

# COASTAL ADAPTATION

## False Creek *Community Conversations*

Summer and Fall 2020





# Today's Agenda



## Introduction and Overview

- Sea level rise and Vancouver

## False Creek

- What's at risk?
- What can we do?

## Next Steps



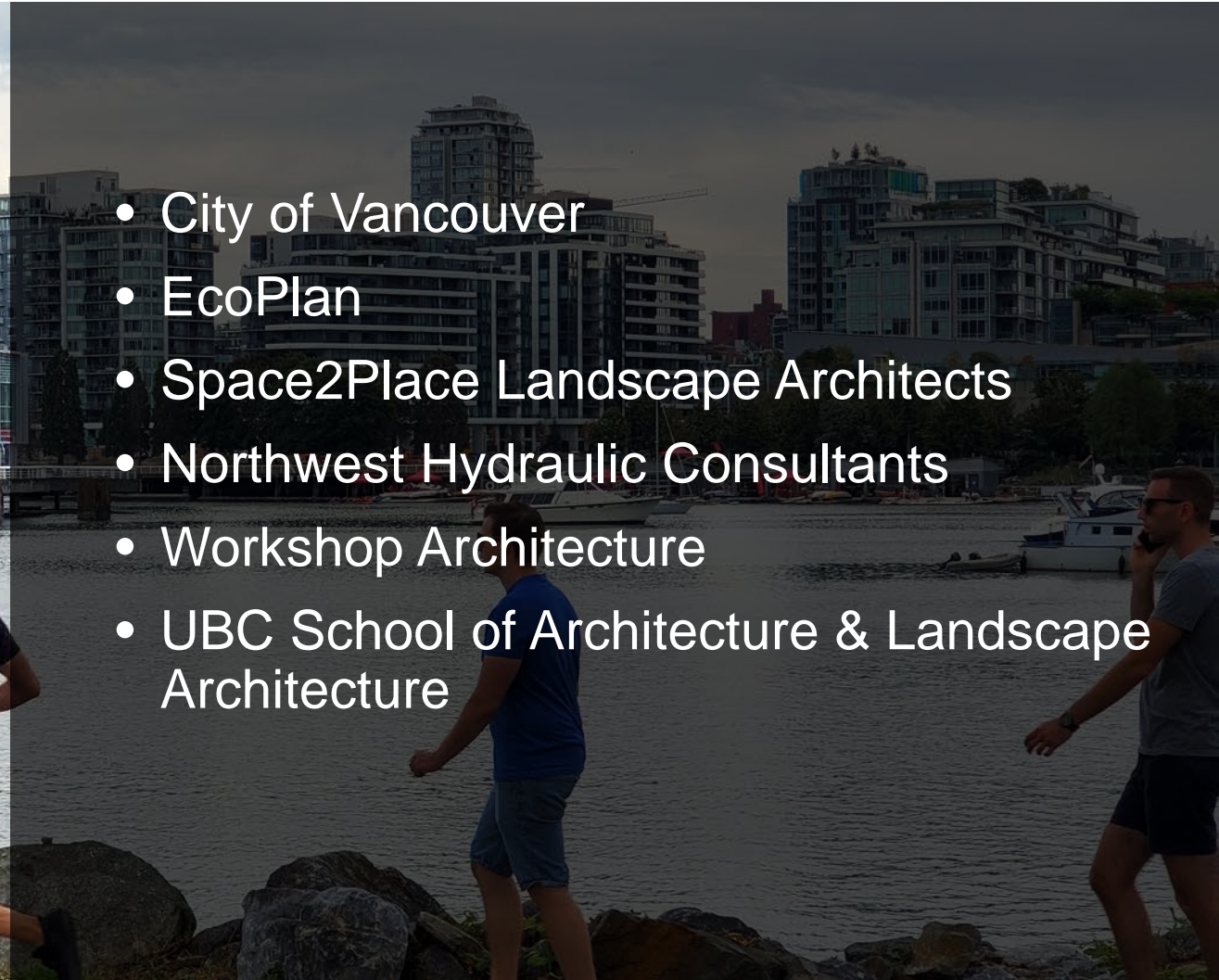
# Today's Goals

- ✓ Build awareness of sea level rise and coastal flooding risks for False Creek
- ✓ Explore and discuss community values for False Creek – *what matters?*
- ✓ Learn about how future project phases and engagement opportunities





# Project Team



- City of Vancouver
- EcoPlan
- Space2Place Landscape Architects
- Northwest Hydraulic Consultants
- Workshop Architecture
- UBC School of Architecture & Landscape Architecture



# Online Polling

- ✓ Climate change
  - ✓ Concerns
  - ✓ Favourite things about False Creek
  - ✓ Q&A
- 
- ✓ **HAVE YOUR SMARTPHONE READY!**
- 
- ✓ [www.menti.com](http://www.menti.com)





# Polling Questions 1-5



A scenic view of a coastal area in Vancouver, British Columbia. In the foreground, there is a body of water with white-capped waves crashing over a low stone wall or breakwater. To the right, a dense forest of evergreen trees covers a hillside. In the background, snow-capped mountains are visible under a clear sky. A semi-transparent blue rectangular box is overlaid on the left side of the image, containing the title text in white.

