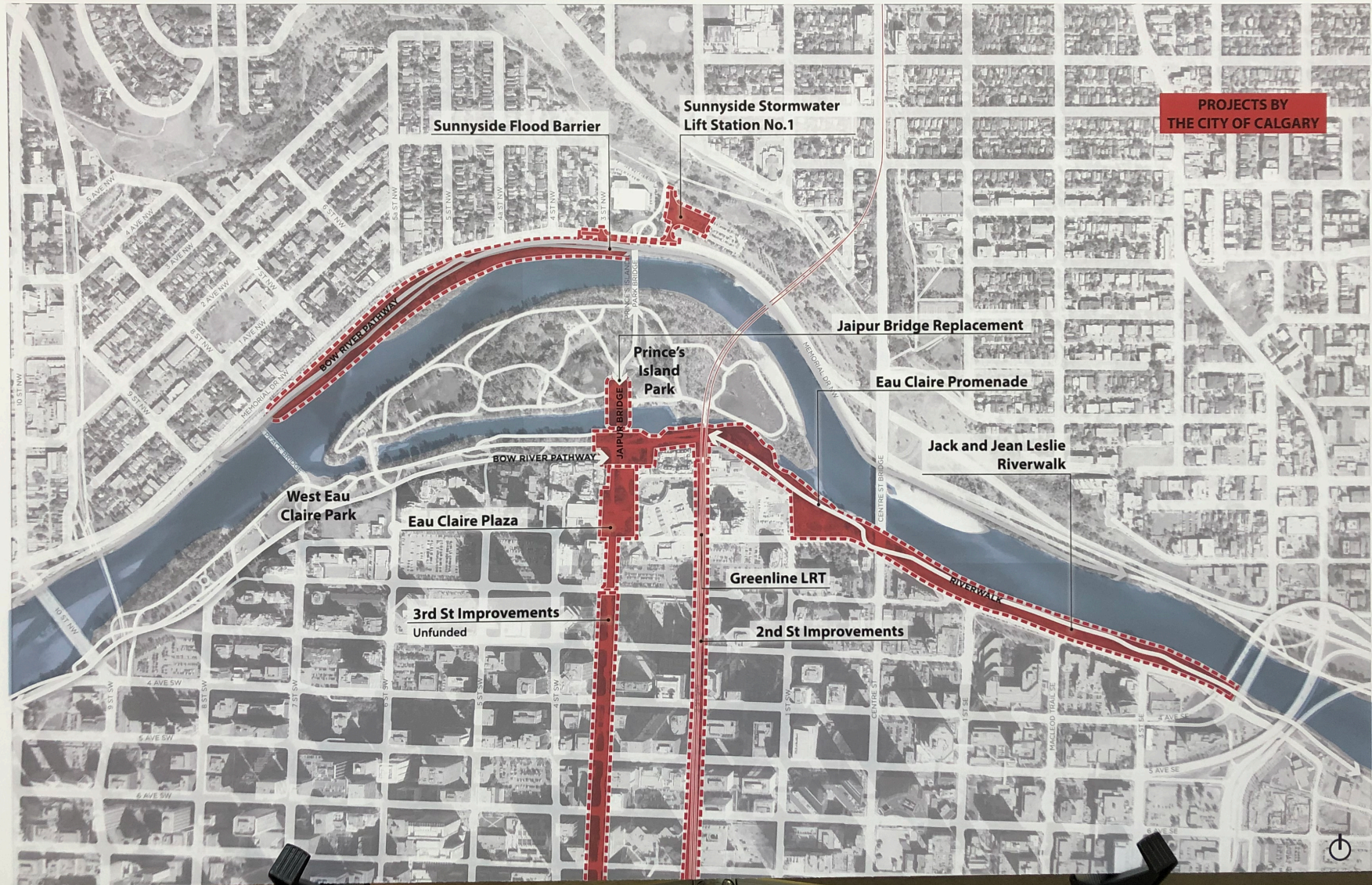


Calgary



Eau Claire Area Projects

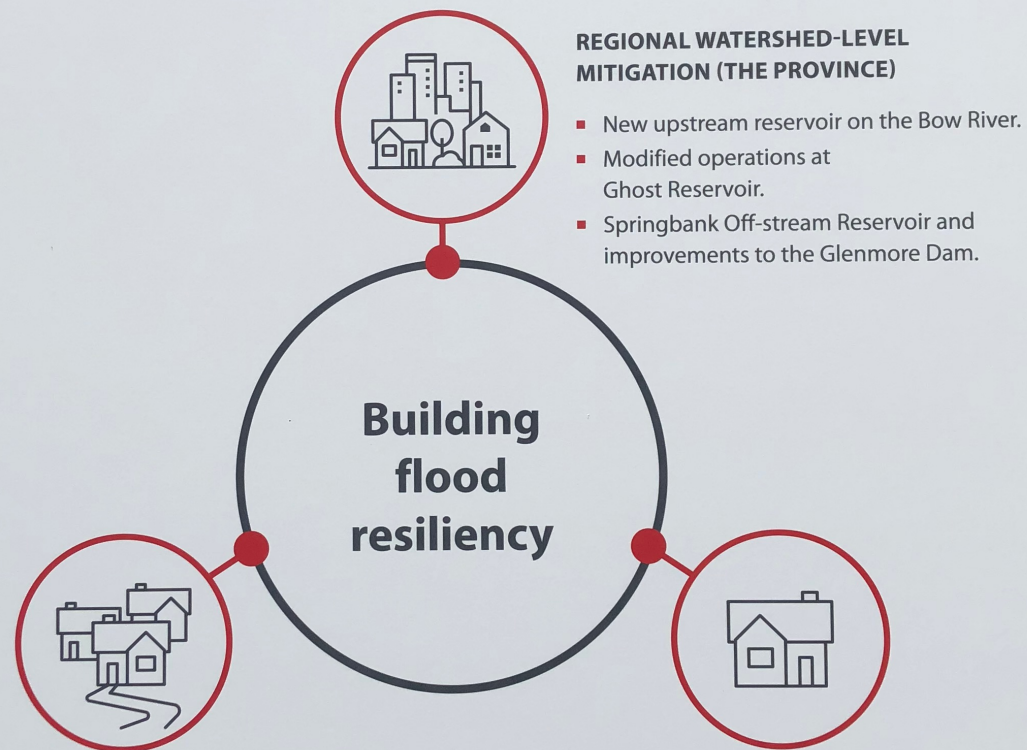


PROJECTS BY
THE CITY OF CALGARY



Downtown flood mitigation

The following diagram outlines the Council-approved flood mitigation strategy that will protect the Downtown area from at least a 2013-level flood.



REGIONAL WATERSHED-LEVEL MITIGATION (THE PROVINCE)

- New upstream reservoir on the Bow River.
- Modified operations at Ghost Reservoir.
- Springbank Off-stream Reservoir and improvements to the Glenmore Dam.

Building flood resiliency

COMMUNITY-LEVEL MITIGATION (THE CITY)

- Complementary permanent flood barriers in key high-risk locations.
- For the Downtown area this includes, West Eau Claire Flood Barrier (complete, Centre Street Bridge Flood Barrier (complete) and the Downtown Flood Barrier.

PROPERTY LEVEL AND POLICY MITIGATION (CITIZENS & THE CITY)

- Policies, bylaws, land use regulations, building codes, possible incentive programs for flood proofing and public education.

For more information on flooding in Calgary visit calgary.ca/floodinfo

Flood Protection for the Downtown Core

The Downtown flood barrier is critical to Calgary's flood resilience as nearly half of the downtown is at risk should a significant flood event occur. On May 1, 2018, the Province approved funding for the construction of a new flood barrier on the south side of the Bow River extending from Eau Claire Plaza to Reconciliation Bridge.

This project will:

- Increase resiliency for critical services, public infrastructure and civic services;
- Reduce business and economic interruption resulting from flood events;
- Improve public space adjacent to the Bow River; and integrate flood protection measures into Eau Claire Public Realm Initiative;
- Increases resiliency for residential and commercial properties and future infrastructure projects (e.g. Green Line LRT);
- Extend flood protection provided by the West Eau Claire Park flood barrier.

