



# Sunnyside Flood Barrier Project

Stakeholder Report Back: What We Heard – 2019

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## Project overview

The Bow River is an integral part of Calgary and the Sunnyside community. As a neighbourhood located so close to the river, there will always be a risk of flooding in Sunnyside. During the 2013 flood, Sunnyside was inundated with water. Almost half of the community was evacuated for more than a week, and approximately 400 residences in the area were damaged.

In 2016, The City hired external consultants to update the Provincial Flood Damage Assessment study for Calgary and to assess and recommend future resiliency and mitigation measures. The resulting document, the Flood Mitigation Measures Assessment (FMMA) report, was approved by Council in the spring of 2017. Recommendations included the following combination of mitigation solutions to create a flexible and adaptable flood risk management program to reduce Calgary's flood risk:

- Watershed-level mitigation (The Province):
  - Enhanced operations at Ghost Reservoir as part of the current five-year agreement with TransAlta.
  - A new an upstream reservoir on the Bow River.
- Community-level mitigation (The City)
  - Permanent flood barriers in select communities.
    - The height of the barriers will vary depending on the location. The City's Flood Mitigation Strategy is aimed at achieving – at a very minimum – protection against a 2013-level flood event.
- Property-level mitigation and policy implementation (Citizens and The City)
  - Policies, bylaws, land use regulations, building codes, possible incentive programs for floodproofing and public education.

Work completed on the community flood barriers project before fall 2018 was part of the conceptual design phase. In that phase, it was determined that flood barriers were a feasible option for the community. Still, limited details about the barriers were determined. This was based on information available at the time.

Sunnyside has been identified as one of the communities that will require community-level mitigation. There is an opportunity to make improvements to the existing flood barrier. The extent of the improvements to the flood barrier will be made in consultation with the community. Groundwater will also be evaluated and, if required, potential mitigations could be incorporated as part of the flood barrier improvements.

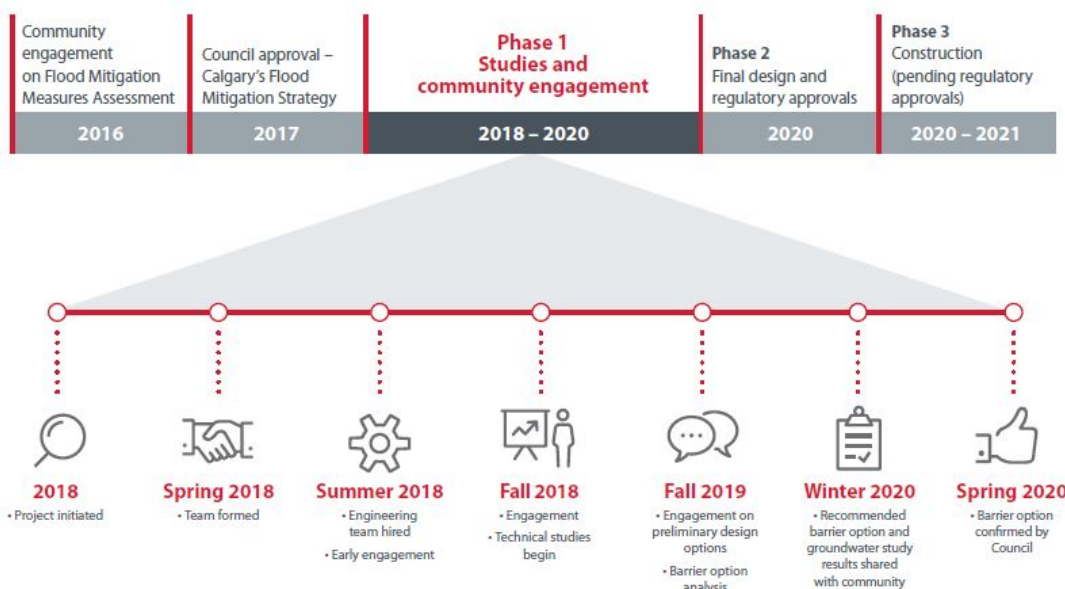
In addition to the flood barrier, The City has been working on other drainage projects in the community to reduce stormwater flooding in the area (see map below).



In 2019, the project team focused on engaging the community on the preliminary design options while technical studies and analyses continue to provide information on the area conditions and groundwater. This report summarizes the communications and engagement activities in 2019.

## Engagement overview

Engagement with residents has been ongoing and will continue through the completion of the project. The timeline for engagement activities is shown below.



### Studies and community engagement

The engagement activities were implemented over approximately six months (April 2019 – October 2019) to reach Sunnyside and Hillhurst residents, pathway and area users, Hillhurst Sunnyside Community Association (HSCA) representatives and HSCA Emergency Planning & Response Committee (EPARC) group members.

### Objectives

The purpose of this phase was to continue to inform the community about the project, explain the decision-making process and understand the public’s perceptions and opinions on the social impacts of the barrier design options.

Community feedback helped rank the importance of each social criterion of the Triple Bottom Line (TBL) analysis, as well as gather the perceived benefits and concerns community members had for each barrier option. Objectives for this phase were divided into two categories:



## ***Communication***

- Present clear and concise information on the project
- Educate the community on the status of the Sunnyside Flood Barrier Project and process
- Communicate barrier design options and technical studies results
- Provide attendees with some general information about other flood-related projects in the area

## ***Engagement***

- Obtain input from the broader community on the TBL social factors
- Gather feedback on the benefits and concerns for each of the barrier options as perceived in the community
- Continue to build relationships with key stakeholders and groups impacted by the project

## Activities

2019 consisted of integrated communications and engagement activities:

### ***Communications activities***

- Engagement promotion: To promote engagement opportunities, the team used a variety of tactics to reach multiple and diverse audiences, including bold signs, direct mail drops and social media. We also asked key stakeholder groups to promote the open house with their members through their channels, including HSCA, Kensington BRZ, Bike Calgary, the Calgary Curling Club, and the West Hillhurst Go-Getters Association.

### ***Engagement activities***

- Interest group meetings: The City attended an EPARC committee meeting to share information about the preliminary barrier options and preliminary technical studies results.
- In-person engagement events: The City hosted an Open House event and three pop-ups for community members to learn about the project, ask questions and provide input.
- Jane's Walk: We co-hosted the Jane's Walk in May in partnership with the Hillhurst-Sunnyside Community Association. This walk consisted of touring the community to talk about the different flood mitigation and water resources projects.
- Online engagement: The City also hosted an online engagement platform with information and input opportunities that mirror the in-person Open House for the wider community. This online tool provided a wider reach by allowing residents to comment and submit input over a three week period.

Engagement event dates and locations are listed below:

- April 13, 2019 – Pop Up at Eau Claire Public Realm Open House – Eau Claire Market
- August 21, 2019 – Pop Up at HSCA Salsa Fest – Hillhurst-Sunnyside Community Association
- September 24, 2019 – Sunnyside Open House – Sunnyside School
- September 24 to October 15, 2019 – Public Online Engagement - <https://engage.calgary.ca/sunnyside-flood-barrier-project>



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- September 30, 2019 – EPARC Infrastructure Committee Meeting – Hillhurst-Sunnyside Community Association
- October 5, 2019 – Pop Up at Eau Claire Public Realm Open House – Chinese Cultural Centre

## What we asked

### Methodology

For 2019, there were two areas for input, the ranking of the TBL social criteria and the social impacts of the four barrier options developed (1 in 20-year flood level, 1 in 50-year flood level, 1 in 100-year flood level and 1 in 200-year level).

To summarize the data in the ‘What we heard’ section, the project team reviewed all comments and social criteria rankings received from the online and in-person engagement. For the social criteria, the team compiled all rankings into an average. For the barrier options, the team categorized the comments for each option into overarching themes under two general sentiments: “benefits” or “concerns.” Comments often fell into more than one theme. The results of the analysis represent those members of the public who elected to participate online or in-person. They are not fully representative of the communities of Sunnyside and Hillhurst.

### Areas of input

Engagement opportunities were available for Hillhurst and Sunnyside community members, businesses and employees in the area, along with pathway and recreation users. Feedback was collected through the Open House evaluation forms, online engagement portal, the EPARC Committee Meeting, and in-person engagement forms at pop-ups.

### Social Criteria

Participants were asked to read the social criteria and definitions and to rank each in order of importance. A scale of 1 through 6 was used with #1 being the most important, and #6 being the least important. The social criteria were:

<b>SOCIAL CRITERIA   Community well-being</b>	<b>Definition</b>
Maintains community fabric	<ul style="list-style-type: none"> <li>• Preserves the look and feel of the area</li> </ul>
Provides the same flood protection amongst communities	<ul style="list-style-type: none"> <li>• Balances the community-specific needs with the need for a strong, city-wide flood resilience plan</li> </ul>
Protects vulnerable populations and services	<ul style="list-style-type: none"> <li>• Protects vital community services (i.e. schools, daycares, senior facilities) and Calgarians, who because of age, disability or other circumstances are at greater risk in emergency situations that require evacuation</li> </ul>



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Maintains recreation and river access	<ul style="list-style-type: none"> <li>• Maintains or improves access to the pathway system, river and natural areas</li> </ul>
Maintains the aesthetics of the area and pathways	<ul style="list-style-type: none"> <li>• Maintains or improves pathway aesthetics and river views</li> <li>• Maintains or limits impact to trees</li> </ul>
Improves mental well-being	<ul style="list-style-type: none"> <li>• Reduces flood-related stress and anxiety</li> </ul>

## Benefits and Concerns

Participants were asked to describe the benefits and concerns they had for each barrier option. These options included:

- 1 in 20-year flood level
- 1 in 50-year flood level
- 1 in 100-year flood level
- 1 in 200-year flood level

Participants were also asked a demographic question to identify if they were:

- Hillhurst/Sunnyside resident;
- Hillhurst/Sunnyside business owner or employee;
- Pathway/recreation user; or
- Other (please specify)

Space was allocated for additional questions or comments to be provided for the project team. If the participant wanted a response back to a question, they were asked to add their contact information.

## What we heard

The following table shows the approximate participation in the engagement activities, and the estimated number of people reached through some of the communications efforts.

<b>Public online engagement</b>
<ul style="list-style-type: none"> <li>• <b>508</b> visitors came to the online Engage portal with <b>79</b> participants providing approximately <b>415</b> comments</li> <li>• <b>64</b> participants filled in the social criteria ranking</li> </ul>
<b>Public in-person engagement – Open House</b>
<ul style="list-style-type: none"> <li>• <b>130</b> individuals attended the Open House and completed <b>86</b> feedback forms at Sunnyside School providing a total of approximately <b>535</b> comments</li> <li>• Approximately <b>495</b> comments were provided on the barrier options input form</li> <li>• <b>81</b> participants ranked the TBL social criteria</li> <li>• Approximately <b>19</b> additional comments were provided and <b>10</b> additional comments were provided on the social criteria ranking</li> </ul>



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<b>Interest group meetings</b>
<ul style="list-style-type: none"> <li>• <b>One</b> one-on-one meeting with EPARC</li> </ul>
<b>Jane’s Walk</b>
<ul style="list-style-type: none"> <li>• <b>40</b> participants attended the Jane’s Walk</li> </ul>
<b>Postcard Distribution</b>
<ul style="list-style-type: none"> <li>• <b>3000</b> postcards were delivered to homes and businesses in the Sunnyside and Hillhurst area</li> </ul>

## Themes from public engagement

Stakeholders provided feedback on their perceived benefits and concerns for all four barrier options. Top themes for each flood level option were analyzed and can be found in [Summary of Input – Barrier Option Comments](#).