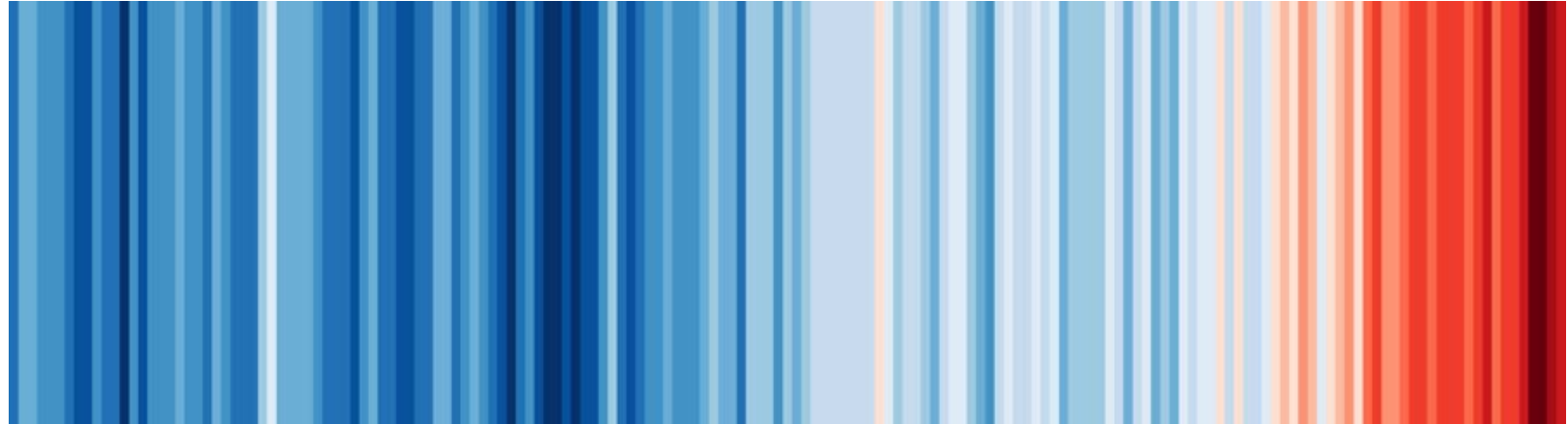
# Coastal Flooding & Vancouver



# Climate Change

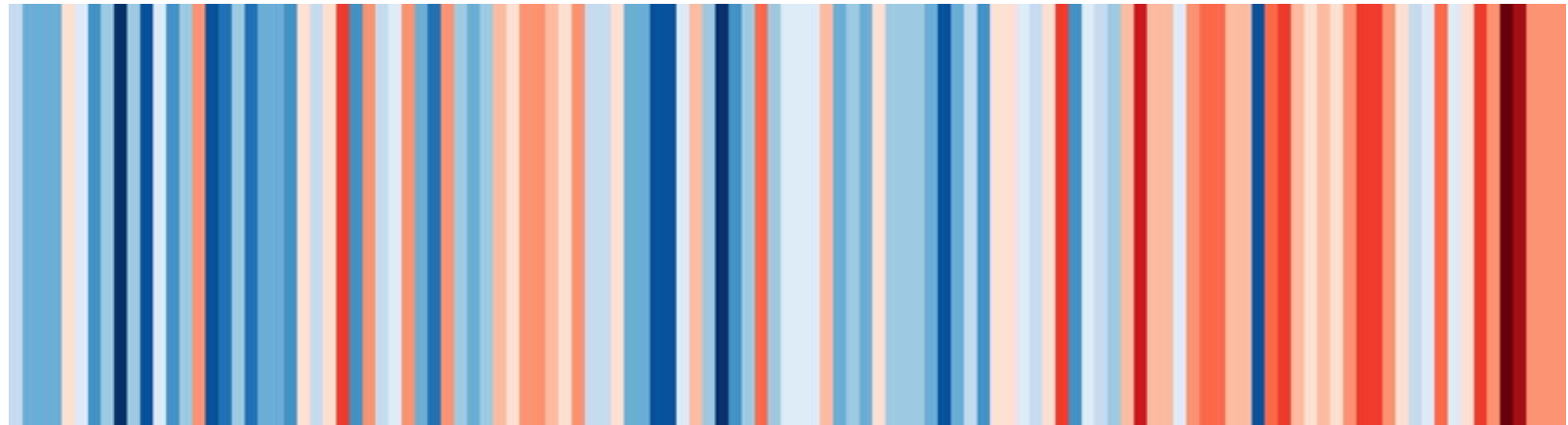
## Global

Average Temperatures:  
1850 - 2019



## British Columbia

Average Temperatures:  
1909 - 2019





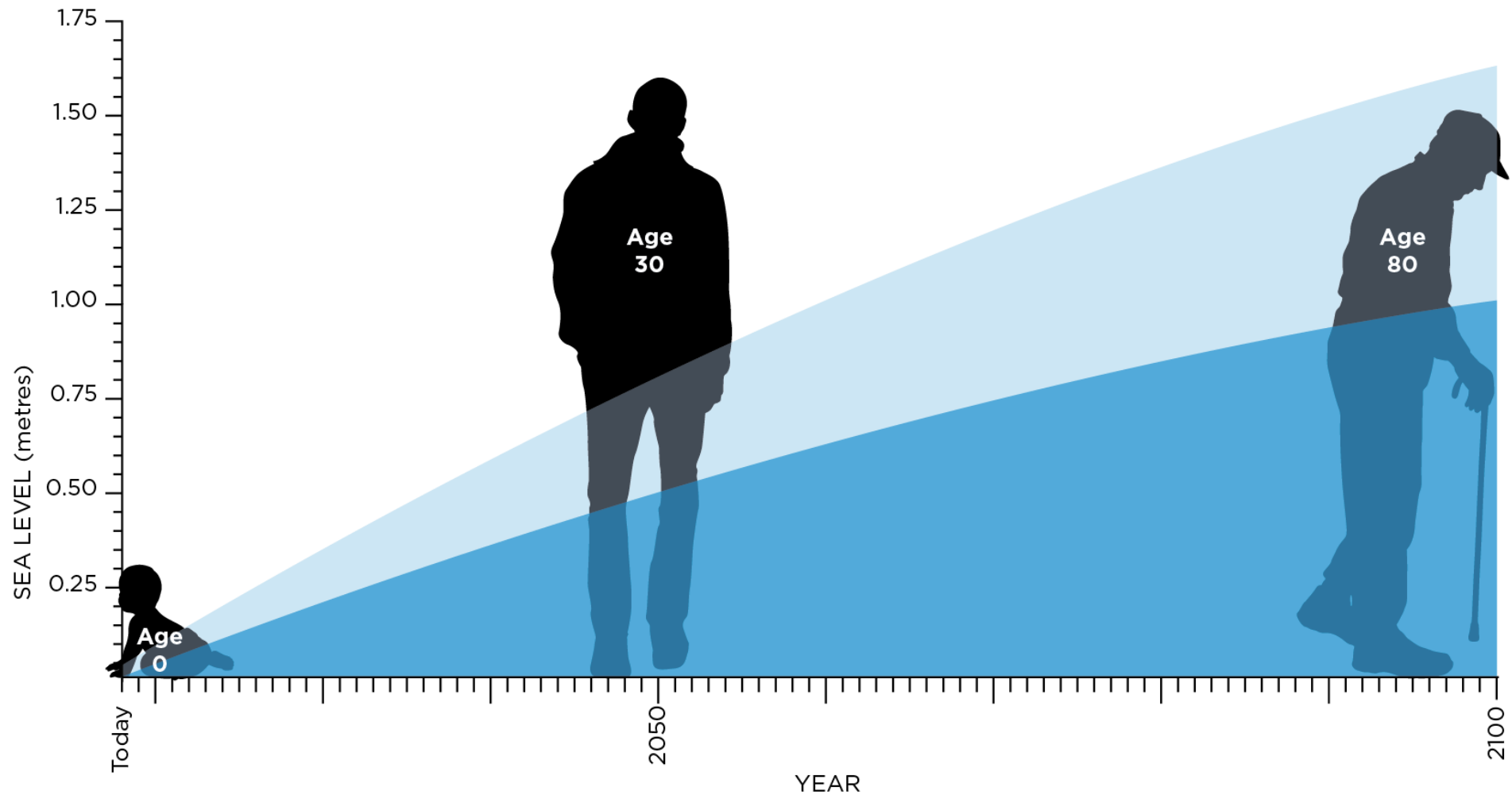
# Climate Change & Coastal Floods



- Coastal cities around the world are facing similar challenges of sea level rise
- Provincial guidelines recommend planning for 1m of sea level rise by 2100
- Vancouver is exposed to sea level rise along the coast, Burrard Inlet and Fraser

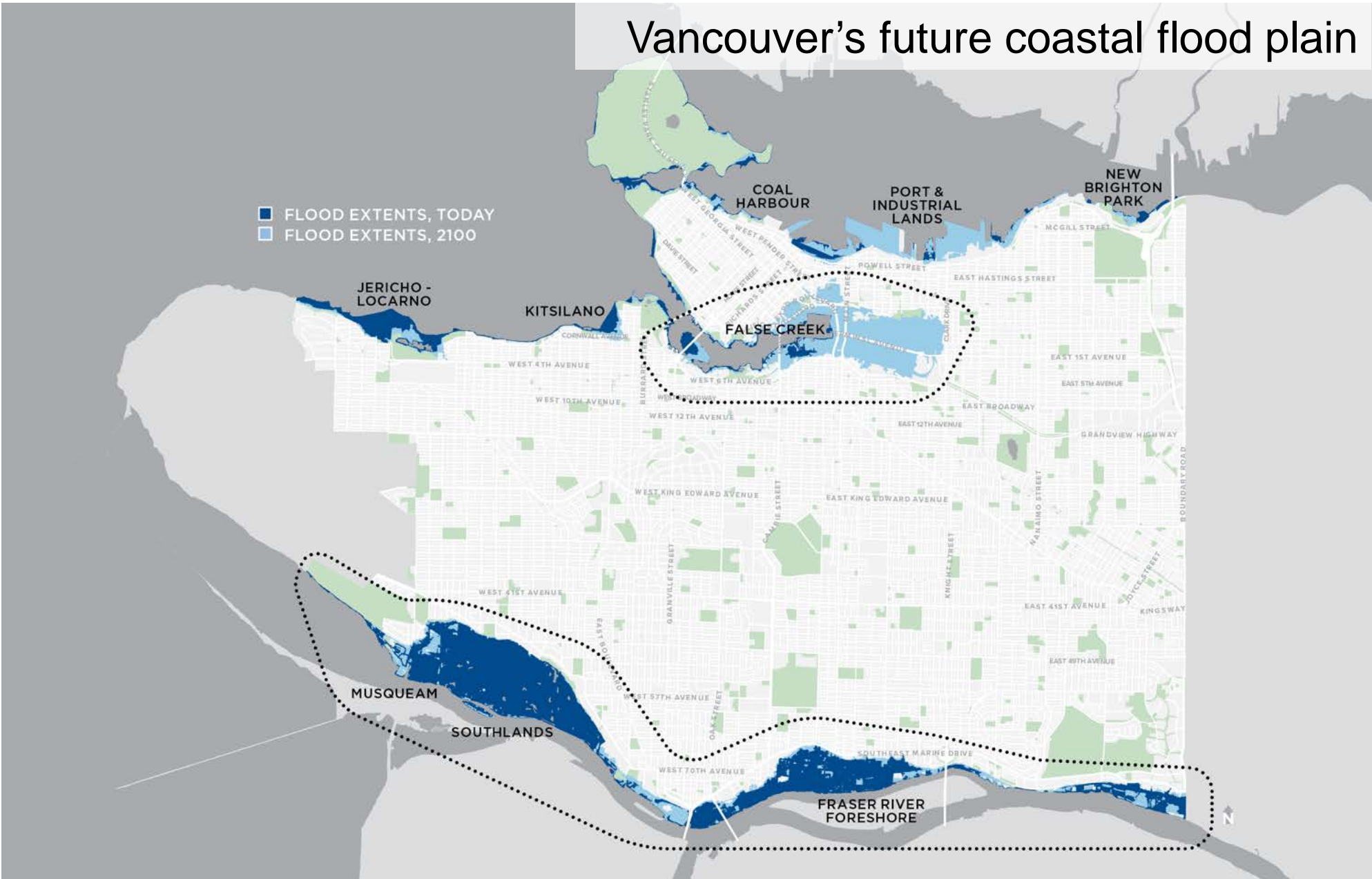


# Salish Sea rising





## Vancouver's future coastal flood plain





# False Creek Coastal Flooding



Sea Level Rise



High Tide Events



Storm Surge and Waves



“Design Event” flooding



# “Raincouver”

- Surface flooding
  - Extreme rain events
  - Drainage and stormwater management
  - Pooling behind flooding protection structures





A photograph of False Creek in Vancouver, showing modern high-rise buildings in the background and a blue metal railing in the foreground. A semi-transparent blue rectangle is overlaid on the image, containing the title text. The water in the foreground reflects the buildings and the sky.