Flood protection can work harmoniously with improvements made to our public realm. The Eau Claire and Chinatown sections of the flood barrier will incorporate significant lifecycle and public realm improvements. The Jack and Jean Leslie RiverWalk will be updated for new flood resiliency requirements in landscaped areas, while the pedestrian and cycle promenade will remain in its current state. This will allow for the enhancement of our spaces while protecting against future floods.





Vision + Goals

Eau Claire Promenade and the Jack and Jean Leslie RiverWalk are connected to create a safe, efficient, and beautiful riverfront promenade and cycle network that integrates public amenities with flood mitigation measures.

Project Goals

For the City + Community

- Accommodate all users for all of Calgary
- Connect people to the Bow River
- Build a vibrant centre-city riverfront
- Design a diversity of social spaces for mental and physical well-being

Active + Multi-modal

- Provide a continuous, safe and accessible riverfront promenade
- Incorporate strategies for year-round healthy, active lifestyles
- Designate efficient pathways for safe alternate modes of transportation

Environmental Responsibility

- Preserve the natural environment by protecting most existing trees and riparian vegetation
- Achieve multiple cost benefits through durable and beautiful design solutions

Flood Protection + Resilience

- Integrate flood protection into the public realm improvements
- Increase resilience for Eau Claire, the Downtown Core and future infrastructure projects

Related Plans + Strategies

Eau Claire Promenade and RiverWalk aligns with other plans and policies in the area, including:

On display today:

- Eau Claire Plaza
- Pedestrian Bridges

Other Projects:

- Eau Claire Public Realm Plan
- Light Rail Transit (LRT) Green Line
- City of Calgary Flood Resiliency & Mitigation Strategy
- Sien Lok Park (SMM)
- West Eau Claire Park
- 3rd Street Enhancements

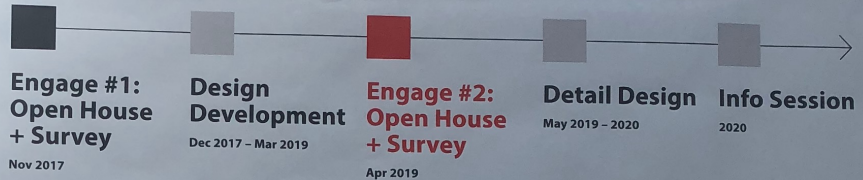
Visit calgary.ca for more information.