For a detailed summary of the input that was provided, please see the [Summary of Input](#) section.

For a verbatim listing of all the input that was provided, please see the [Verbatim Responses](#) section.

## Next steps

Using a Triple Bottom Line approach, the project team will be using the community’s feedback in the social analysis and will also analyze the economic and environmental impacts of each barrier option to determine a recommendation.

The project team will share the recommended barrier option with the community in early 2020 and present it to the Standing Policy Committee for Utilities and Corporate Services in spring 2020 during the annual Flood Resilience Plan Update.



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## Summary of Input

### Social Criteria

This section show how participants prioritized the social criteria, determined by average rankings from the in-person and online engagement. There were 10 additional comments on the social criteria ranking that focused on disagreement with the structure of the list. These comments can be found in the [Verbatim Comments – Social Criteria Comments](#).

A scale of 1 through 6 was used with #1 being the most important, and #6 being the least important.

<b>SOCIAL CRITERIA   Community well-being</b>	<b>Definition</b>	<b>Priority</b>
Provides the same flood protection amongst communities	<ul style="list-style-type: none"> <li>Balances the community-specific needs with the need for a strong, city-wide flood resilience plan</li> </ul>	1
Protects vulnerable populations and services	<ul style="list-style-type: none"> <li>Protects vital community services (i.e. schools, daycares, senior facilities) and Calgarians, who because of age, disability or other circumstances are at greater risk in emergency situations that require evacuation</li> </ul>	2
Improves mental well-being	<ul style="list-style-type: none"> <li>Reduces flood-related stress and anxiety</li> <li></li> </ul>	3
Maintains recreation and river access	<ul style="list-style-type: none"> <li>Maintains or improves access to the pathway system, river and natural areas</li> </ul>	4
Maintains community fabric	<ul style="list-style-type: none"> <li>Preserves the look and feel of the area</li> </ul>	5
Maintains the aesthetics of the area and pathways	<ul style="list-style-type: none"> <li>Maintains or improves pathway aesthetics and river views</li> <li>Maintains or limits impact to trees</li> </ul>	6

### Barrier Options Comments

This section provides a summary of the barrier options perceived benefits and concerns received during 2019 of the Sunnyside Flood Barrier project. Themes and subthemes for each option are shown in order of recurrence, with the top themes being the most frequent.

Stakeholders were asked to give comments about benefits and concerns that they had with each potential barrier option. In analysing this feedback, the project team tried to categorize public perceptions of benefits and concerns through the lens of the social criteria that will be included in the Triple Bottom Line analysis. In reviewing these results, it is possible that a primary theme with respect to either the benefits or concerns for one of the potential barrier option may be a social criterion which was ranked as generally less important but it could reflect a primary benefit or concern for a given option. For example, in the 1 in 20-year flood level barrier, a primary theme for benefits was pathway aesthetics and river views, which was ranked as the





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least important criteria of those which were evaluated. This may suggest that while pathway aesthetics and river views are well preserved in the 1 in 20-year flood barrier option, this criterion is less important than others which are being considered.

## 1 in 20-year flood level barrier

Below is a description of the top themes and sub-themes that arose for the 1 in 20-year flood level barrier.

### **Benefits**

Theme	Sub-Themes and Descriptions
Pathway Aesthetics and River Views	<p>Impacts to trees:</p> <ul style="list-style-type: none"> <li>The 1 in 20-year flood level barrier removes the fewest number of trees</li> <li>Does not disturb the natural vegetation in the area</li> </ul> <p>Minimal impact to river views:</p> <ul style="list-style-type: none"> <li>Views from the street would be minimally impacted by the 1 in 20-year barrier flood level</li> <li>Would be the least obstructive option</li> </ul> <p>General aesthetics:</p> <ul style="list-style-type: none"> <li>This barrier flood level option maintains the overall look of the community and river area</li> </ul>
Same Flood Protection	<p>Potentially acceptable protection:</p> <ul style="list-style-type: none"> <li>A few comments addressed that this barrier option was a slight improvement to the existing barrier</li> <li>Comments that any form of barrier was better protection than none at all</li> </ul>
Community Fabric	<p>Does not impact community look and feel:</p> <ul style="list-style-type: none"> <li>Creates the least amount of damage to the feeling of Sunnyside</li> <li>Least invasive to the current community atmosphere</li> </ul>
Recreation and River Access	<p>Maintain river access:</p> <ul style="list-style-type: none"> <li>Maintains the current access to the riverway for recreational users</li> </ul>

### **Concerns**

Theme	Sub-Themes and Descriptions
Same Flood Protection	Not enough protection:



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	<ul style="list-style-type: none"> <li>Concern the barrier option will not be enough to protect Sunnyside from future flooding or provide adequate protection for the community</li> <li>Not as effective as other options</li> </ul>
Mental Well-being	<p>Increase in anxiety:</p> <ul style="list-style-type: none"> <li>Option leads to fear and anxiety that flooding will occur again</li> <li>Does not provide peace of mind</li> </ul>

## Other

Other comments provided referenced:

- Need for upstream mitigation in conjunction with the 1 in 20-year barrier
- The least expensive option, however, was also perceived as a waste of money
- Feelings that barrier provided no benefit to the community
- Need for the Sunnyside barrier to be equivalent to the Zoo and Downtown barriers.
- Need for upstream mitigation and concern the Province may not proceed with construction
- Where other sources of flooding may occur
- What the city-wide impact would be
- A small number of participants had no concerns regarding the 1 in 20-year flood level barrier
- A few comments were provided without a sentiment of benefit or concern

## 1 in 50-year flood level barrier

Below is a description of the top themes and sub-themes that arose for the 1 in 50-year flood level barrier.

## Benefits

Theme	Sub-Themes and Descriptions
Same Flood Protection	<p>Potentially acceptable protection:</p> <ul style="list-style-type: none"> <li>the improvement over the 1 in 20-year flood level barrier</li> <li>Adds protection but not enough to protect the community</li> </ul>
Pathway Aesthetics and River Views	<p>General aesthetics:</p> <ul style="list-style-type: none"> <li>Does not impact the community look</li> <li>Is a fair compromise between aesthetics and protection</li> </ul> <p>No impact to river views:</p> <ul style="list-style-type: none"> <li>Views in the area remain largely unchanged</li> <li>Continues to connect the community with a view to the river</li> </ul>



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Recreation and River Access	<p>Integration of pathways:</p> <ul style="list-style-type: none"> <li>• Maintains the connection and access to the river from the community</li> <li>• Integrates pathways without impacting connectivity to the river</li> </ul>
Community Fabric	<p>No impact to community fabric:</p> <ul style="list-style-type: none"> <li>• Maintains feeling and connection with Sunnyside and the river</li> <li>• Least invasive to community enjoyment</li> </ul>

## Concerns

Theme	Sub-Themes and Descriptions
Same Flood Protection	<p>Not enough protection:</p> <ul style="list-style-type: none"> <li>• Barrier flood level may be insufficient for future flooding</li> <li>• May not provide enough protection to the community</li> </ul> <p>Potentially acceptable protection:</p> <ul style="list-style-type: none"> <li>• Improvement of flood protection over current protection level</li> <li>• Feelings this barrier flood level may or may not be enough</li> </ul>
Pathway Aesthetics and River Views	<p>General aesthetics:</p> <ul style="list-style-type: none"> <li>• Concern that barrier design still fit aesthetically within the river area</li> </ul> <p>Impacts to trees:</p> <ul style="list-style-type: none"> <li>• Expanded impact to trees in the area</li> <li>• Removes too many trees</li> </ul>
Mental Well-being	<p>Increases anxiety:</p> <ul style="list-style-type: none"> <li>• Does not provide peace of mind</li> <li>• Increases fear and anxiety</li> <li>• Causes too much mental stress</li> </ul>

## Other

Other comments provided referenced:

- Upstream mitigation required to provide adequate protection in conjunction with the 1 in 50-year flood level
- Concern of whether the Province will complete upstream mitigation and how upstream mitigation is required in conjunction with the 1 in 50-year barrier flood level



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- Reasonable cost versus protection trade-offs. However, some felt this option was a waste of money at the community's expense
- Concern increased climate change deems barrier flood level to be insufficient
- Feelings that barrier provided no benefit to the community
- A few additional comments were provided without a sentiment of a benefit or concern

## 1 in 100-year flood level barrier

Below is a description of the top themes and sub-themes that arose for the 1 in 100-year flood level barrier.

### **Benefits**

Theme	Sub-Themes and Descriptions
Same Flood Protection	<p>Enough protection:</p> <ul style="list-style-type: none"> <li>• Barrier flood level option provides long-term flood protection</li> <li>• Protects the community while maintaining the look of the community</li> </ul> <p>Potentially acceptable:</p> <ul style="list-style-type: none"> <li>• Provides more reasonable protection than the current level of protection</li> </ul> <p>Not enough protection:</p> <ul style="list-style-type: none"> <li>• Not good enough protection level for the community's needs</li> </ul>
Pathway Aesthetics and River Views	<p>General aesthetics:</p> <ul style="list-style-type: none"> <li>• A balance between good protection level and maintaining pathways and river views</li> <li>• Design can be done in a pleasing way that looks appealing</li> </ul> <p>Impact to trees:</p> <ul style="list-style-type: none"> <li>• Moderate number of trees removed, similar to the 1 in 50-year</li> </ul>
Mental well-being	<p>Sense of safety:</p> <ul style="list-style-type: none"> <li>• Mental well-being improves as community members will worry less and feel confident of remaining in the community</li> <li>• Reduces stress</li> </ul>

### **Concerns**

Theme	Sub-Themes and Descriptions
Same Flood Protection	Not enough protection:



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	<ul style="list-style-type: none"> <li>Was felt not to be sufficient protection for the community - may still lead to flooding in the future</li> <li>Still too low for what community requires</li> </ul> <p>Potentially acceptable protection:</p> <ul style="list-style-type: none"> <li>The 1 in 100-year flood level barrier may be helpful for future flooding, however, if flooding worsens it may not be enough</li> </ul>
Pathway Aesthetics and River Views	<p>Impact to river views:</p> <ul style="list-style-type: none"> <li>Loss of river views in the area</li> <li>The barrier may block the view from the community</li> </ul> <p>General aesthetics:</p> <ul style="list-style-type: none"> <li>Retaining walls along Memorial Drive may not look appealing in the area</li> <li>Look of the river pathway will be impacted</li> </ul> <p>Impact to trees:</p> <ul style="list-style-type: none"> <li>Too many trees will be cut down and removed from the area</li> </ul>
Recreation and River Access	<p>Reduces river access:</p> <ul style="list-style-type: none"> <li>Access to the river is reduced</li> <li>Impact to connection from the community to river</li> <li>Concern over the impact to recreational users in the area</li> </ul>
Mental well-being	<p>Increase in anxiety:</p> <ul style="list-style-type: none"> <li>Not enough protection to provide peace of mind to the community</li> <li>Feelings of same anxiety from the 2013 flood</li> </ul> <p>Timeline and disruption:</p> <ul style="list-style-type: none"> <li>Length of time to put a barrier in place increases anxiety</li> <li>Disrupts community</li> </ul>

## Other

Other comments provided referenced:

- Upstream mitigation may influence whether this is enough protection
- 1 in 100-year flood level barrier may be enough without new upstream reservoir
- Concern over the cost of the barrier being too high for the amount of impact it will have on the community



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- Concern this barrier flood level option will not be enough as the upstream mitigation has no timeline for completion
- Other ideas for mitigation measures including a dredging program and looking to other cities for design solutions
- Some participants had no concerns regarding the 1 in 100-year flood level barrier
- A small number of participants felt that the barrier provided no benefit to the community
- Concern that the natural environment should be left more intact; however, climate change will impact future flooding and cause higher protection levels to be required
- A few additional comments were provided without a sentiment of a benefit or concern

## 1 in 200-year flood level barrier

Below is a description of the themes and sub-themes that arose for the 1 in 200-year flood level barrier.

