

BOWNESS FLOOD BARRIER COMMUNITY WORKING GROUP MEETING 17

**August 17 2020 – 7 to 9 p.m.
Online Meeting – Microsoft Teams**

Working Group Attendees

David Burton
Jane Kahler
Patti Peck
Josie Stiles
Hank Vrieling

Guests

Robert Cheetham
Michael Dabrowski
Todd Hamilton
Andy Hughes
Joao Kupper
Alan Woodford

Apologies

Anne Campbell
Sheila Clayden
Sydney Empson
Jacqui Esler
Rae McKenzie
Jolene Moran
Jeff Riedl
Ralph Smith
Frances Welsh
Jean Woeller

Working Group Resources

Mariel Higuerey
Judy Hoad
Amy Stansky

1. Groundwater Presentation

Klohn Crippen Berger presented the conceptual model and calibration used in the groundwater study. Discussion comments and questions included:

- Regarding the variation in flow rates, the field analysis does not accurately incorporate the geological section that is above the groundwater level. During a flooding event we are engaging at least 5 more meters in that groundwater geological section. How confident are you that the impacts of that section are addressed in the model?
 - Depending on the area's soil conditions the aquifer is more or less saturated. We have limited data for some of the soils, so we estimated based on field descriptions, the soils' fine grains and the soils at surface. We focus on the sand and gravel layers because those are more permeable than the soil units above and below it, and where the most flow will occur. The flood events in the model do simulate the shallow units as well.
- A video presented by a hydrogeologist at the University of Calgary talks about basement flooding being a measure of the basement depth. The City has not obtained an accurate survey of basement levels and the deepest elevation of each house.

- That is correct, The City has not surveyed basements. For the level of detail needed for this phase, assumptions were made. This work will be undertaken in a subsequent phase.
- In the first part of the presentation there are arrows showing the groundwater flow, and how it changes. Given the big changes in flow, how does that affect a high-water flooding event? What is the relationship/interaction between the direction of the aquifer that is saturated and the impacts of a high-water event?
 - Interaction between groundwater and a high-water overland flood happens in what is called the zone of influence. There are two distinct areas in Bowness: the first is at the north-west of the community; here the water is flowing from inland and directed to the Bow River. The elevation difference is 5 to 10 meters higher in the inland, so in the case of a flooding event that groundwater driving towards the river would hold back the water coming from the river. It is the areas adjacent to Bow River that have a lower elevation that will rise very quickly. The second distinct area is East-West, and it is almost a transition zone where the water flows from the inland area to lower reaches of the aquifer and turns and discharges into the Bow River. We suspect water from Bow would enter the community, travel through a shortcut through the crook of the Bow and discharge to the river again. This area in the east is the most vulnerable and would be affected by the water table rising. The next groundwater presentation will show maps with the influences.
- Copy of presentation and video will be sent to the Working Group. This presentation is only part 1 which includes the back story and modelling. The idea today was to provide confidence in the model we have before we talk about scenarios. The next presentation will include more relatable information and what could potentially happen.

2. Debrief on Barrier Options methodology

Members were asked if there were questions arising from the presentation at the previous meeting.

- A BRFM member reiterated the offer to work with O2 to develop options more acceptable to the community.
 - The project team is looking at the road option and refining it. If the option is feasible and we can take it to the community, we would bring it back to the Working Group for additional feedback first. The south portion of the road option cannot accommodate a raised road, but the north portion can. In the previous meeting the working group provided good feedback on the aesthetics and the team is working to making it more neighbourhood friendly.

3. Engagement Update

A quick update on the timeline was provided to the group. One comment was raised by a working group member:

- The one-on-ones with Riverfront property owners are too important to just do them online. If The City cannot do face-to-face, property owners will not want to participate in the meetings.

4. Working Group

- a. Discussion of “Why the Barrier?” letter:
 - The City’s Project Manager reiterated the intent of the letter was to explain why we are still moving forward and completing the project’s feasibility phase. Every point included in the letter will be further explained in the study results, the letter was only an overview.
- b. A BRFM member commented that BRFM does not see the benefits of a barrier. The member advised they provided a response to each of the letter points, with a request for an honest conversation about the real function of the barrier and how it will work with the upstream mitigation. The project manager advised the benefit of the barrier and how it works with upstream mitigation will be provided as part of the Damage-Cost model presentation and there will be an opportunity for discussion at that time.
- c. Meeting 16 Notes
 - Any detailed concerns let the Facilitator know, otherwise will post online.
- d. Other
 - Suggestion from Working Group member to have a social gathering and prepare an introduction of the Working Group to the community in the Bowest-ner. The group’s Facilitator will draft the introduction article and will circulate to the group.

5. Next Meeting – September 14 2020