Engagement #1 Overview

In November 2017, you shared your vision for the promenade and identified key issues and opportunities. These insights and engagements with stakeholders were used to inform the Concept Design shown here today.

Engagement Timeline



Summary of Main Findings

62

comments received at
Open House #1

71

comments received from
the Online Feedback Tool

Circulation + Accessibility

Pathways

- Softer surfaces (preferably not concrete) for wheeled-users and runners
- Ensure pathways are maintained and usable for strollers
- Conflict between pedestrian and cyclists, who often bike fast through the area
- Improve overall bike network with long sightlines, separating pedestrian and cyclists along promenade, bridges and plazas
- Maintain gravel paths along the river's edge
- Ice build-up is dangerous for cyclists and pedestrians
- A raised promenade idea would be effective and looks beautiful
- Bicycle paths and infrastructure should not have hard, sharp edges

Crossings + Connections

- Crossing at the intersection of Riverfront Avenue and Centre Street Bridge lower deck is rarely used and unsafe
- Improved crossings at Riverfront Ave and 1 St SW and 1 St SE
- Pedestrian and cyclist ramps to and from Centre Street Bridge are narrow and do not fit the character of the space
- Widen Jaipur Bridge and 2nd Street pedestrian bridge
- Roundabout at top of lagoon stairs is unsafe and difficult to navigate
- Increase accessibility to riverfront by transit
- Increase vehicular and cyclist parking

Signage + Wayfinding

- Centre Street underpass is tight and floods frequently – signage should indicate alternative routes if Centre Street is flooded
- Ensure wayfinding signage is clear before, during and after construction
- Integrate public art into wayfinding
- The plaza near Centre Street Bridge is difficult to navigate on a bicycle and needs better wayfinding
- Signage in a variety of languages for wayfinding

Vegetation

- Ensure landscaping and open space caters to all Calgarians, not only adjacent residential developments
- The existing natural wetland and wildlife should be protected
- The big, mature trees should be protected
- Increase number of trees in certain areas
- Trees on southside of pathway (along Sien Lok Park) block sun
- Sign of erosion at riverbanks

Park Use + Amenities

Lagoon + River Access

- Existing lagoon should be kept as it is used for skating in winter – it should be more accessible and open to views
- Ensure access to river is improved at key points along the riverfront
- Temporary or permanent beach
- Integrate a pool or even swimming in the lagoon itself

Programming + Use

- Existing street and other informal activities should not be removed
- Not nearly enough services along pathway
- Kiosks along the riverfront in key areas with small gathering nodes
- Evening performance spaces
- Exercise equipment should not be integrated into new riverfront design, but instead placed in the park

Arts + Culture

- Integrate interpretive features and technology into site furnishings
- Integrate plaques to honour significant events
- Contemporary public art pieces or unique features that would make the city internationally identifiable

Other Improvements

- Integrate unique feature lighting
- Jaipur Bridge needs to be upgraded
- Limit grade change between public and private space
- Weir is not visually appealing
- Reduce the number of geese

Safety + Lighting

- Unsafe at night due to poor lighting
- Park needs better lighting, but not too much
- Illegal activities occur along the Centre Street Bridge underpass
- Centre Street Bridge underpass pathway is cracking and not pedestrian friendly, while the retaining wall feels unsafe
- Illegal activities near Reconciliation Bridge should be inhibited
- Ensure any design does not create CPTED challenges

Flood Mitigation

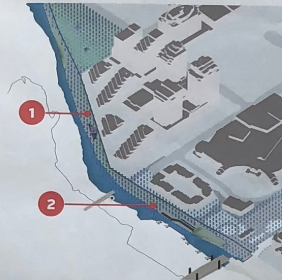
- The price of the project vs the probability of a 1:200 flood seems high
- Permanent flood measures are better than temporary
- Prefer raised promenade option over panels and posts
- Locations where the 2013 flood inundated the riverfront should be considered as many parts of the promenade were not affected



Current Site Conditions

Lagoon

- Promenade is narrow and flood levels are significant. Explore raising the promenade and activation of flood barrier.
- Flood levels in this area are significant. Carefully consider the sightlines, safety, and perception of the flood barrier.
- Preserve dense riparian vegetation along river's edge.
- Existing bridge serves as a lookout over Prince's Island and lagoon.
- Many large, healthy trees in the area. Preserve where possible and incorporate replacement into the design.
- Large plaza is highly active with cyclists, pedestrians, street performers and site amenities. Include different gathering spaces.
- 2nd St SW will become a primary pedestrian route with the Future Green Line LRT station.
- Promenade elevation makes the lagoon accessible between 2 St and 3 St SW. Consider river interface and openness.