### **Benefits**

Theme	Sub-Themes and Descriptions
Same Flood Protection	Enough protection: <ul style="list-style-type: none"> <li>• Provides enough protection for the community in the event of future flooding</li> <li>• Protects residences and should be the minimum accepted flood level</li> </ul>
Pathway Aesthetics and River Views	Pathway width and design: <ul style="list-style-type: none"> <li>• The barrier can become a tourist attraction with great pathways</li> <li>• Elevated river walk above Memorial Dr. is more appealing and feels safer</li> </ul>
Mental well being	Sense of safety: <ul style="list-style-type: none"> <li>• More protection to the community reduces stress and anxiety</li> <li>• Provides peace of mind to community members</li> <li>• Provides certainty in home safety while resident may be away travelling or during a rainstorm</li> </ul>

### **Concerns**

Theme	Sub Themes and Descriptions
Pathway Aesthetics and River Views	Impact to trees: <ul style="list-style-type: none"> <li>• Trees will be impacted and removed which will change the look of the community</li> </ul> Impact to river views: <ul style="list-style-type: none"> <li>• Significant visual impacts for the community</li> </ul>



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	<ul style="list-style-type: none"> <li>Loss of river views and creates obstruction within the community</li> </ul>
Same Flood Protection	<p>Enough protection:</p> <ul style="list-style-type: none"> <li>Concerns are mitigated as increased protection is worth the trade-offs</li> </ul> <p>Too much protection:</p> <ul style="list-style-type: none"> <li>Has too much of an impact to the community</li> <li>Is not needed or viewed as excessive</li> <li>Might be more protection than ever required</li> </ul>
Recreation and River Access	<p>Pedestrian crossing impacts:</p> <ul style="list-style-type: none"> <li>Concern over connectivity disruptions including loss of crosswalks such as the 9 St near Peace Bridge</li> </ul> <p>Impacts to river access:</p> <ul style="list-style-type: none"> <li>Reduces access to the river and may impact the users exiting the river</li> </ul>
Mental Well Being	<p>Timeline:</p> <ul style="list-style-type: none"> <li>Construction of barrier would take too long</li> <li>Concern over the waiting and fear a flood will occur before the barrier is complete</li> </ul>
Community Fabric	<p>Interrupting community dynamic:</p> <ul style="list-style-type: none"> <li>The barrier is imposing and will impact the vibe of the community</li> <li>May change the community feel and character</li> </ul>

## Other

- Other comments provided referenced:
- Previous damage was groundwater/sewer
- Look to other cities for examples
- Not enough information about upstream mitigation currently that the community can not bank on it being in place to provide higher protection
- Concern over the impact to the overall city
- Concerns about the high cost of the barrier and likelihood to be funded and afforded, however feelings that the community deserves the highest protection regardless of cost
- Some participants felt there were no concerns for the 1 in 200-year flood barrier
- A few participants felt that the barrier provided no benefit to the community
- Concern that global warming and climate change will impact future flooding, however, also concerns over the impact to the environment from this scale of a barrier
- A few additional comments were provided without a sentiment of a benefit or concern



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## Other

Approximately 60 additional comments were provided without determination of which barrier flood level they were associated with. Below is a summary of some of the main themes that arose from these comments.

Theme	Descriptions
Same Flood Protection	Comments included feeling the barrier should be built as soon as possible, needing protection similar to other communities and that public spaces should not be impacted by a barrier for the protection of the community.
Pathway Aesthetics and River Views	Comments included avoiding removing trees in sensitive areas, how the area will be developed to be aesthetically pleasing and how pathways will be separated for pedestrians and cyclists.
Mental Well Being	Comments included questions for the project team and concern over the length of time for the barrier to be completed.
Economic	Comments included concern over how to make the barrier more affordable, where funding will come from and how other areas have already received funding for these projects.
Environment	Comments included climate change impact future flooding significantly and the need for the barrier to be done before this happens.
Other	Comments included upstream mitigation being a factor in the decision of barrier flood level and disagreement with engagement tools – including ranking and including river views as a topic of importance in the decision-making process.

## Other Comments

Additional comments were received from the in-person Open House engagement with the question “Any additional information about the Open House you would like to share with The City?” These comments can be found in [Verbatim Comments – Other Comments](#).

## Verbatim Comments

Verbatim comments include all written input that was received through both the online and in-person engagement event (public open house).

The verbatim comments have not been edited for spelling, grammar or punctuation. Language deemed offensive or personally identifying information has been removed and replaced with either (offensive language removed) or (personal information removed).





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## 1 in 20-year flood level

- May not be enough
- cost; time; aesthetics
- something is better than nothing
- not apparent - seems to offer minimal additional protection to status quo
- almost no cost
- none
- NONE
- Poor option \$ for limited benefit
- Barely better than nothing
- Low cost, less impact from construction, looks similar to existing conditions
- waste of time & \$
- Protects against probably evens Preserves community amenities
- None
- cheapest maintains look
- Maintains views from street. - Less cost
- low cost - least vegetation disruption
- least costly, retains views, trees, access
- Minimal Impact on River Access/
- None
- Barely any good.
- Cost effective until a bigger event occurs
- Cheaper and less disruption Less impact on trees & environment
- Seems most reasonable
- Widens pathway as well as increase in height
- Cheapest, least disruptive
- No real benefits to undertake a project of this scope only to maintain current protections. Flood risk is increasing over time.
- None
- Least disruption to neighbourhood in short and long term (views, connectivity, construction disruption)
- Cheap but leaves community vulnerable.

- Maintains aesthetics & feel - lowest cost
- Increased flood protection
- None, as concerns negate benefits
- I like this one because it creates least damage to the feeling of Sunnyside
- Preserves the look & feel of the neighbourhood least cost
- improvement over existing facilities (barely)
- Maintains street level views Fewest trees removed
- Less cost - easy to maintain
- Low cost Little Disruption Some residual worry of Flood repeating
- Barrier on north side of Bow River must be the same elevation [underline] as the southside. Everything else is inconsequential
- not sufficient coverage
- Least invasive option to current community enjoyment
- fewest trees removed. [arrow from concerns] 9 St crosswalk not to be closed. We just got that crosswalk and it was badly needed because it's across from the Peace Bridge. (sorry I wrote this on the wrong side.
- This option is the most economically sound. Reduces impact on existing vegetation and recreation.
- Limited impact on trees (one of the area's best features) & river views. Low cost.
- Keep existing aesthetics and uses
- Pathway river views maintained
- None 2013 was 1-70 so here we go again current protection inadequate
- only \$ fewest trees removed
- Fewest trees are removed.
- Cost. Aesthetics/
- Lots of river access - Great pathway integration - Seems like enough flood protection if, upstream mitigation happens
- Low budget
- Maintains the views and asthetic
- Maintain River view
- 0
- fine in nice weather, otherwise useless
- Minimal change to existing berm. Least expensive option.
- something is better than nothing

- Well explained on display boards
- That it may not be enough
- Too high a probability of Sunnyside flooding
- safety
- Not equivalent w/ South Barrier with climate change & it's impacts being uncertain, this option offers little reassurances to residents
- relies on full upstream mitigation to protect to 1:200 yr flood level and that infrastructure may never get built
- almost zero protection while downtown has 1/200 year - no equality
- frequency is too high a risk; cost of damage
- Insufficient protection
- Insufficient without simultaneous dredging
- Unacceptable risk
- 1 in 20 year level is probably insufficient for our needs. Requires upstream mitigation to be effective
- insufficient for my peace of mind
- None
- I am aware that I will be pumping my basement out in the next few years...not enough protection
- poor protection!!! Mentally stressful to consider flood risk
- That a flood would negatively impact Sunnyside especially if the City downtown side has a 1:200 year protection
- effectively maintains the old status quo (pre-2013)
- Not as effective as other options
- May not be enough flood mitigation
- Fear, anxiety, loss of insurance
- Way too risky. Need peace of mind
- Not enough protection
- Need barrier up river to ensure this is effective. Waste of money if barrier not put in place
- Barrier does not address ground water - which for us is more of concern
- May not be high enough
- Unlikely to be sufficient
- Wouldn't think of travel during flood season
- View of river while driving on Memorial is not relevant
- Not enough protection weather is getting more dramatic

- Leaves the community with little or no protection
- Impact of other barriers (e.g. Bowness) on downstream... Does 1:20 become 1:15 over time? - Only seems adequate if upstream mitigation is in place - which appears unlikely in next 15+ years
- Upstream mitigation will not occur or take too long : not sufficient protection
- Likely to be breached in the next X years
- Not sufficient berm height
- none
- none
- Lowest cost - not adequate given high risk of future flooding. -preservation of tree
- too low - too much risk of overflow
- not much protection against a second 2013 flood within 20 yrs.
- 1 in 20 benefit.
- Flooding
- None
- Barrier on north side of Bow River must be the same elevation [underline] as the southside. Everything else is inconsequential
- same results as 2013 Flood
- Not high enough, too risky
- none
- Not adequate flood protection
- Not enough. Also relies on upstream provincial action, which has gotten almost nowhere in the last six years
- Probably not much help for anything beyond a 1:20 yr flood. Will cost much more money in the long run w/ reduced impact.
- Likely not enough considering the history. Probably doesn't go far enough
- Not really enough protection for Sunnyside. Creates considerable psychological stress.
- The level of protection is inadequate
- not enough flood protection
- Not high enough to help waste of money
- inadequate
- not enough of a barrier
- Not enough protection
- Containing the water in certain areas may endanger communities higher up the river by restricting flow

- Province might not build upstream mitigation
- Not sufficient
- Increased flood risk
- 1 in 20 is not enough
- inadequate protection
- not sufficient protection
- ludicrously insufficient
- Dependent on upstream mitigation.
- Too low
- Who will pay tax for this project - Sunnyside? Or all of City?
- Ensure there is sufficient time & effort given to discovery of water flow (under ground) through neighbourhood - This is critical info.
- The greater good of the area, pathways, public spaces and infrastructure must be protected over the individual anxiety of living in an area that may flood. When you choose to live in these areas, the risk is that they may flood.
- minimum changes
- Lowest impact on the look of the community. Lowest cost, I assume.
- n/a
- cheapest
- Less money
- Views are unaffected.
- Looks like it'd be the least amount of work
- Doesn't ruin the views along memorial drive.
- Better than no protection
- Least impact to visual and physical connectivity between community and river
- No Benefit
- There are many benefits to this scenario "IF" there is full upstream mitigation. Will there be?
- Lowest cost
- Provides a high level of protection (esp. w/ upstream mitigation), maintains visual connection between Sunnyside and the river, keeps trees
- This had no benefit.
- Not a good idea.
- None, zero. Are you serious talking about preserving trees and the view compared to having a neighborhood completely destroyed by a major flood??? Give your heads a shake.