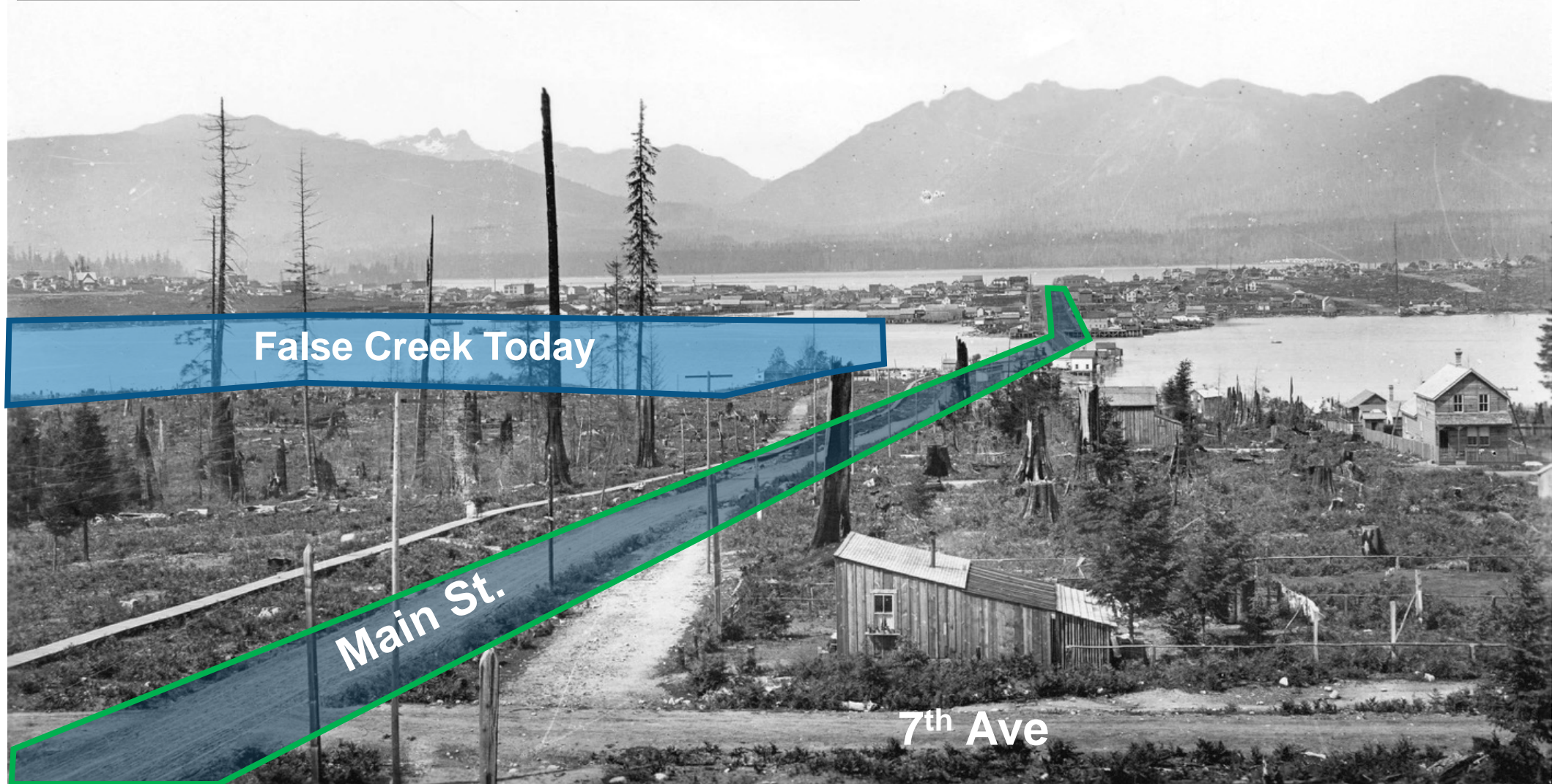
# False Creek – Past Present, and Future