Flood Level



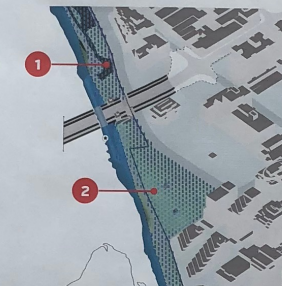
Park Use + Amenities & Vegetation



Connectivity + Accessibility

Centre Street : Chinatown

- RiverWalk plaza is located at a high point, with softscape sloping down towards Riverfront Ave. Consider the grading in the flood mitigation.
- Flood levels in Sien Lok Park are reduced due to the existing raised height of the trees south of the promenade, reducing the perception of the flood barrier and the visual impact on sightlines.
- Undesirable activity in this area can create safety challenges. Include better circulation routes and lighting.
- Mature, healthy trees line the berm on the north edge of Sien Lok Park. Preserve where possible and incorporate replacement into the design.
- Riparian vegetation along the river edge is thick and dense, limiting access and sightlines to the Bow River. Consider assessment and removal of invasive species.
- Underpass mixes pedestrians and fast-moving cyclists in a narrow pathway. Explore widening of underpass.
- High congestion and conflict area between cyclists and pedestrians. Analyze circulation patterns to reduce conflict.



Flood Level



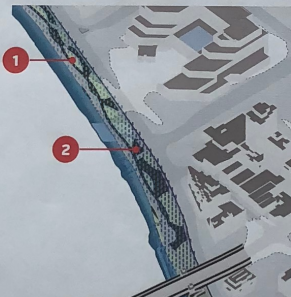
Park Use + Amenities & Vegetation



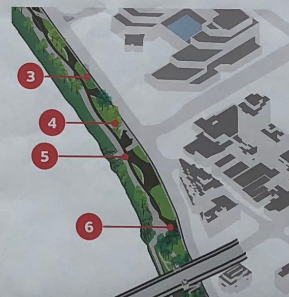
Connectivity + Accessibility

RiverWalk West

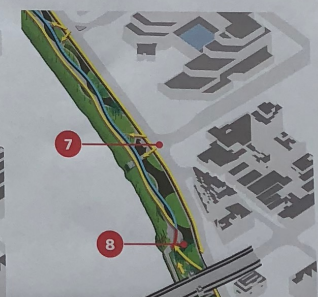
- Flood levels are minimal along the softscape between the existing bike lane and sidewalk. Consider low-impact flood mitigation.
- Several access points are located along RiverWalk. Adapt flood barrier to maintain accessibility and visual openness.
- New vegetation has not been assessed in the City's Tree Inventory. Preserve where possible and incorporate replacement into the design.
- Formal planting beds and turf are planted between the bike lane and existing sidewalk. Integrate into the design of the flood barrier.
- Riparian edge has clusters of different types of vegetation. Explore assessment and removal of invasive species.
- RiverWalk plaza is highly active with cyclists, pedestrians, street performers and site amenities. Study conflicts between different uses.
- Incorporate street-level crossing for pedestrians along Riverfront Ave to connect RiverWalk with the surrounding areas.
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Flood Level



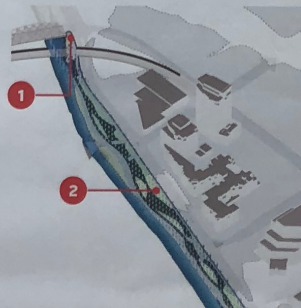
Park Use + Amenities & Vegetation



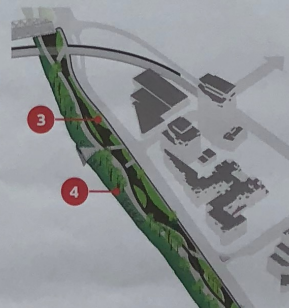
Connectivity + Accessibility

RiverWalk East

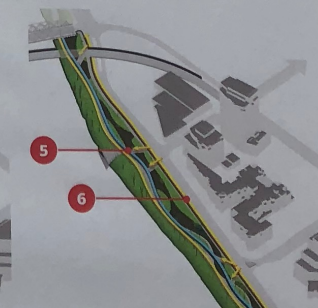
- Existing grade is close to flood levels at the edge of Reconciliation Bridge, reducing the potential impact of the flood barrier.
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- Incorporate street-level crossing for pedestrians along Riverfront Ave to connect RiverWalk with the surrounding areas.
- Existing sidewalk along Riverfront Ave SE continues along the entire project boundary. Consider widening between 3 St SE and Centre St Bridge to improve accessibility to the site.