- Maintains community fabric and aesthetics. Less concrete.
- Low visual, tree, and pathway infrastructure impacts.
- Cost is lowest. Impact to bike path and aesthetics are the lowest.
- Low cost option with an appropriate level of protection when combined with upstream operations and infrastructure. I also appreciate being able to see the river and it has the lowest number of impacts to trees and riverbanks
- River access is important to most of the city - the highest public good.
- Least intrusive design. Doesn't feel like a giant barrier between the community and the river.
- Might help with a 1:20 year flood.
- Low impact on pathway system.
- Looks best.
- None
- Some protection while maintaining river aesthetics for all
- I like the wider path on the berm, I like that the berm doesn't get too much higher, built up walls closer to curling club are good. keeps trees across from island.
- My vote is here. Maintains infrastructure that exists (low \$ option, I imagine) Sunnyside is in a flood plain so residents (I am one of) should utilize their homes accordingly (ie don't put your \$40k wine cellar in your drywalled, developed basement.)
- Preserves vegetation and natural areas along river. Fixes weaknesses found in prior flood. Cost effective.
- Low cost and disruption?
- Smallest change to the status quo.
- There are no benefits.
- Has prevented flooding in the past from time built till 2005 and then 2013 flood. Inadequate. flood
- The changes seem minimal in terms of the aesthetics of the current pathway system.
- Least amount of trees removed. Would like to see an option where NO trees are removed!
- Bare minimum
- No benefits
- None that would justify providing inadequate protection for Sunnyside
- it is the least obstructive
- I don't think this is high enough.
- No benefits. This option almost ensures a devastating flood will destroy Sunnyside
- I don't see any benefits of this option.

- I believe this is the best option as this area is the lowest part of the community. Also this was the only area where river water overflowed as it was an inadequate and outdated STORM water drainage system that was the real problem.
- Least obtrusive, possibly cheapest
- None
- Absolutely an unacceptable Level of Service. No benefit at all
- No added protection - Not an option
- very similar to the existing infrastructure.
- The risks of the few need to be considered with the greater public impacts, river access and further damage through engineering to the bed and shore of the river.
- Not much different than what is presently there. Not consistent with downtown barrier. Too short
- Changes to look of the community - ugly retaining wall along Memorial Drive, larger berm than currently exists.
- It's not enough. If the berm is not at least as high on the north as it is on the south, there will be issues in our community.
- smallest peace of mind! least protection of vulnerable people and services!
- My house will flood again
- Doesn't provide adequate protection. I really do not like this option.
- Not adequate given that climate change will lead to more extreme weather events, not equal to protection in other communities
- None.
- Not sufficient
- Very marginal flood protection if upstream mitigation is not built
- Provides insufficient level of flood protection.
- This is what Sunnyside has now, and had in 2013.
- I believe people cannot answer these questions properly and effectively without knowing if there will be or won't be full upstream mitigation. I truly believe this needs to be stated before people answer these questions.
- Not enough protection as evidenced in 2013
- None
- It is not high enough.
- Not a good idea.
- This is not a change from what we have. It is FAR TOO LOW. You will flood us badly and repeatedly. We are completely stressed by this option and are considering selling our house.
- Some of the residents may not feel comfortable with the "low" flood mitigation

- Inadequate flood protection.
- Not high enough to provide proper protection to the community.
- None
- 1 in 20 years isn't enough protection
- The 2013 was a 1:70 year flood. This option of 1:20 is not sufficient.
- We are in a climate crisis and must act accordingly—we need robust plans for this type of emergency. It's only going to get worse.
- Not enough protection.
- Not sufficient protection
- Might not be enough.
- Boat launch integration should be the \*lowest priority in any of these. Police patrolling the river by boat is of limited value. There should be \*ONE boat launch somewhere along the Bow but redundancy of that is of no value in the design of this project
- May not provide sufficient protection if future climate patterns result in more frequent flood events.
- Does not provide adequate protection.
- Ineffective protection.
- This option clearly indicates the City is willing to sacrifice the community of Sunnyside during a flood event. The other side of the river has a 1:200 ???? This plan must include an option for the city to buy out any resident who want to move on..
- . Overtopped in 2013 and will do so in future.
- This provides little to no meaningful protection. I question why the money would even be spent on this given the minimal benefit.
- The 1 in 20 year seems low in comparison to typical regulations which are designed for a minimum of 1 in 25 year.
- I don't see the long term benefit to this option & would rather costs expended be put to better use with a more protective option for Sunnyside.
- Absolutely inadequate. Will not balance out the mitigation on the Eau Claire side, so Sunnyside will be flooded when they are not.
- It is not enough
- Not enough protection for Sunnyside
- doesn't appear to be that big of a difference from what we already have, could be hard to justify constructions
- Don't spend the money on this option as it is not enough protection. That when you walk along memorial you will not be able to see the river due to barrier height.
- This is a do nothing option! This is not a serious option and seriously destroys the City's credibility for even suggesting it. Get serious!



- It doesn't provide the needed protection, especially with the 1 in 200 barrier on the south side of the Bow River.
- Not enough flood protection
- Too little
- I can't see how any civil engineer could be proud of this option
- Absolutely an unacceptable Level of Service. The understanding is that every other community berm project was designed for what at the time of design was a 1:100 river event.
- completely insufficient. don't cheap out because you its more economical to save downtown
- Poor community protection
- doesn't provide much peace of mind in the event of future floods

## 1in 50-year flood level

- May not be enough
- cost; time; aesthetics
- This option seems adequate as long as the upstream mitigation is put in place.
- Better than above option
- provides some additional protection to community
- starts to help
- none
- Well I guess it is better than nothing but only just
- Poor option. \$\$ for limited benefit
- Lower cost, good protection
- entertains the illusion that we're safe, but still waste of \$\$\$
- Protects against probably evens Preserves community amenities
- Marginal improvement
- next cheapest
- maintains views - cost
- Increases the need for the upstream mitigation for the entire City of Calgary - would fix some of the seedier paths of the pathway system
- Less costly than 100-200 retains views, more trees, pathways
- Preferred as this will have some but little impact on access
- Reduction in anxiety
- Reasonable cost to provide adequate temporary protection

- Less J-walking on Memorial Drive
- Reasonable trade-offs of protection vs. costs
- Least disruption to neighbourhood in short and long term (views, connectivity, construction disruption)
- Cheap but leaves community vulnerable.
- Maintains most aesthetics - Probably a good compromise
- Increased flood protection
- Same as 1:20
- I don't like this as it creates too much damage to the landscape without any significant benefit
- Marginal additional benefit for the enormous damage to the landscape.
- more adequate than alone option
- Best option of the 4
- Maintains street - less overall construction
- Low cost - easy to maintain
- Less worry about flooding
- Less invasive option to current community enjoyment
- 9 St crosswalk not closed
- Limited impact on trees & views again. (preserves look/feel of neighbourhood). Moderate cost.
- Keeps most of existing aesthetics and uses
- Pathway river views maintained Moderate amount of trees removed
- Some
- less than the 2013 flood - why gamble?
- Moderate amount of trees are removed. Views are largely unchanged
- Seems like enough protection
- "middleground" option - a compromise on performance vs. cost
- Maintain the views and aesthetic Maintain connection with the riverway
- Maintain River View
- seems the best option as a trade-off for cost & impact
- Acceptable
- Minimal visual impact.
- Above [arrow up]
- Same as above [underline]

- safety
- Barriers From 10th street until 5th street should have an attractive aesthetic that suits the peace Bridge Region
- Still not equivalent w/ South barrier
- still no an adequate level of protection. Why do we have to settle for 1:50 (or worse 1:20) when the south side is built to 1:200
- does not protect against 2013 flood scenario
- same as above
- insufficient protection'
- Still not enough protection in the event of a flood like 2013.
- still, not strong enough
- Some increased cost
- Still inadequate protection. Likely that my basement/main floor will be flooded again
- poor protection...still high cost of mental stress related to flood risk
- That a flood would negatively impact Sunnyside especially if the City downtown side has a 1:200 year protection
- may or may not be sufficient to mitigate another 2013 level incident - may attract more people from outside neighbourhood onto paths
- none
- Fear, anxiety, loss of insurance
- May be most feasible
- May become insufficient due to climate change
- Would not leave town in forecast is unsettled
- not enough protection
- Still leaves us in fear of losing our homes to another flood
- Impact of other barriers (e.g. Bowness) on downstream... Does 1:20 become 1:15 over time? - Only seems adequate if upstream mitigation is in place - which appears unlikely in next 15+ years
- Same as 1 in 20 year [arrow up] waiting for upstream mitigation
- Look & feel of barrier
- With increased climate changes, berm height is inefficient
- When the upstream resevoir is built this work is redundant. The risk is only in the interim.
- likely not adequate for future floods
- 1 in 50 benefit.
- Possible flooding



- Not high enough, too risky
- none
- Calgary's 2013 flood was a 1-in-70 year flood (from what I read!) So maybe this isn't enough either?
- Not enough protection, especially considering the potential impacts of climate change.
- As above
- not enough flood protection
- Warmer
- not enough
- Not enough protection
- see above
- Province might not build upstream mitigation
- Willing to accept visual changes to improve flood protection. -Earth berm should extend further east
- not anywhere near good enough
- Too low
- Above [arrow up]
- Sense of security.
- Some benefit to flood protection
- n/a
- second cheapest
- Nothing really.
- Mild visual impact
- Some views ruined.
- Better than 20 or no addition protection
- Little impact to visual and physical connectivity between community and river
- Minor
- Lower cost but slight protection
- Keeps connection between Sunnyside and river, high level of protection
- This has little benefit.
- Saves money, but at residents of sunnyside's expense
- There are no benefits. It is far too low.
- Still maintains community fabric and aesthetics.

- Still relatively low visual, tree, and pathway infrastructure impacts.
- If combined with sufficient upstream mitigation of the Bow River (Ghost Dam), this may protect the community from 1:75 or 1:100 year flood (I think).
- A good second choice to a 1:20.
- Best balance of aesthetics and realistic flood protection.
- The maximum level of protection without creating huge barrier between community & river.
- Might help with a 1:50 year flood.
- Same as above.
- Looks less good.
- Better protection than status quo
- New berms seem to have no trees on them - is this part of the rendering, or design?
- Improves resistance of Sunnyside to overland floodwater without impacting the aesthetic, look and feel, however I think most of the claims in Sunnyside were not overland flooding (?)but water-table related.
- Seems like a reasonable compromise between complexity and protection.
- Still fairly low cost and disruption.
- There are no benefits. Same as the 1:20
- Still inadequate.
- The changes seem minimal in terms of the aesthetics of the current pathway system.
- Raises berm and proposes pathway changes near PI bridge, which are needed anyway. Impact on poppy plaza is unimportant - this space is little used anyway.
- provides a moderate level of certainty of protection reducing stress and clear upgrades to pathway.
- None that would justify providing inadequate protection for Sunnyside
- I don't think this is high enough.
- No benefits.
- I don't see any benefits of this option.
- None
- An unacceptable level of service. Little if any benefit. A Minimum of 1:100 is needed.
- Some added protection but not sufficient to protect the community
- the look and feel of this design is also quite similar to the existing pathway, crosswalks, etc
- Design is critical to provide opportunities for relationship and aesthetics with the river valley.
- Some what different than what is presently there. Not consistent with downtown barrier. Too short
- Changes to look of the community - loss of trees, ugly retaining wall along Memorial Drive, much larger berm than currently exists, higher cost.