# False Creek - 1890







## False Creek - 1919



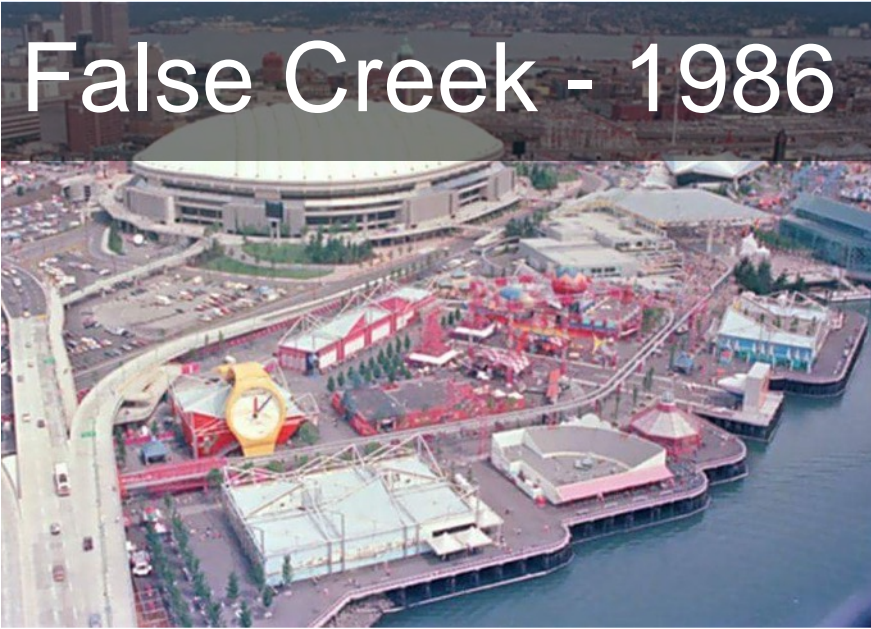


# False Creek - 1975





# False Creek - 1986





# False Creek - Future

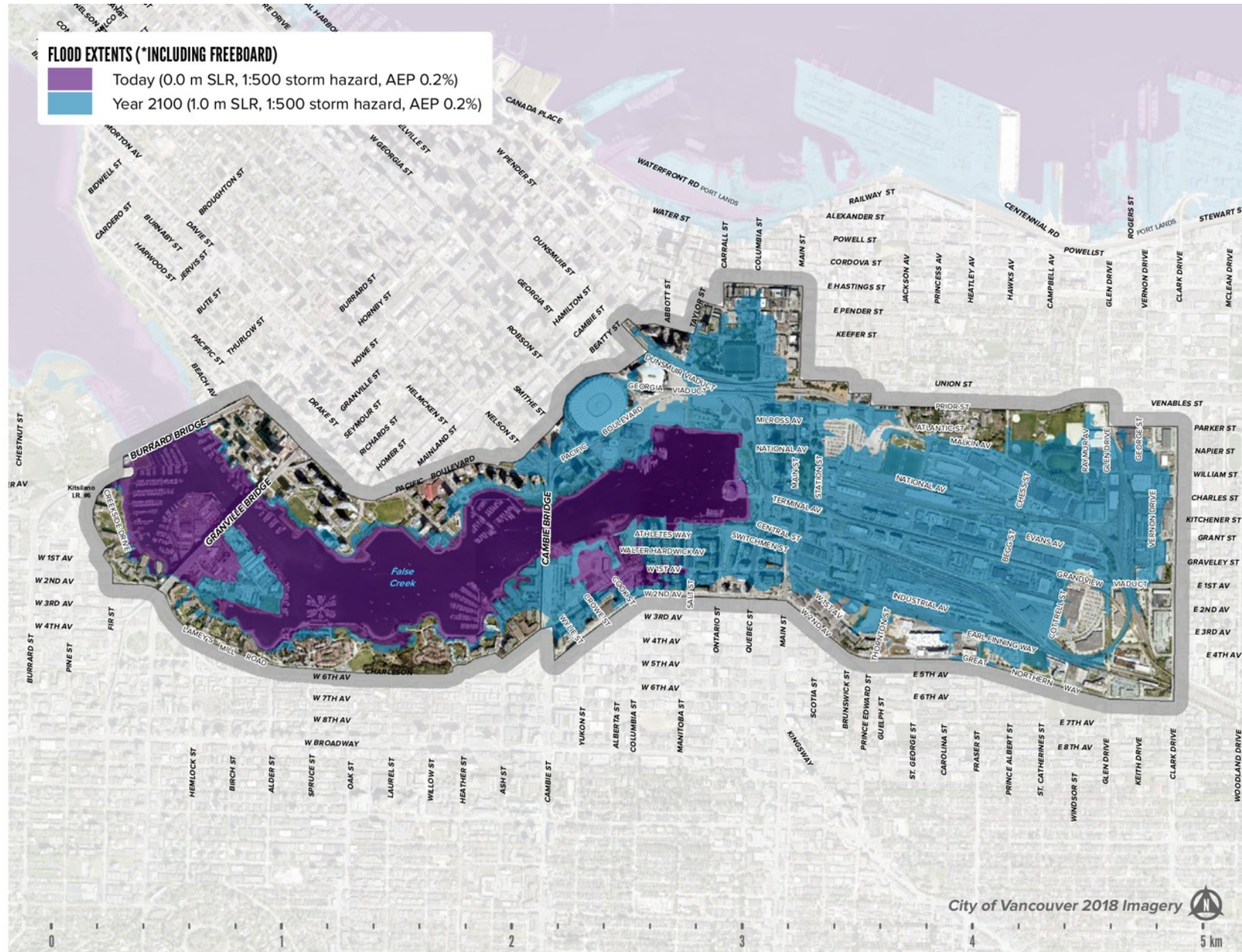




# What is at Risk?



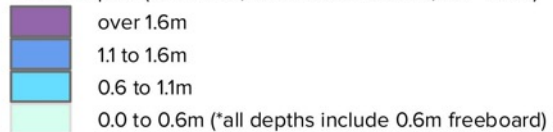






### FLOOD DEPTHS YEAR 2100

Flood Depths (1.0 m SLR, 1:500 storm hazard, AEP 0.2%)