Flood Level



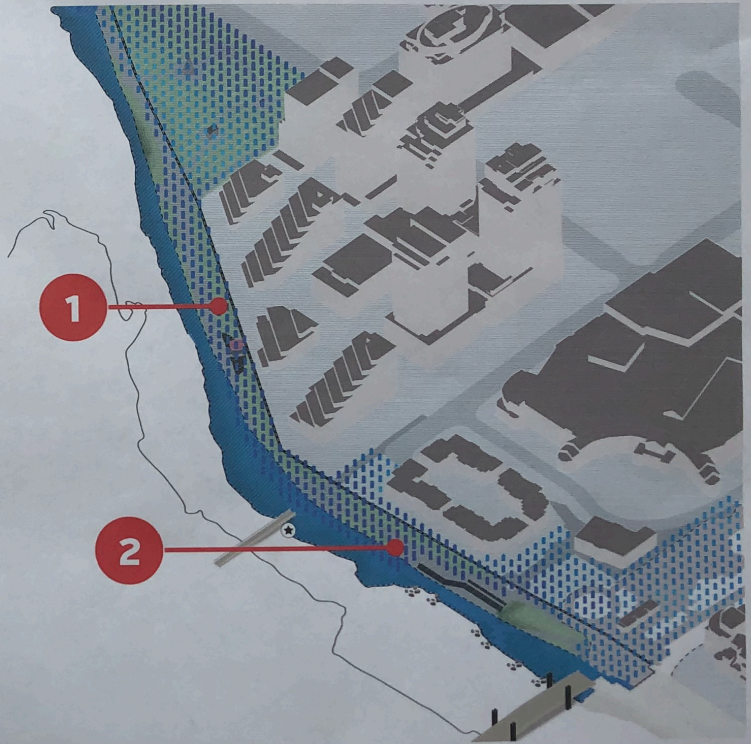
Park Use + Amenities & Vegetation



Connectivity + Accessibility

Lagoon

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- 5 Many large, healthy trees in the area. Preserve where possible and incorporate replacement into the design.
- 6 Large plaza is highly active with cyclists, pedestrians, street performers and site amenities. Include different gathering spaces.
- 7 2nd St SW will become a primary pedestrian route with the Future Green Line LRT station.
- 8 Promenade elevation makes the lagoon accessible between 2 St and 3 St SW. Consider river interface and openness.



Flood Level

Centre Street : Chinatown

- 1 RiverWalk plaza is located at a high point, with softscape sloping down towards Riverfront Ave. Consider the grading in the flood mitigation.



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Lagoon



Environmental Responsibility
Mature trees preserved along river bank

For the City + Community
Terraced access to the lagoon to connect people to the water

Active + Multi-modal
Dedicated bike lane along separated path for continuous, safe transportation

Active + Multi-modal
Pathway design continues from West Eau Claire Park to create a visually cohesive promenade, enhancing the overall sense of place

Scan this code with your phone to view a panoramic image of the proposed Lagoon area design



Flood Protection + Resilience
Terraced steps provide comfortable seating areas integrated with flood protection measures



Do you think this design achieves the project goals?

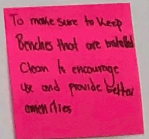
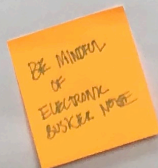
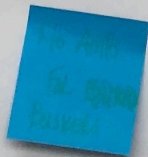
Place a dot in a box below to indicate your level of support.

<p>STRONGLY AGREE</p> <p>This achieves the goals.</p>	<p>SOMEWHAT AGREE</p> <p>This achieves the goals.</p>	<p>NEUTRAL</p>	<p>SOMEWHAT DISAGREE</p> <p>This does not achieve the goals.</p>	<p>STRONGLY DISAGREE</p> <p>This does not achieve the goals.</p>
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The Promenade sweeps down to the Lagoon edge to provide a safe and accessible path of travel that engages visitors meaningfully with the river, with improved sight lines, safer access, more inviting spaces, and improved programming opportunities in an integrated plaza space.

Any other comments?

Place a sticky note below.



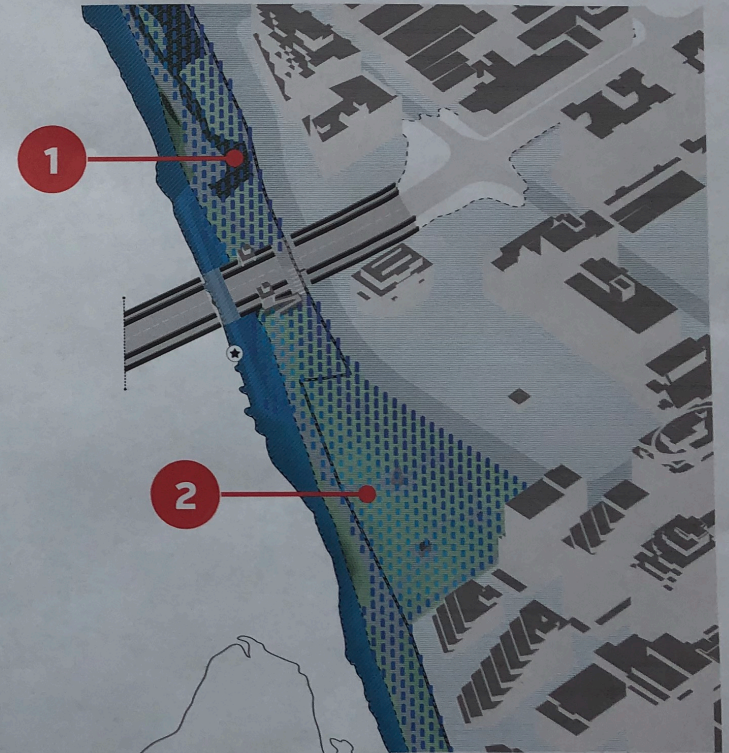
and site amenities. Include different gathering spaces.