- Is this enough? 2013 was a 1 in 70 year flood. With climate change where it is we are seeing bigger, longer and more devastating storms and natural disasters 1 in 50 year protection seems inadequate.
- small peace of mind! poor protection of vulnerable people and services!
- Not high enough! This isn't the same protection being afforded to other parts of the City.
- Still not adequate to protect the community
- Too high of retaining walls in areas. Will creat a tunnel effect along memorial which could lead to increased speeds
- Not sufficient protection
- Marginal flood protection if upstream mitigation is not built
- Provides insufficient flood protection
- Still too high a risk of flooding.
- I believe people cannot answer these questions properly and effectively without knowing if there will be or wont be full upstream mitigation. I truly believe this needs to be stated before people answer these questions.
- Not enough protection as evidenced in 2013
- Don't seem to get much more than 1 in 20 option but losing more trees and at increased cost
- It is not high enough, should be 100 year flood level.
- Too low.
- 1: 50 is far too low. We are considering selling our house because Water Services is holding Sunnyside hostage with no berm raise in order to force the province to build a dam on the Bow River west of Calgary - which may never happen!
- Improved flood protection over baseline.
- Not high enough to provide peace of mind to Sunnyside.
- Increased cost over a 1:20 barrier and additional length of the project expands the impact to existing trees, riverbanks and public infrastructure.
- Is it possible to have temporary walls installed during greater than 1 in 50 flood events like we see in Eau Claire?My concern with the other options is they will be heavy handed and not fit in very well.
- The 2013 was a 1:70 year flood.This option of 1:50 is not sufficient.
- Same as above.
- Might be enough protection.
- Not sufficient protection
- Visual impacts near river
- loss of trees. pathway at road level isn't ideal

- 2013 flood damage of homes in Sunnyside was primarily related to the water table, from my understanding, so I see less value in the options as the ratio (and cost) goes up (ie 1:100 is of little to zero more value than 1:50)
- Reduction of natural appearance of river area (vegetation, landscape). Barricades as placed tend to isolate pathway users from the river.
- Still probably inadequate protection.
- This option clearly indicates the City is willing to sacrifice the community of Sunnyside during a flood event. The other side of the river has a 1:200 ???? This plan must also include an option for the city to buy out any resident who want to move on..
- Not much better than above do nothing option.
- My concerns are that there is not enough protection from the 1 in 50 year event. However, I think with the cost and aesthetic factors I would prefer this option.
- Too many trees removed
- We are already being told to expect more 1 in 00 year events so I don't see the long term benefit to this option & would rather costs expended be put to better use with a more protective option for Sunnyside.
- May not provide adequate flood protection, given that the “1 in 50” scenario could be quite a bit more dire than currently projected because of climate change.
- It does not feel like enough protection especially given the uncertainty as a result of climate change.
- Not enough protection for Sunnyside
- Don't spend the money on this option as it is not enough protection. That when you walk along memorial you will not be able to see the river due to barrier height.
- This option still leaves SS worse off than before the 2013 flood. Not a serious option.
- It doesn't provide the needed protection, especially with the 1 in 200 barrier on the south side of the Bow River.
- Not enough flood protection
- Too little
- Still below what anyone could consider adequate
- An unacceptable level of service. The understanding is that every other community berm project was designed for what at the time of design was a 1:100 river event. A Minimum of 1:100 is needed.
- Still poor to fair community protection
- this seems like a plan for the near future, but may have to be re-done if another extreme flood occurs.



# Sunnyside Flood Barrier Project

Stakeholder Report Back: What We Heard – 2019

December 2019

## 1 in 100-year flood level

- Improves mental well-being I am not concerned about aesthetics
- better safety
- safety; my choice
- There is a huge opportunity to make the entire river walk an even bigger attraction. The paths are already overwhelmed with traffic.
- This would be ok but really 1:200 is much better protection + incremental cost seems minimal (though hard to tell - \$ rating seems very approximate)
- Good protection - not too bad on tree removal
- none
- Quite good but not great. How much of the cost is really pathway improvements?
- Minimum required
- Better protection, aesthetically pleasing design
- Better \* might impact views, yet I'm fine with it [arrow to concerns]
- Protects against remote possibilities
- Could work but only if funding is a huge issue
- cheaper
- could be a source of employment as a major infrastructure project - possible best cost/benefit compromise
- Better Flood Mitigation
- Reduced anxiety
- Is the cost worth the protection
- Also a reasonable trade-off of protection vs. costs
- This and the 1 in 200 year option seem to offer the best protections for the community. The 1 in 100 still offers visibility of the river for pedestrians & cyclists
- Better than the 1-20 and 1-50 option, but you can do better
- Prudent risk management of flood risk
- Protection available earlier than upstream dam is available. Confidence to remain in community (not selling and moving away)
- Most likely excellent protection
- Increased flood protection
- Better than 1:20 & 1:50, berm can be aesthetically designed
- No benefits justified
- Virtually no increase in benefit and the same damage to the community. Virtually no benefits.



- probably the best option
- probably adequate for most future flood events, but does not provide as much peace of mind compared to option below
- level of protection comforting less expensive than 200 yrs
- how long before it is funded & built?
- \*Mid cost - harder to maintain
- Very little worry, Little advantage ove 50 yr
- Best balance of cost vs benefit
- none horrible decision
- 9 st crosswalk not closed [arrow left from concerns] Fewer trees removed than 1:200 year option which is better (sorry I wrote on wrong side)
- This seems the most reasonable as it reduces risk significantly while maintaining estetics
- Seems to be the best of the extremes here - has enough protection but not overkill.
- Adds considerable (adequate) protection while maintaining aesthetic and river access.
- A reasonable amount of protection - Reduced stress
- Pathway river views maintained Amount of tress removed not a huge diff than Barrier option 1 in 50.
- Seems like it will be high enough to protect us even if there isn't a new resevoir
- Some More City side is 1-200 all water into Sunnyside
- More protection than 2013 flood... this is my #1 option
- Moderate amount of trees are removed.
- Lots of flood protection
- Would be sufficient, and provide resiliency taking climate change into account Benefits: I like extending the earth berm further east.
- reasonable trade-off
- Acceptable
- Above [arrow up]
- Cost & Time Line for completion
- would like more info on costs compared to damages. What are the effects on the upstream communities ie. Hillhurst, West Hillhurst
- time; political will
- a high wall is a security concern
- not to the same level as downtown
- should be better but with climate change want more

- Insufficient protection until the upstream dam is built which could be never
- Dredging program required, else value of berm [arrow down] with time
- Probably sufficient protection from a flood like 2013, but with climate change, floods are likely to be worse.
- perhaps this one might protect residents & the community [arrow to benefits]
- More cost & disruption
- No enough protection from potential flood
- still mediocre protection. Hard to be comfortable with statistics give limited knowledge
- may not be finished in time for the next flood - pathway upgrades may be too ambitious - may be undone by Southside protective measure
- Costly Lose views (some)
- Reduces community aesthetics + reduces access to river
- That this option is only on the questionnaire for show that its not an option
- Risk not worth expense
- Moderately disruptive to community and river parks
- Same anxiety I felt in June 2013
- Loss of trees on retaining wall along memorial are not as much of a concern. Trees and road are at risk of loss during a flooding event.
- not enough protection
- Not as high as you can go. You can do better and you know it.
- Impacts to views from Pathways & Memorial Dr - Cost to City - Construction disruptions
- Minimal impact on green space around river
- Look & feel/too costly??
- Will it have any negative effect on River user's exiting at N side @ bridge ramp?
- 1:100 okay with upstream mitigation, but not on its own. High density would slow evacuation.
- ditto
- height mitigation may require several different berm/wall options to minimize views/options is there a glass type that could withstand the pressure at maximum flow height?
- High cost
- Barrier too high not needed
- cost - impact on connection to the river how long to fund & build
- cost.
- \$\$ \*My choice

- Cost
- right answer
- Obstructs view for an event that is statistically low
- May not even be enough to protect against 2013 flood level now that the Prince's Island causeway has been built
- Has a larger impact on look/feel of neighbourhood. Is it affordable?
- I have some concern that access to the river for cycling & walking will decrease
- It may not be enough protection, but going to 1 in 200 decreases too much of the natural aesthetic
- Cost Access to pathway/
- Warmer again
- don't like the idea of a retaining wall (\$\$) but if that's what it takes...
- Costly Lose views (some)
- Bike/ped grade separation at Peace Bridge is weird cant see river! Concrete jungle! So expensive
- No major concerns
- Lose views and aesthetics and riverway connectedness
- Loss of Riverview
- none
- Insufficient protection until the upstream dam is built which could be never
- Our river view is lost, access to river lost. Property values drastically affected. Many trees lost, area loses the natural appeal and becomes more industrial looking.
- Still too low
- Above [arrow up] Probably most appropriate level of protection (unless City takes action to restrict new development w/ River flood plan & reverses existing bldg permitting) [smile] unlikely
- The risks for the few are outweighing the overall public benefit for the many.
- Provides more benefit to the community
- n/a
- third cheapest
- Better than the other two.
- Better protection for the community
- Sufficient protection
- Global engineering benchmark for strong flood protection
- Getting closer to a solution.
- Would have protected against 2013 flood.

- This is adequate
- An improvement but still too low
- Still far too low. Not enough benefit to stop a major flood, so don't even talk about a 1:100 berm
- More intense but still manageable visual, tree, and pathway infrastructure impacts.
- High enough to provide protection and probably peace of mind to the community, even if upstream mitigation of the Bow River (Ghost Dam) doesn't go through.
- None
- Strikes a good balance between protection and aesthetics. This would be my choice.
- We love living in Sunnyside and would love to stay in the neighbourhood for as long as we can. We don't want our landlord nor our neighbours to go through another 2013. Furthermore, flooding is one of the reasons we haven't purchased a home in Sunnyside.
- The benefits of this height are where we should begin to do further design, as it would at least help with the most recent 1:70 flood.
- I think we as people now need to make long-term plans for ongoing climate emergencies and, as good ancestors, must think in terms of protecting generations to come. Emergency preparedness is the first step; we must also focus on mitigating eco-impact.
- Looks bad potentially.
- Better protection than status quo
- additional protection...
- Essentially flood-proof (for overland flooding, anyway).
- Looks like probably adequate protection, depending on what's done upstream.
- this is the minimum height the city should consider
- Much better than 1:20 and 1:50 but not enough.
- Allows higher river flow should a flow greater than 2013 be experienced or Ghost mismanaged as in 2013.
- This seems to be the appropriate balance between river access and protection for the community.
- The benefits of this option are long term flood mitigation.
- Best option to balance protection and cost. Will provide pathway improvements which are needed anyway.
- provides a good level of certainty of protection reducing stress and clear upgrades to pathway.
- None that would justify providing inadequate protection for Sunnyside
- the govt has a responsibility to mitigate the risk of flooding in Sunnyside, particularly because it is difficult to insure against overland flooding any many residents can not afford the premiums. A barrier will cost the govt less than future flooding.
- Provides some real protection.
- This option is better than the first two but still not good enough.

