhancement Act,
R.S.A. 2000, c. E-12.*

Water Act, R.S.A. 2000, c. W-3.

**Order Respecting Environmental Appeals Board
Appeal Nos. 14-003-006**

I, Shannon Phillips, Minister of Environment and Parks, pursuant to section 100 of the *Environmental Protection and Enhancement Act*, make the order in the attached Appendix, being an Order Respecting Environmental Appeals Board Appeal Nos. 14-003-006.

Dated at the City of Edmonton, in the Province of Alberta, this 26th day of August, 2015.

- original signed -

Shannon Phillips
Minister

Appendix

Order Respecting Environmental Appeals Board Appeal Nos. 14-003-006

With respect to the decision of the Director, South Saskatchewan Region, Alberta Environment and Sustainable Resource Development, to issue Approval No. 00349047-00-00 under the *Water Act*, R.S.A. 2000, c. W-3, to the Municipal District of Bighorn No. 8, I, Shannon Phillips, Minister of Environment and Parks, order that the Approval be varied as follows:

1. Sections 3.0 and 3.1 of the Approval are repealed and replaced as follows:

“3.0 This Approval is appurtenant to the undertaking as described as the bank protection works and berms located at SE 13-024-10-W5M, SW 18-024-09-W5M, and NW 07-024-09-W5M as shown in Plan Nos. 00349047-P001A, 00349047-P002A, 00349047-P003A, 00349047-P004A, 00349047-P005A, 00349047-P006A, 00349047-P007A, and 00349047-P008A, and such other plans as identified by the Director in writing.

3.1 The Approval Holder shall undertake the activity in accordance with the following plans:

TITLE	ESRD NUMBER
Pigeon Creek - 2013 Flood Repair Project Site Plan, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P001A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Drawing Key Plan, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P002A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Thunderstone Quarry Property and Trans-Canada Highway - Upper Reach, as approved by the Director in accordance with sections 6.0 and 6.4 of this Approval.	00349047-P003A

Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Thunderstone Quarry Property and Trans-Canada Highway – Lower Reach, as approved by the Director in accordance with sections 6.0 and 6.4 of this Approval.	00349047-P004A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Along Alberta Transportation Right of Way, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P005A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Existing Condos and Proposed Development, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P006A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan From 3rd Ave and Creek Outlet, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P007A
Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Cross Sections A, B, C & D, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.	00349047-P008A
Such other plans as identified by the Director in writing, as approved by the Director in accordance with sections 6.0 to 6.4 of this Approval.”	

2. The following is added immediately after section 5.1 of the Approval:

“PLAN REDESIGN

- 6.0 The Approval Holder shall submit a redesigned plan for the activity authorized by this Approval (the Redesigned Plan) to the Director for review and approval.
- 6.1 The Approval Holder shall submit the Redesigned Plan to the Director on or before December 31, 2015.

- 6.2 The Redesigned Plan shall be to the satisfaction of the Director, and if it is not to the satisfaction of the Director, the Approval Holder shall resubmit the Redesigned Plan:
- (a) with all changes requested by the Director in writing; and
 - (b) within the time prescribed by the Director in writing.
- 6.3 The Redesigned Plan shall include:
- (a) a detailed description, including any additional plans, of any changes that the Approval Holder would like to make to the project on the south side (upstream) of the Trans-Canada Highway to implement the recommendations of the Environmental Appeals Board in *Corbeil et al. v. Director, South Saskatchewan Region, Alberta Environment and Sustainable Resource Development*, re: *Municipal District of Bighorn No. 8* (30 June 2015) Appeals Nos. 14-003-006-R (A.E.A.B.);
 - (b) a detailed description, including any additional plans, of the changes that the Approval Holder is making to the project on the north side (downstream) of the Trans-Canada Highway;
 - (c) a maximum channel capacity of 54 m³/s from the north side of the Trans-Canada Highway to the Creek Outlet to the Bow River, which is also described in this Approval as “Between Existing Condos and Proposed Development” and “From 3rd Ave and Creek Outlet”;
 - (d) measures that will be implemented to minimize the environmental impacts of the project on the north side (downstream) of the Trans-Canada Highway, particularly with respect to vegetation;
 - (e) the following plans:
 - (i) Pigeon Creek - 2013 Flood Repair Project Site Plan, to be referenced as 00349047-P001A;

- (ii) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Drawing Key Plan, to be referenced as 00349047-P002A;
- (iii) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Thunderstone Quarry Property and Trans-Canada Highway - Upper Reach, to be referenced as 00349047-P003A;
- (iv) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Thunderstone Quarry Property and Trans-Canada Highway – Lower Reach, to be referenced as 00349047-P004A;
- (v) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Along Alberta Transportation Right of Way, to be referenced as 00349047-P005A;
- (vi) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan Between Existing Condos and Proposed Development, to be referenced as 00349047-P006A;
- (vii) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Site Plan From 3rd Ave and Creek Outlet, to be referenced as 00349047-P007A; and
- (viii) Mitigation on the Pigeon Creek Alluvial Fan, Municipal District of Bighorn, AB - Cross Sections A, B, C & D, to be referenced as 00349047-P008A.

6.4 In developing the Redesigned Plan, the Approval Holder should:

- (a) involve the residents of Dead Man’s Flats, the Pigeon Creek Condominium Association, and River’s Bend Development Inc.,

particularly with respect to the channel alignment, the avoidance of trees and vegetation, and remedial landscaping;

- (b) review
 - (i) the width of the proposed channel,
 - (ii) the height of the proposed berms,
 - (iii) the width of the top of the proposed berms,
 - (iv) the amount of free-board required in the proposed channel, and
 - (v) the need to shift the channel further away from the Pigeon Creek Condominiums

in order to reduce the footprint of the project on the north side (downstream) of the Trans-Canada Highway;

- (c) consider the option of constructing one of the proposed berms, required for the project on the north side (downstream) of the Trans-Canada Highway, on land belonging to River's Bend Development Inc.;
- (d) subject to section 6.3(d) of this Approval, consider additional ways to minimize the removal of trees and vegetation, including but not limited to retaining as much of the original channel as possible and developing a remediation plan for all disturbed areas to encourage vegetation regrowth;
- (e) consider design options that would allow the proposed channel to resemble as natural a state as possible; and
- (f) work with stakeholders involved in the remediation of Pigeon Creek to ensure a robust plan is in place to prevent aggregate from the Thunderstone Quarry from becoming entrained in future flood waters.”