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Flood Level

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- 4 Mature, healthy trees line the berm on the north edge of Sien Lok Park. Preserve where possible and incorporate replacement into the design.
- 5 Riparian vegetation along the river edge is thick and dense, limiting access and sightlines to the Bow River. Consider assessment and removal of invasive species.
- 6 Underpass mixes pedestrians and fast-moving cyclists in a narrow pathway. Explore widening of underpass.
- 7 High congestion and conflict area between cyclists and pedestrians. Analyze circulation patterns to reduce conflict.



Flood Level

RiverWalk West

Calgary



Centre Street : Chinatown

Scan this code with your phone to view a panoramic image of the proposed Centre Street : Chinatown area design



Environmental Responsibility
Preservation of existing mature trees

Flood Protection + Resilience
Flood wall at seating height for combined flood-resilience and comfortable resting spaces

For the City + Community
Additional segment of Promenade into Sien Lok Park to strengthen community connections

Active + Multi-modal
Pathway with defined lanes to provide safe access for alternate modes of transportation



Do you think this design achieves the project goals?

Place a dot in a box below to indicate your level of support.

<input checked="" type="radio"/> STRONGLY AGREE This achieves the goals.	<input type="radio"/> SOMEWHAT AGREE This achieves the goals.	<input type="radio"/> NEUTRAL	<input type="radio"/> SOMEWHAT DISAGREE This does not achieve the goals.	<input type="radio"/> STRONGLY DISAGREE This does not achieve the goals.
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The multi-modal cycle path and promenade in the area west of the Centre Street Bridge will be separated by a low flood wall that can activate the edge of Sien Lok Park with seating, interpretive signage, and other amenities along with planting.

Any other comments?

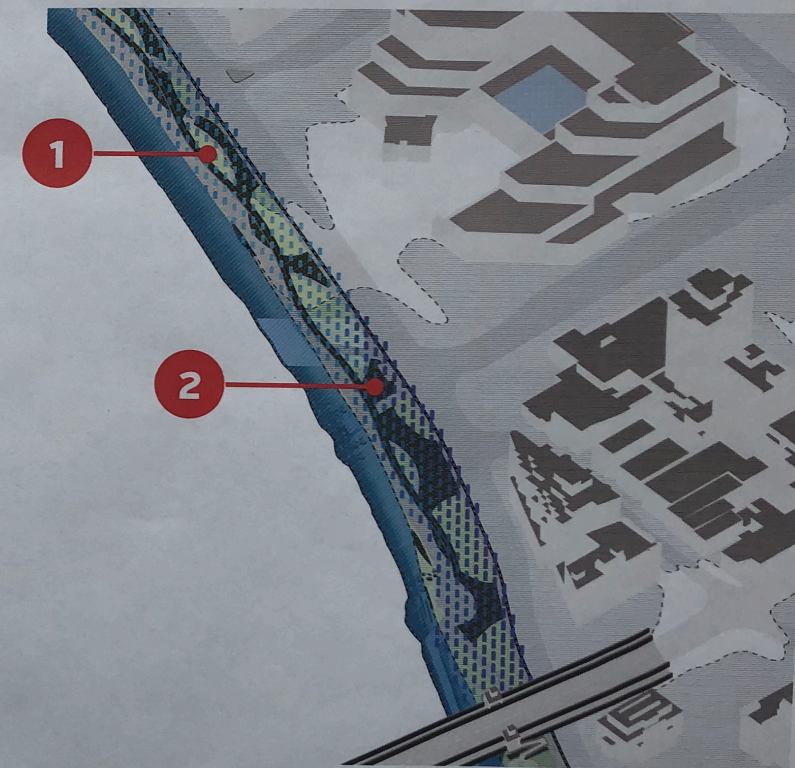
Place a sticky note below.

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RiverWalk West

- 1 Flood levels are minimal along the softscape between the existing bike lane and sidewalk. Consider low-impact flood mitigation.
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- 8 High congestion and conflict area between cyclists and pedestrians. Analyze circulation patterns to reduce conflict.

Flood Level



Flood Level

RiverWalk East

- 1 Existing grade is close to flood levels at the edge of Reconciliation Bridge,



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RiverWalk West

Scan this code with your phone to view a panoramic image of the proposed RiverWalk West design



For the City + Community
Possible ramp improvement concept to Centre St Bridge integrated into flood berm

Active + Multi-modal
Wider underpass with enhanced lighting to improve pedestrian and cyclist circulation

Flood Protection + Resilience
Gentle sloped earthwork combines the flood barrier with improved sightlines and a new gathering area



Do you think this design achieves the project goals?

Place a dot in a box below to indicate your level of support.

●	●			
STRONGLY AGREE This achieves the goals.	SOMEWHAT AGREE This achieves the goals.	NEUTRAL	SOMEWHAT DISAGREE This does not achieve the goals.	STRONGLY DISAGREE This does not achieve the goals.

Concern about pedestrian/cyclist separation under the bridge.

Any other comments?

Place a sticky note below.

Can you create the ramp to Centre St Bridge without removing mature trees?

The multi-modal promenade will be raised for flood protection and to improve circulation and sightlines. Existing design elements will remain or be reconstructed, maintaining the design and character of RiverWalk, a place that has reshaped how Calgarians engage with the riverfront.