- Reasonable amount of flood protection
- Barely enough, zoo animals got this height
- An acceptable level of service. The understanding is that every other community berm project was designed for what at the time of design was a 1:100 river event. Will allow discussions with Insurers and remove real estate stigma.
- in combination with other upgrades to pump stations and the reservoir upstream this would be sufficient. A 1:100 flood 10 years ago will be equal to a 1:50 flood soon due to climate change, so anything less than 1:100 will provide limited protection.
- Better protects the community and meets provincial government funding requirements of 1:100. This is the minimum protection that should be considered
- this seems to be the right balance of long-term flood planning and maintaining neighbourhood access & aesthetics
- The public benefits and infrastructure and the environment should be left in a more natural state. These lands should flood vs. protect.
- none
- Changes to look of the community - loss of trees, ugly retaining walls along Memorial Drive and pathway, much larger berm than currently exists, higher cost.
- I don't care about the aesthetics, I care about protection. If this option means that we are protected and not living in fear every spring, then make it longer and wider.
- small peace of mind! poor protection of vulnerable peeps & services! might sound good, but you cannot trust the data we have to honestly believe the 2013 flood was 1/70 year. you have nearly 3 of your so-called 100-year floods in your data! uncertain.
- Again, not enough.
- Would prefer 1 in 200 year option as climate change means extreme weather events will be more frequent
- Too high of retaining walls in areas. Will create a tunnel effect along memorial which could lead to increased speeds
- Significant impact to visual and physical connectivity between community and river, high cost to city, construction disruptions
- Concerned that flood protection is insufficient particularly as no major upstream migration are likely to be implemented any time soon.
- This does not meet AM requirement, and with all the talk of weather change, future and greater flows expected.
- I believe people cannot answer these questions properly and effectively without knowing if there will be or won't be full upstream mitigation. I truly believe this needs to be stated before people answer these questions.
- High cost
- Creates a visual and physical barrier that disconnects Sunnyside from the river, increased cost doesn't seem proportionate to likelihood of risk

- This should be the minimum
- Too low
- With a 1:100 berm we will still be flooded. What if the next rain storm in the mountains is centered over the Bow River, and it rains for 4 days, or 5 days, instead of the 3 days in 2013??
- Too many trees cut. Too much concrete. May change the community feel
- Sufficient flood protection.
- Cost, aesthetics.
- This option is too expensive and not needed when combined with other upstream protection measures. This is more than what is needed to adequately protect the community
- Ideally there would be no walls, just a raised height of the berm, covered in vegetation, as it is now.
- Too intrusive. Giant concrete dam between community & river.
- This 1:100 level would help, if not for the 1:200 level berm directly across the river.
- None.
- Enough protection.
- Not sufficient protection
- Visual impacts near river. Blocked view. River should be visible and available to all.
- loss of trees on berm, loss of view I live on memorial and currently have river views, i fear they will be lost. Loss of view of river from Memorial.
- Too much impact on Memorial Drive/river path aesthetic, look and feel. Difficult to realize benefit of such huge a disruption to current infrastructure for the cost.
- Tall barricades isolate pathway users from the river and make the pathway feel like part of the road. Much of the damage in prior floods was groundwater/sewer, which a barrier would not prevent.
- More cost and disruption, loss of aesthetics.
- all of the options show the same basic solutions which lack design imagination. look to designs solutions that world class cities have come up with "outside the box" design. we did it with the peace bridge. make the river bank "world class".
- Far better than 1:20 or 1:50 but still not equitable or fair for Sunnyside. We have paid our prop taxes for years and still have 100 year old sewers. it is time to recognize this and just do what is right. 1:200!!
- Ghost benefit ZERO should a 2013 event occur but for a longer duration. Peak upstream flow through Calgary would not be handled.
- I do have concerns with a barrier blocking the view.
- Too many trees removed & street level views blocked
- We are already experiencing 1 in 100 events with more frequency, so it makes sense to prepare for the future which, if it is to be believed, will be catastrophically worse.

- Only positive comments about this one.
- Don't have any concerns with this option
- Not enough protection for Sunnyside
- I would want to evaluate the cost difference between a 1:100 and 1:200 barrier along with the pros and cons and aesthetics of each. I would like to maintain visibility to the river while walking along Memorial
- This option provides less protection than was given to Eau Clair directly across the river. Where is the equity and fairness in treating SS residents like 2nd class citizens. All communities must be offered the same level of flood protection.
- If you have a 1 in 200 barrier on the south side of the river, you need a 1 in 200 on the north side.
- Could be too obtrusive to river access and views
- Not enough
- This should be the absolute minimum that should be considered. And, with the uncertainty around the impacts of climate change may only be a 1:50 height. 1:200 would be better
- No concerns. The minimum acceptable level of service.
- Future extreme weather events and floods could be worse. TransAlta agreement is an unknown. An upstream dam may never be built or is too far in the future to adequately protect the community.
- none

## 1 in 200-year flood level

- best protection most security for residents
- better safety to Sunnyside
- safety;
- Best protection considering global warming
- This offers a [illegible] Sunnyside residents won't live in fear each flood season or heavy rain
- great protection - equally protected as compared to downtown. - will create great paths and looks like wider paths in a highly used area.
- should be good
- Protects the Community from Further Flood
- Adequate flood protection [arrow right] This is the one [arrow left]
- It matches the Bow south bank barrier. It's berm ht increase of 1.6m. The change of damaging flood is less than 10%.
- Excellent protection for Sunnyside, aesthetically appealing, good return on investment to keep the neighbourhood intact.
- BEST \* full protection, keeping in mind CLIMATE CHANGE



# Sunnyside Flood Barrier Project

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- Protects against highly unlikely nightmares
- Provides a reasonable level of flood protection, particularly while upstream mitigation measures are sorted out and determined. - I like the river walk being elevated above travel - it feels safer than walking at Traffic level
- Protects vulnerable residential improves mental well being by increasing protection
- infrastructure projects, as above - would benefit property values in long term.
- I will be able to sleep during a heavy rainstorm
- Peace of mind. Seems more secure. Seems like it is worth the tax payer dollars.
- Too much impact on day to day community for an event that may not happen
- Peace of mind to residents
- Best overall protection.
- I'd finally feel safe
- Only one I would accept
- THIS OPTION
- Saves our homes in even the worst case flood. Do the right thing. Build this
- Maximum protection from flood risk
- The most protection asap
- Excellent protection
- Looking to protect kids in basement of school
- This what Sunnyside needs. We need the same protection as the south bank
- [check mark]
- \*The barrier can become a tourist attraction. ie. Seine R. berm in Paris, Thames R in London. Berms can be designed for all to enjoy. N. side berm is a huge success!
- [arrow up] ditto
- A ridiculous expense for little benefit. i.e. people's basements don't ever get wet!
- Most effective flood barrier - peace of mind - should suffice in pretty much any flood occurrence
- Property values & safety
- High cost harder to maintain
- Prevent another 130,000 loss. Prevents 2 years of depression. Prevents stress of rebuilding - 6 mo  
Loss of personal items Evacuation of home for 19 days
- over-capitalized
- This is the only option
- none worst decision



- best flood protection
- Best protection. This is the only option that provides reasonable protection in the long term - if one plans to own a home here for a large part of their life it's important to consider a changing climate
- Strongest flood mitigation potential. Could end up reducing flood changes in the long run and economic impact.
- 1 in 1000-year flood mitigation is pretty amazing!
- Greater protection, less psychological stress.
- Optimal amount of protection - Reduced stress
- Pathway river views maintained
- much fuller protection to our community.
- Peak shaving for even greater flood peaks easier to achieve
- peace of mind and mental well-being for ALL
- Comfortable berm height.
- safety, peace of mind
- So much flood protection
- Comprehensive
- Puts us on same footing as Eau Claire
- I'm not clear why you're even remotely considering anything else.
- The only one is same across river.
- Above [arrow up]
- Cost
- same as above [underline]
- time; cost; political will
- [arrow up and down] a high wall is a security concern
- Appearance & look of area but worth the trade off
- Shouldn't decide based on the impact to river views or trees. Ask any community member who was affected by the 2013 flood and they would rarely trade an unobstructed view of the river or trees (which presumably can be planted elsewhere) for a properly protected community. What about the environmental impact of future floods - all those piles of garbage that ended up in landfills.
- none
- none
- Not optimized so the display is unfair. Could use water tubes (temporary berms) in the west end. Need to be more creative with pathways
- We need adequate river-side flood protection. We are as important as the zoo animals.

- might affect the look of the community, but would ensure peace of mind & the long-term future of the community
- Serious disruptions & cost May move problems downstream
- No concerns - I love it.
- Would costs be covered by governments without impacting implementation schedule? - maintenance would also increase - velocity effects of current may still overwhelm some banks
- Seems excessive - "overkill" V costly Lose trees, street views
- Not needed
- That it will be ignored by the City, and we will be inundated with flood water again
- The city ensures the money is allocated properly for a solid berm. We deserve to be as protected as the animals at the zoo
- Too costly
- Excessive if Barrier up river built Largest impact to environment
- Trapping water in community?
- Traps water on the community side
- Costly and disruptive.
- Cost
- WAITING, FLOODED, REBUILT,
- Im concerned that we are more than 6 years past the last big flood, and you have not started building this yet!
- Impacts to views from Pathways & Memorial Dr. - Connectivity (9 St crosswalk) - Cost to city - construction disruptions
- Impact of barriers of this size
- Will look horrible, disconnect with the river feel
- Matching barrier to Eau Claire
- The reservoir necessary for max flood protection is at least 15 years away. We need protection now.
- How will you accommodate river user's exiting at this area?
- That it will not be built & the residents of Sunnyside have to deal with anxiety every Spring/early Summer.
- If you are so worried about minor flooding live in another district. This would turn Sunnyside into a moonscape
- High cost - loss of trees
- cost.
- \$\$

- Cost
- future flooding Increase in Insurance cost can't afford the same level of insurance coverage as 2013.
- too big & expensive
- Obstructs view for an event that is statistically low
- I would not want to lose the 9 St crosswalk. Most trees removed.
- Impacts the vibe by implementing a large wall. Some folks may lose access to the river or views of the river. Has the biggest up front investment.
- Cost. Maybe overkill? Has a Large impact on the neighbourhood. \$\$\$\$\$!
- Access to pathway, removal of trees.
- Barriers are imposing - The highest amount of trees are lost
- Too many trees removed. Cost too much of river views blocked. Access to pathway.
- Too many trees lost
- Level AB gov't desires & community needs
- maybe more than we'll ever need
- Largest amount of trees are removed. High cost
- Tree removal, cost
- Loss of crosswalk is major concern Bike/ped grade separation at peace bridge is weird cant see river! Concrete jungle! So expensive
- Unlikely to be approved because of budget.
- Lose views and aesthetics and riverway connectedness
- Loss of Riverview
- That you're going to wimp out, protect downtown and forget us in Sunnyside.
- Lose trees, our views, access to river. Safety concerns with wall next to river edge. Property values drastically affected.
- None
- Must have pedestrian crossing near peace bridge
- Above cost view separation
- The risks for the few are outweighing the overall public benefit for the many. Environmental losses through engineering are not acceptable.
- best protection
- n/a
- peace of mind; adequate protection of people and services