City of Vancouver 2018 Imagery

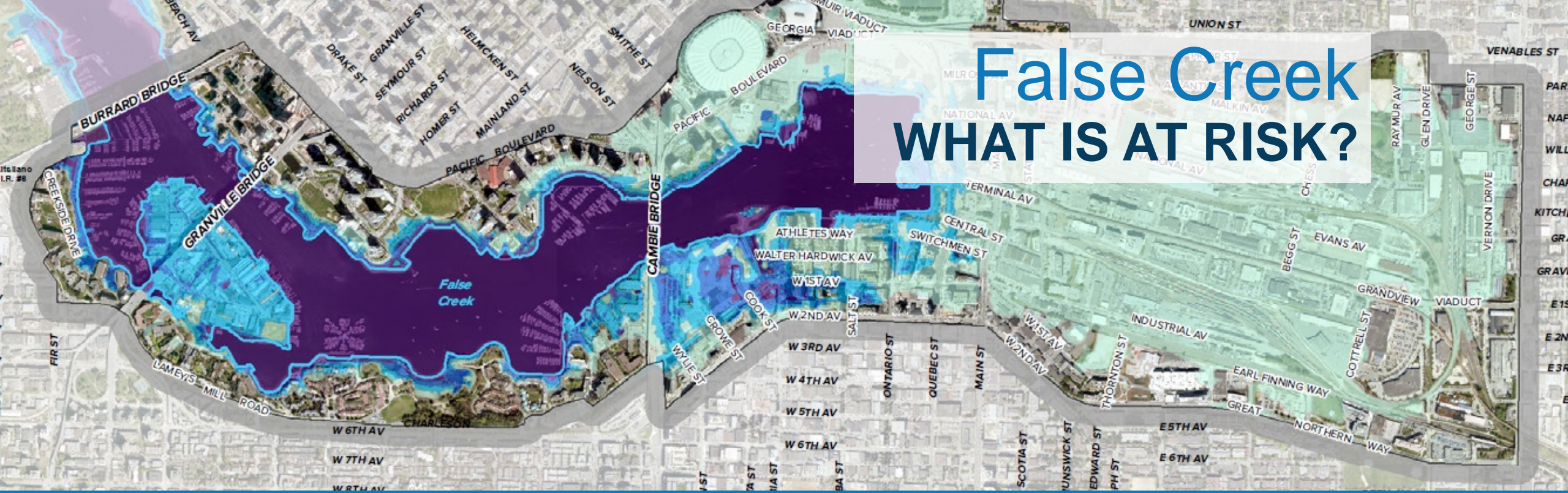


5 km



# False Creek

## WHAT IS AT RISK?



A DYNAMIC, URBAN MIXED-USE  
NEIGHBOURHOOD





# False Creek

## WHAT IS AT RISK?

**A DYNAMIC, URBAN MIXED-USE  
NEIGHBOURHOOD**

- 38,000+ residents and a range of housing





# False Creek

## WHAT IS AT RISK?

**A DYNAMIC, URBAN MIXED-USE  
NEIGHBOURHOOD**

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value





# False Creek WHAT IS AT RISK?

## A DYNAMIC, URBAN MIXED-USE NEIGHBOURHOOD

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties



A red and white fire truck is shown from a side-front perspective. The truck has 'E 8' on its side and 'Vancouver Fire Rescue Services' on its front. It features a large chrome grille, multiple headlights, and emergency lights on top. The truck is parked on a paved surface with a wooden fence and trees in the background.

# False Creek WHAT IS AT RISK?

## A DYNAMIC, URBAN MIXED-USE NEIGHBOURHOOD

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties
- Emergency and medical facilities





# False Creek WHAT IS AT RISK?

Sea Star Children's Centre

## A DYNAMIC, URBAN MIXED-USE NEIGHBOURHOOD

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties
- Emergency and medical facilities
- Schools and childcare facilities



An aerial night photograph of Granville Island in Vancouver. The Granville Island Public Market is illuminated, with its name visible on a sign. The market has a long building with a green and white striped awning. To the right, a red-roofed building is visible. The False Creek is in the background, with many sailboats docked and city lights reflecting on the water. A semi-transparent white box with blue text is overlaid on the top right of the image.

# False Creek WHAT IS AT RISK?

## A DYNAMIC, URBAN MIXED-USE NEIGHBOURHOOD

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties
- Emergency and medical facilities
- Schools and childcare facilities
- Granville Island



A photograph of a family walking on a paved path. In the foreground, a man in a blue and red jacket is pushing a red stroller with a child inside. A woman in a white shirt and blue jeans is walking next to him, holding a coffee. A small dog is walking on the path. In the background, there are several sailboats docked at a marina, and a grassy area with trees is visible.

# False Creek WHAT IS AT RISK?

## A DYNAMIC, URBAN MIXED-USE NEIGHBOURHOOD

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties
- Emergency and medical facilities
- Schools and childcare facilities
- Granville Island
- Parks, recreation, and activity centres





# False Creek

## WHAT IS AT RISK?

- 38,000+ residents and a range of housing
- \$19 billion in assessed property value
- 200 industrial properties
- Emergency and medical facilities
- Schools and childcare facilities
- Granville Island
- Parks, recreation, and activity centres
- Major utilities and other assets