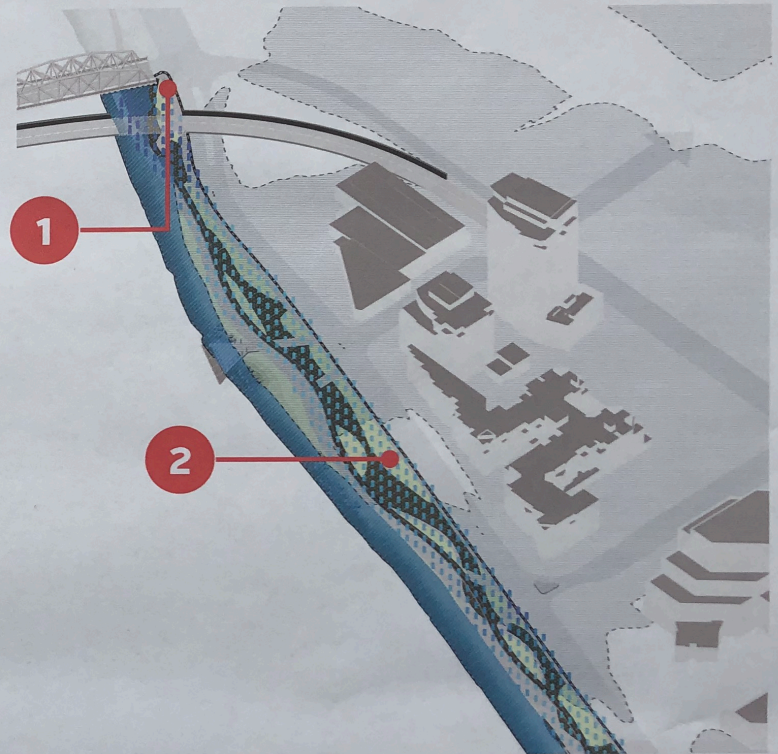
to connect RiverWalk with the surrounding areas.

- 8 High congestion and conflict area between cyclists and pedestrians. Analyze circulation patterns to reduce conflict.

RiverWalk East

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- 6 Existing sidewalk along Riverfront Ave SE continues along the entire project boundary. Consider widening between 3 St SE and Centre St Bridge to improve accessibility to the site.

Flood Level



Flood Level

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RiverWalk East



Active + Multi-modal
Widened sidewalk for improved access

For the City + Community
Plaza with clearly defined access and seating areas

Environmental Responsibility
Planting reinstated with gently sloping topography to minimize sightline disruption

Scan this code with your phone to view a panoramic image of the proposed RiverWalk East design



Flood Protection + Resilience
Sloped berm for flood protection

Active + Multi-modal
Existing promenade and lighting fixtures along RiverWalk are preserved



Do you think this design achieves the project goals?

Place a dot in a box below to indicate your level of support.

●●	●	●	●	●
STRONGLY AGREE This achieves the goals.	SOMEWHAT AGREE This achieves the goals.	NEUTRAL	SOMEWHAT DISAGREE This does not achieve the goals.	STRONGLY DISAGREE This does not achieve the goals.

Through the eastern stretch of RiverWalk, the existing promenade will be preserved with the flood wall located within softscape areas. Improvements will be made to the Riverfront Ave streetscape with safer crossings, and activated seating and gathering spaces.

Any other comments?

Place a sticky note below.

Remember:
This is a flood plain.

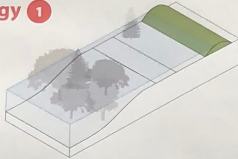


Flood Mitigation Strategies

Flood Strategy 1

Earthwork

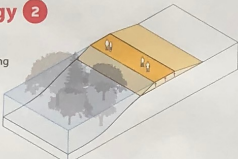
Permanent on-site infrastructure, utilizing earthwork, berms and reinforced terraces to mitigate flooding events.



Flood Strategy 2

Raised Promenade

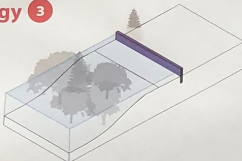
Permanent on-site infrastructure, incorporating a multi-use pathway elevated above flood event levels.



Flood Strategy 3

Programmed Wall

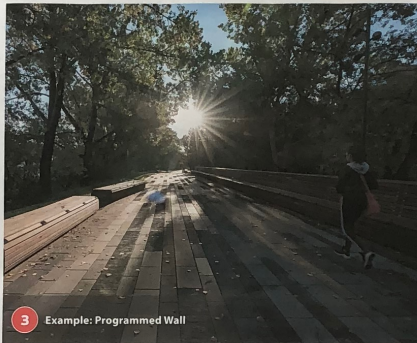
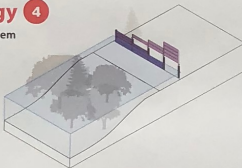
Permanent on-site infrastructure, utilizing a raised wall system that incorporates public realm amenities such as bench seating, wayfinding signage, interpretive elements and art.