- Best chance of having a long term period with out flooding. Makes investing in our home worth while
- Best option. Lowest impact. Best protection!
- Protects the community
- Sufficient protection
- Maximum flood protection
- Offers a reasonable level of flood protection.
- Correct solution. Same as downtown section and zoo.
- Very good protection
- This is proactive and the best choice
- Perfect
- 1:200 is the MINIMUM acceptable height. Why don't you admit that you really do not have enough data from large floods to even know how often a 1:100 or 1:200 or 1:500 year flood can occur? You are flying blind.
- High level of flood protection.
- None.
- Only one that should go ahead
- This would be the best in terms of protection of the community and businesses.
- Same as above.
- Looks really weird
- The best protection for Sunnyside that matches the same protection as Eau Claire and and other areas in Calgary like the zoo
- None.
- Adequate if combined with upstream measures.
- Maximum protection. Increases pleasure of roadside users (greater separation to cars on Memorial Drive).
- Equality for Sunnyside and will transform and revitalize the community as the flood risk is virtually mitigated.
- Matches south side of river design. Not significantly more work or cost than 1/100 once work starts. Consider making Memorial a true Parkway by dropping speed to 30 km/hr, removing parking/divider before a City worker is killed maintaining the median.
- This would be the ultimate mitigation, however is it necessary with the addition runoff sewer works that are being done?
- The gold standard, obviously; would be great if it could be afforded.
- provides a high level of certainty of protection reducing stress and clear upgrades to pathway.

- It matches neighbouring communities to prevent us from being flooded by additional push from their much higher berms
- Provides the same protection that Eau Claire has, so that Sunnyside is not being sacrificed to protect the downtown.
- the govt has a responsibility to mitigate the risk of flooding in Sunnyside, particularly because it is difficult to insure against overland flooding any many residents can not afford the premiums. A barrier will cost the govt less than future flooding.
- Provides max protection of all the options. Provides level of protection equity with Eau Claire.
- This is the best option because it provides the same level of protection as the south side of the Bow River.
- Because of the changing weather patterns, it seems prudent to invest in the most protection as possible at this point.
- protect Sunnyside like Eau Claire
- Highest flood protection
- This is comparable to the Eau Claire pre existing height. Children are one block away from the river everyday in Sunnyside Elementary school
- Matches the level of service of the flood protection constructed and planned for the down town areas directly across the river. Provides for climate change. Other berm projects designed for 1:100 now have a lower LOS due to a change in the 1:100 flows.
- Best option being considered as a level of protection. Same unknowns as for 1:100 option
- it would probably last a long time and protect the neighbourhood from any flood
- The public benefits and infrastructure and the environment should be left in a more natural state. These lands should flood vs. protect.
- lots of drastic changes
- Changes to look of the community - loss of trees, ugly retaining walls along Memorial Drive and pathway, retaining wall blocks views from pathway, much larger berm than currently exists, higher cost.
- I don't care about the aesthetics, I care about protection. If this option means that we are protected and not living in fear every spring, then make it longer and wider.
- no concerns.
- Biggest cost makes us reimagine our pathway system.
- None.
- None
- Too high of retaining walls in areas. Will create a tunnel effect along memorial which could lead to increased speeds
- Very significant impact to visual and physical connectivity between community and river, loss of at-grade pedestrian access between 9th st and river, very high cost to city, lengthy construction disruptions

- No concerns but recognize that it will be expensive.
- No concerns. God built the world in six days and rested. Sunnyside has not rested for six years. Original berm built in a few months. Why has the protection not been completed. Beautification and greening can be done afterward.
- I believe people cannot answer these questions properly and effectively without knowing if there will be or won't be full upstream mitigation. I truly believe this needs to be stated before people answer these questions.
- Super high cost and changing the area significantly.
- The tree-lined river is half of what makes the pathways friendly - a causeway pathway with no greenery is a horrible idea. Disconnects Sunnyside from river. HUGE cost with little real benefit.
- None
- Best option
- This is the minimum the berm should be raised to. Even then you need to have temporary berms available for all parts of the city, and you are unwilling to fund that. Shame on Water Services for putting us through this 7 year farce. Eau Claire got 1:200.
- Too many trees cut. Too much concrete. May change the community feel
- Unacceptable impacts to visuals, trees, and pathway infrastructure. Simply overboard.
- Probably overkill?
- This is too expensive and has too much impact to the environment. It is simply not needed to protect the community.
- losing crosswalk at memorial
- Too intrusive. Giant concrete dam between community & river.
- Some design optimization could be implemented to work this 1:200 level into context. Example: the 9th Street crosswalk could be worked into the context without closing it.
- Possibly lower access to river pathways system and parks.
- Perhaps too much protection
- No concerns with this option
- Visual impacts near river. Blocked view. River should be visible and available to all. Access and views should not be lost.
- giant flood wall near curling club will remove character of memorial. Loss of trees. Loss of vegetation.
- Too much impact on Memorial Drive/river path aesthetic, look and feel. Difficult to realize benefit of such huge a disruption to current infrastructure for the cost.
- Unattractive. Costly. Seems like overkill. Much of the damage in prior floods was groundwater/sewer, which a gigantic wall would not prevent.
- A lot of cost, disruption, loss of aesthetics.

- design execution is every thing.even though this is high.the design could be so much better.think Paris the Seine, London the Thames, Rome, Florence, Portsmith.Grab the design opporunity. Embrace the challenge.
- None.
- NONE!
- I am unconcerned as this provides peace of mind. I would sleep better if higher than south side of Now.
- I'd be concerned about closing the crosswalk by the Peace Bridge and modifying Poppy Plaza.
- I think it is a bit to expensive, and with the barrier, will decrease the property value along memorial drive.
- Too many trees removed & street level views blocked
- We are already being told to expect more frequent 1 in 100 year floods; I think it makes the most sense to prepare for what may come farther into the future and proceed with the 1 in 200 option and ensure Sunnyside continues to exist in the future.
- Closing crosswalk at 8 st is undesirable - it is needed for the peace bridge and provides another good option for accessing the pathway system.This option is probably too expensive and would never get built; better to get something less grandiose done.
- Don't have any concerns with this option
- Upstream protection will still be essential. The Province has to get to work on this right away. No more delays please!
- That when you walk along memorial you will not be able to see the river due to barrier height.
- I'm concerned the City isn't serious about this option and doesn't care about protecting SS from flood damage.
- This option is no doubt more expensive and involves greater modifications to the pathways, which I use daily and value highly, but it's worth it to get the 1 in 200 protection.
- That it can happen soon enough to offer peace of mind that we will not go through another flood.The mental stress in June in my neighbourhood has become a given.Any rain or mention of snow melt causes great anxiety.We need security!
- None
- Too obtrusive to pathway enjoyment - blocked views. The walls seem too high.
- Children should get the same or better option as the zoo animals.
- No concerns.
- TransAlta uncertainty in the future. Dam may never be built or is too far in the future to protect the community.
- it doesn't maintain access to the river or crosswalks. might be overbuilding?



## Other

- I favour 100 - 200 year options. No enough about plans for upstream mitigation. Please provide updates to the community.
- Is it possible to design the thing so that we can add to it later: make it 1:50 but in such a way that in a decade it could be modified to 1:100? Basically, upgraded twice over a greater period.
- The new improvements along the south bank provide 1:200 flood protection. Our community deserves the same protection as those condos & office buildings! It is worth the investment
- Does the 1:200 year barrier that was built downtown, include flooding Sunnyside at its current flood protection level. - If we build a higher flood protection for Sunnyside, does that lower the protection for downtown. If so why was this done. Seems like a flawed study. - How much is the city relying on upstream mitigation? Based on the delays in springbank diversion, I doubt we will be able to get an upstream reservoir built.
- Further comments: Trying to bypass Charlie suggests you're trying to hide something and it will make things worse. We stand with Charlie who's done his research. He's our representative. He's our Greta Thunberg. We're going to keep pushing until we get what we need. You will have to deal with us directly.
- My email address: (personal information removed) Question: 1. my sense is that progress is too slow on a very ardent issue. We might face another flood before you guys decide to get started. A couple of small projects are under way, but no a proper/adequate berm/wall. Why? [underline] 2. Some communities (e.g. Eau Claire) seem to be more important than others (ours - Sunnyside) why? or is that fair? 3. we need long-term solutions, not temporary ones. Is anyone aware of CLIMATE CHANGE, or are we in denial? [underline] Investing in something which does not offer full protection is a waste of time & \$\$
- It would have been useful to have an extra line in the flood mitigation section listing the mitigation available with the ghost river reservoir operation enhancements alone & with no new upstream reservoirs.
- I have a strong preference for the Barrier Option 1 in 200. I want the same level of protection as downtown. It is the only option the offers some reasonable protection at the local community. Option 1 in 200 have very nice aesthetics
- For both 1:100 and 1:200: I personally think that likely one of these two option would be best for Sunnyside. I really don't wish to have my home flooded. My largest concern is that the flood protection on the City/downtown side don't cause water to break the flood protection on the Sunnyside (north) side of the river.
- I have to assume the protective measure would be implemented with a full array of instruments that measure water levels as well as structure stabilities for a long time. Can this be assumed? Do the cost projection consider on-going maintenance requirements? (personal information removed) Please note the tree issues may be a red herring. Many of the memorial Elms have reached their end of life phase.
- On the South side of the river, remove the concrete bridge that crosses from Eau Claire to Princes Island. Install a collapsible bridge Dig a flood causeway between Princes Island and Eau Claire (use existing and dredge) Remove all trees, shrubs and debris on the island across from 1348. Investigate barriers that are used in Europe.