# Flood Risks





Today

BURRARD BRIDGE

FALSE CREEK



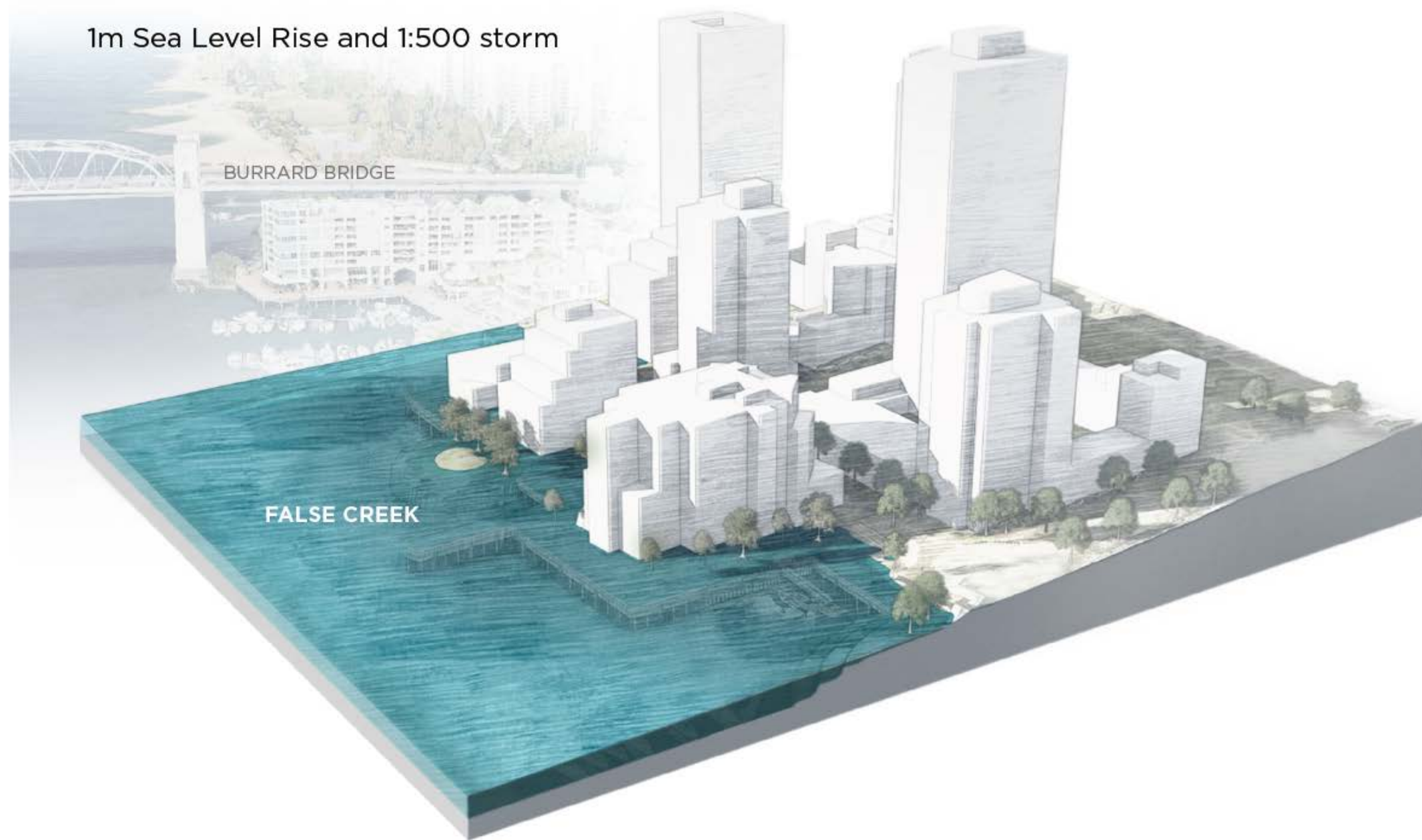
Today - 1:500 storm

BURRARD BRIDGE

FALSE CREEK



1m Sea Level Rise and 1:500 storm





Today

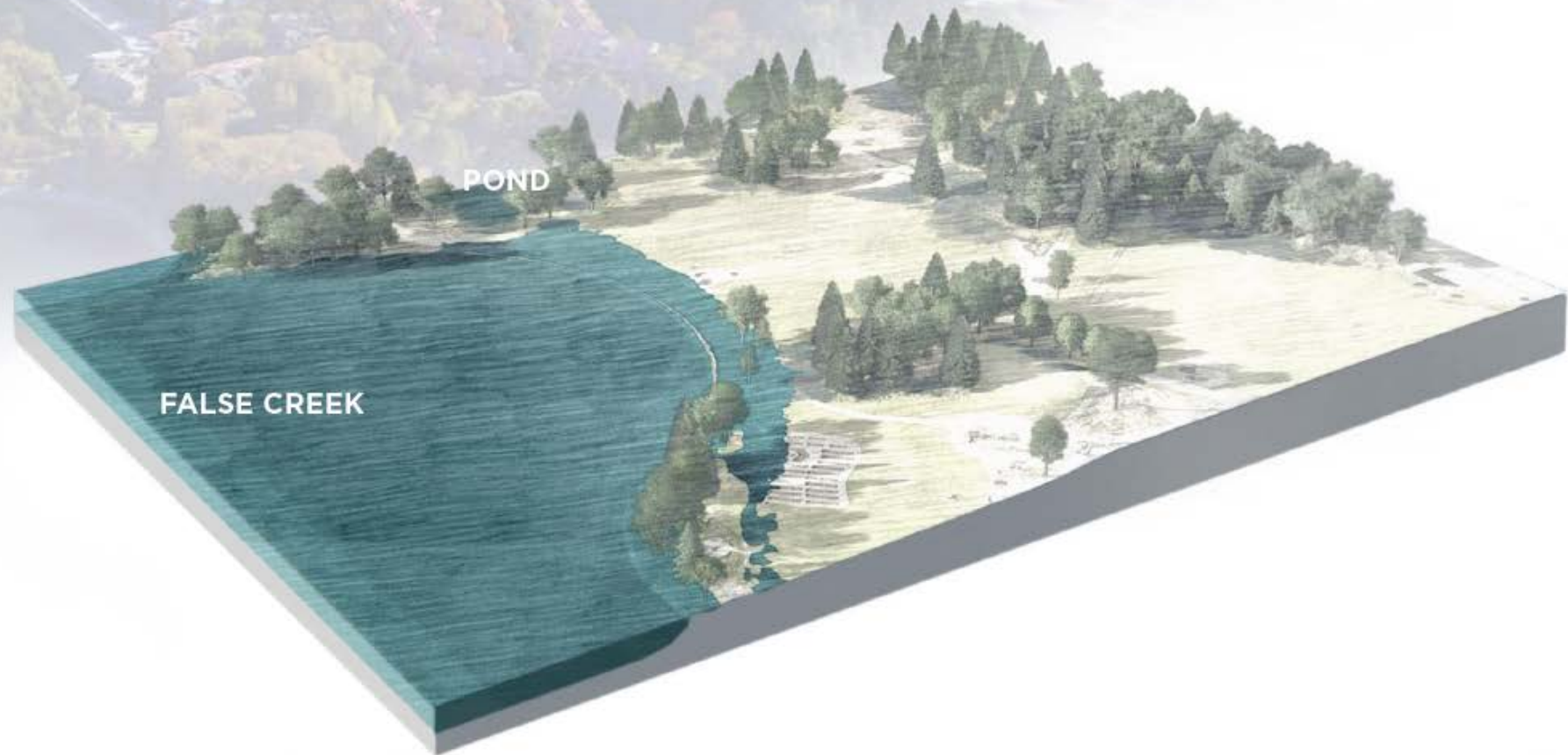
CAMBIE STREET (BRIDGE CONNECTION)