Flood Strategy 4

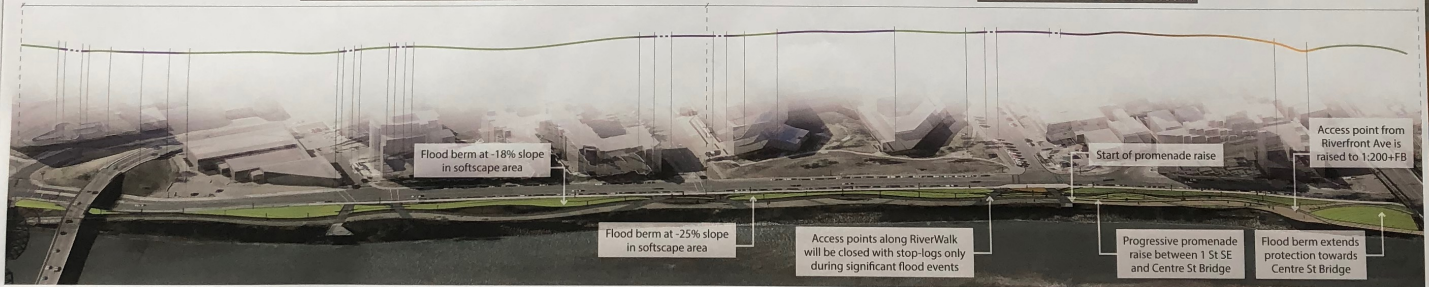
Panels - Post + Panel System

Semi-permanent, minimal on-site infrastructure that will be mobilized only in the event of a flood.



AREA 4: RIVERWALK - EAST - 350 m

AREA 3: RIVERWALK WEST - 380 m



Legend

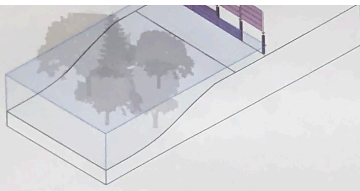
- Berm
- Raised Promenade
- Wall
- - - Stop-Logs

AREA 2: CENTRE STREET - 290 m

AREA 1: LAGOON - 300 m



on-site infrastructure that will be mobilized only in the event of a flood.



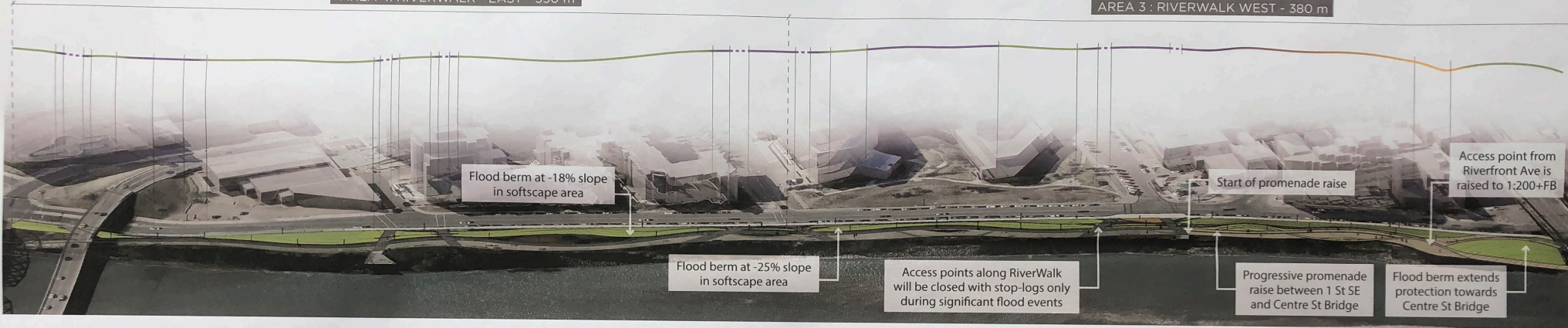
3 Example: Programmed Wall



4 Example: Post + Panel System

AREA 4: RIVERWALK - EAST - 350 m

AREA 3: RIVERWALK WEST - 380 m



Flood berm at -18% slope in softscape area

Flood berm at -25% slope in softscape area

Access points along RiverWalk will be closed with stop-logs only during significant flood events

Start of promenade raise

Progressive promenade raise between 1 St SE and Centre St Bridge

Flood berm extends protection towards Centre St Bridge

Access point from Riverfront Ave is raised to 1:200+FB

Legend

- Berm
- Raised Promenade
- Wall
- Stop-Logs

AREA 2: CENTRE STREET - 290 m

AREA 1: LAGOON - 300 m



Wall at seating height

Access points to Promenade from Sien Lok Park are raised to 1:200+FB levels

Progressive promenade raise between 2 St SW and Sien Lok Park

Flood barrier wall designed as part of terrace for reduced visual impact

Jaipur Bridge replacement for lifecycle and flood resiliency

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What's Next?

Thank you for your feedback and participation throughout the Eau Claire Promenade engagement process.

Your Feedback

Feedback can also be provided online at www.engage.calgary.ca/eauc Claire until April 30.

Your feedback will be used to revise and finalize the proposed design of Eau Claire Promenade. An engagement summary will be available on the project website in the coming weeks.

Next Steps

Informed by the findings from this engagement, the development of the design details will begin. An information session will be held in 2020 once information about the construction timeline are available.