# Sunnyside Flood Barrier Project

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- We deserve direct contact from the right people through Charlie. Avoiding contact with him comes off as incredibly disrespectful and feels like we might get shafted
- I didn't have even a drop of water for 32 years. I evacuated in June, 2013 with full confidence that my property was safe only to be devastated by the resulting overland flooding. The City did not take this seriously to the extent that overflow B-46 was never closed.
- Function & protection takes precedent over aesthetics. It should be equal on north & south side. \* At a minimum holes where berm was compromised under the bridge north side of Prince's Island should be fixed this year. Spring. We will gladly give up the Flames sport centre for flood mitigation
- Can you please provide cross-sections for each design option along the length of the river rather than perpendicular to it (similar to the charts at the previous engagement). Please send to the HSCA Flood Committee for distribution to the community.
- How soon can the barriers be in place? (personal information removed)
- Is the cost of an extending barrier far too high? Have seen similar setups in Europe, doesn't need to be automated
- Will the decision of what the Province decides about upstream dry dam effect which plan will be better. Once a decision has been made, how long will the project take? Will the City speed up project if a threat of a flood is evident before the project is completed. How will the final design be determined? Majority? or what the city feels is best for the community. Will our taxes go up?? What is the Province dollar value for commitment.
- My concerns are related specifically to the boat launch that is proposed. How this will affect out business and general River use as floating the Bow continues to increase in popularity amongst locals + tourists Harry Daley Lazy Day Raft Rentals 403 999 1123
- Other than the 1 in 20 option, the money would be better spend in assisting residents to mitigate flood damage to their houses and offering an insurance scheme in the event of basement flooding for existing residents in older houses.
- Location of the future Bow River reservoir? Diagram of section at Prince's Island Bridge needs to show the elevation of the bridge crossing Memorial Drive Could some of the tightest, more difficult areas receive some architectural stonework detailing similar to areas of access on the Seine Where's the cross-section from Eau Claire estates across the river to Memorial Drive? Can we have a diagram of the different flood levels relative to the existing berms for 2005 & earlier years?
- Maybe to reduce cost the 20 yr barrier along its length could be raised to 50 yr then use temporary solution to cover other vulnerable areas if a flood can be forecast??
- I am wondering what will happen to the current riverbank in Sunnyside. Right now it is full of scrubby trees, litter and homeless camps. If the new river bank is cleared of brush it might not accumulate so much litter nor shelter homeless people. Could it be rocks or grass and big trees instead of shrubs?
- See my comment on previous page
- I guess I'm just curious to hear from those residents who were living in the community during the 2013 floods. Can a larger berm provide more security and piece of mind? How does that weigh into the minds of those community members? No need to respond, just abstract thinking!

- My preference is for the 1 in 100 year [circle] protection. My concern is that anything less will not provide enough protection, esp. considering that upstream mitigation may never happen, or if it does, it will be decades down the road.
- The choice of option depends quite a bit on what up-river mitigation is adopted in the Bow. Some consideration of barrier design should be given to incremental enhancement to increase protection over time. At some point it may become necessary to relocate people from the flood plain
- Reduce memorial drive to 1 lane each direction Reduce speed on memorial drive.
- upstream mediation is critical. Shame on the province for avoiding action. Six years of study should be sufficient.
- Overall comment: how shocking it is that "impact to river views" is the first thing you list - compared with being flooded the view is irrelevant. Most of Sunnyside doesn't look at the "view" except along the pathway where it will be preserved.
- I would like to see river path before flood and after flood. PLEASE EMAIL ME – (personal information removed) - would like to see topo map so I can see grade of land surface - are we talking about a barrier to stop water from flowing over? Wouldn't the ground water table be of concern at that height. Could we consider generators for the affected houses? - Can you talk with insurance companies to allow for coverage in case of flood vs. one time coverage only? - Do you have comparison cities that have solved this problem before? Is this project overkill? Is the problem not solved west of city to halt it's reoccurrence? Dav
- Input factors: Driving - View of river less important trees flowers make it a pleasant space look at road & traffic [underline] Bicycling (Also other wheeled transportation) Look at path & traffic. Separate from motor vehicle Trees/grass/flowers and somewhat river make it a pleasant space. Walking view of river very nice away from noise of traffic [underline] very important. Favorite i gravel path near river. Design & Timeline - when constructed & when u/s mitigation implemented. Consider dual purpose [arrow right] sound barrier btwn traffic & houses [arrow right] and flood barrier Consider modifiable design: Higher barrier wall until u/s mitigation complete; after u/s completed reduce height of barrier Please see modified design elevation schematic (attached)
- Other communities and the entire City are directly impacted by these decisions. It is not just the residents closest to the river. These are PUBLIC spaces and residence knew of flood risks when they purchased. The greater public good must prevail.
- One further comment: Upstream storage might provide sufficient protection. If there are safety factors built into the design of the upstream storage perhaps it will be sufficient to handle a 1 in 200 year flood without any need for a barrier in Sunnyside.
- If you don't do it right now, with climate change it will just need to be re-done down the road. Do it right now and give everyone peace of mind.
- Maintaining existing trees and urban forest canopy should be the highest priority. The plan should connect to the greater environmental impact of the entire city and world, not simply local residents.
- Pls don't waste this opportunity with a half measure. Go all the way and keep Sunnyside dry.
- 1
- Build the protection to 1 in 200. Make it support vehicular traffic. Eliminate median in the middle of Memorial Drive and pave it over. Trees and plants relocated along pathway where city workers can safely maintain the natural and green cover.

- Please build a minimum of 100 year flood bears in Sunnyside!
- We believe that (City staff) and Water Services intend to hold Sunnyside as a hostage to force the province to build a dam on the Bow west of Calgary. You do not intend to raise our berm even 1cm. We are so angry we do not know what to say to you.
- 1-50 or 1-100 seem to be the most appropriate options that balance pros and cons.
- Climate change has the potential to significantly affect flow rates in the Bow, Elbow and other nearby tributaries. Does the city have a plan to collect water outside of just the Glenmore reservoir for potential future drought conditions? (personal information removed)
- Where no houses or buildings are present, can a wider floodplain be created? e.g. East of curling rink?
- What optimizations can you come up with to make the 1:200 level more cost effective and contextual?
- I find it offensive that the city is trying to position the 1:200 flood as "aesthetically displeasing" or will impact the "social fabric" to convince residents to choose lesser protection. Eau Clair looks nice at 1:200, do the same for Sunnyside!
- Comments: Being able to see the river from memorial is an asset - some of these giant walls will remove that. Could the walls be made of stone instead of concrete? Also the crosswalks should be moved to @ the peace bridge, but that is unrelated.
- It would be helpful for residents to know what the 2013 flood was (1/20? 1/50?) relatively, to the scenarios these are projected against. It's hard to comment on what would be most prudent without knowing that.
- All these options put the flood wall between path & river. Why not instead put it between the path & the road? Then it would serve as flood protection & also isolate path from traffic; path would feel more like part of nature. (personal information removed)
- your first page would not allow my ranking. they are from top to bottom 4, 2, 1, 6, 5, 3.
- It's pretty difficult to compare the four proposals on a computer screen. Can you provide an easy way for me to compare the impacts at each of the highlighted points, as opposed to switching between massive images of the whole area? (personal information removed)
- Why is the city willing to sacrifice Sunnyside? Is it cost or is Sunnyside being calculated into the equation as a flood overflow? If a 1:20 or 1:50 is selected will Sunnyside residents be offered a buy out? Please respond to (personal information removed)
- Why is there significant funding for South side bow beautification projects spent already with a further \$40 million soon while no berm protection commenced on North side even to beef up the unseen, Bow facing, portions of the existing berm. Inaction?
- With the improvements of the runoff system, is there some form of calculation that could be done to see if the 1 in 50 year option with the additional drain sewers capacity would accommodate a scenario higher than 1 in 50?
- Please avoid removing trees in the sensitive wetland area between 7th street and 5A street on the north side of the river.

- Has an approach like in Arizona's flood areas been considered where the flood plains are rec spaces but designed to be closed off when needed and then open during non flood times? What is the cost/benefit of doing something like this in Calgary? Thank you
- What is the government evaluating- whether to build this barrier or how high? If they don't want to build/ think viable why not? What should residents do to protect themselves from flooding in the interim?
- A flood barrier is all about protection from a major flood. All other considerations are secondary to flood protection and must complement flood protection. I don't care much about the trees, they can be replanted. Views are secondary.
- What is The City doing to stop clear-cutting in the headwaters of the Bow and Elbow watersheds? The source of most of our water is being made more likely to flood by the removal of healthy forests, which will change the calculations for flood levels.
- I hope that if the pathway is unavailable that safe seperated detours are provided for both pedestrians and cyclists.
- Thank you for the opportunity to provide input on this essential flood mitigation project. Please do the right thing and provide Sunnyside with 1 in 200 year protection.
- Why has it taken so long to get to this point? Too many cooks in the kitchen?
- When will this be completed?
- Calgary is not what it was in 2013 and certainly not like 2007. The bounce back from the 2013 flood was impressive and fueled by optimism and private wealth. A large flood now could cause out migration and boarded up areas in the heart of our city
- Sunnyside needs at minimum a 1:100 berm. The Community cannot be expected to recover from another flood event. Without a min 1:100 berm every year I stand to lose everything I have invested in my home, my community and my City.
- Community engagement is crucial as is continued communication with the Hillhurst Sunnyside Flood task force. The community needs to be protected to at least 1:100. . I am concerned that people not directly effected will have to much say.

## Social Criteria Comments

- \* at 2 and 1 items marked with an "\*" really are equally important.
- [the same circled on #1] not true- equitable maybe
- 1-4 are actually comparable 5-6 are a little less critical
- 6 years? Fix it
- Showing capital cost to install 1:200 as \$\$\$\$\$ vs \$ for 1:20 is very misleading. Floods cause physical damages as known after 2013. Full economic analysis will show safely protecting property will increase tax revenue \$\$\$[3 arrows up] and improve enjoyment of a non-flooding city.
- Sunnyside [written beside equitable protection]
- We are all vulnerable I don't agree with the structure of this list. First, it implies stress and anxiety are the only way to think of real risk to property and livelihoods. A person can get counselling to

reduce stress and anxiety. That doesn't change the city's responsibility to reduce the risk of flooding to it's residents.

- Implement emergency plans & communication structure c/w defined risk levels
- Above makes this a moot point.
- Other three all say (offensive language removed) = Has nothing to do with prevention of a flood happening.

## Other Comments

- Do the right thing and give us protection
- Don't count on support from Conservative government "austerity"
- flood control have been looked at by using a "piece meal" approach by the city (and by area) not as a whole! How will decisions in one area affect another area?
- Get some rules in place for redevelopment in the flood fringe
- Grateful for the opportunity to share information - both ways!!!
- Have you addressed north hill water coming down??
- How do we know if we really have a say in the end result? How can we propose an alternative design?
- I'm concerned about all the water present in Sunnyhill Lane over the last year.
- In my opinion, the berm should be increased to be the same as the south bank barrier. The 1:200 option is worth the investment, especially considering the uncertainty of the impact of climate change
- It is entirely unclear how this information can be useful to delineate between options.
- It would have been helpful to have a FINAL schematic that "compared" each of the options, side by side, so I could understand (better) the levels + protection
- Most people that bought in Sunnyside wanted to live close to the river and interact with it. 1:100 and 1:200 will negatively [2x underline] impact out interaction and use/views of the river.
- no sense about the completion of the project - no place to input, this is a too quantitative type of survey
- Please do not ruin the river with an option of a 100 or 200 year option based upon the fear of the uneducated!
- presentation on the half hour to the group would help. - Videos! Topo map
- PTSD post flood not understood by those flooded nor those aware of flood.
- Selection by bid and going with lowest cost may not always be best - consider all facts and experience.
- Some of the visuals (the image of the car on memorial were confusing 1 in20 wall looks higher than 1 in 50

# Sunnyside Flood Barrier Project

Stakeholder Report Back: What We Heard – 2019

December 2019

- The vague dollar signs were not very helpful in evaluating cost. What is the cost of each option versus the cost to all residents and insurance companies in 2013?
- The visual presentation of 'design models of berm' should have been colored - not black/white/gray = blah in comparison to current visual scope.