Today - 1:500 storm

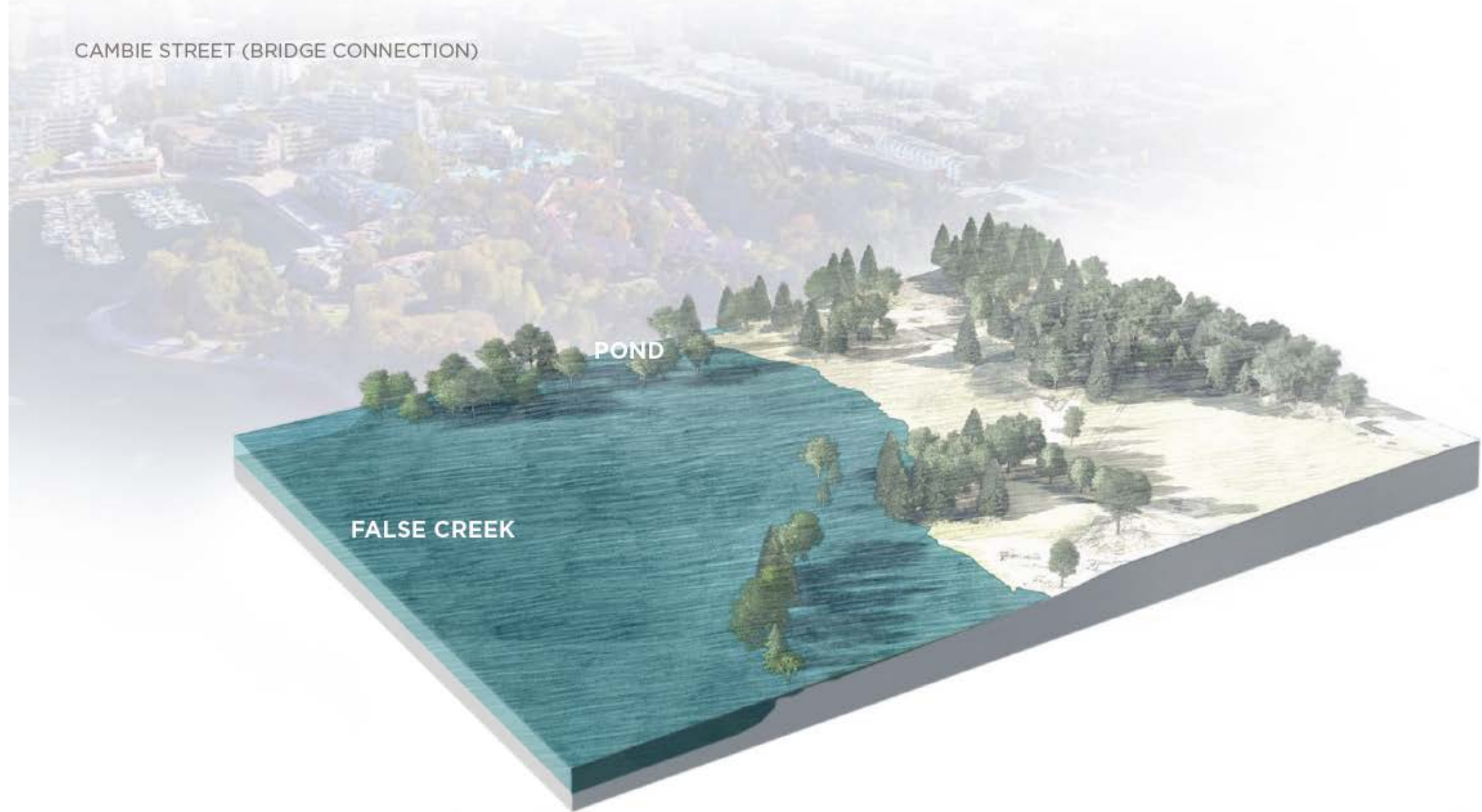
CAMBIE STREET (BRIDGE CONNECTION)





## 1m Sea Level Rise and 1:500 storm

CAMBIE STREET (BRIDGE CONNECTION)





Today





Today - 1:500 storm





## 1m Sea Level Rise and 1:500 storm





# Polling Question 6-7



An aerial photograph of a waterfront park in Vancouver. On the left, there are multi-story residential buildings with balconies. In the center, a green lawn is bordered by a paved path. To the right, a rocky shoreline meets the water, with a curved path and a few people walking. A blue semi-transparent rectangle is overlaid on the center of the image, containing the title text in white. The bottom right corner of the image is a solid blue triangle.

# What Vancouver is Doing About It



# COASTAL ADAPTATION

- Long-term planning effort to address coastal flood hazards and risks in Vancouver
- Technical work started in 2013 – mapping, modelling, risk assessments, policy changes
- Community planning work started in 2018 with *Coastal Adaptation Plan – Fraser River Foreshore*





# COASTAL ADAPTATION

- *Fraser River Foreshore* work identified and prioritized community **values** to help guide future work
- Also developed preliminary design **principles** to inform the development and evaluation of future flood management works





# COASTAL ADAPTATION

## Community Values

The community concerns and desires that represent what residents and other stakeholders care about most.



Communities  
and People



Environment



Health and  
Safety



Infrastructure and  
Transportation



Local and  
Regional Economy



Culture and  
Heritage



Recreation



# COASTAL ADAPTATION

## Design Principles

Guidelines to provide direction for future work, including the development of flood management options, infrastructure design, and policy



Design for adaptability



Design for safety and public health



Design for safe-to-fail infrastructure systems



Design for nature



Design for access



Design for co-benefits



An aerial photograph of Vancouver, British Columbia, taken at sunset. The sun is low on the horizon, casting a warm orange glow over the city skyline and the water. The Vancouver Convention Centre and the BC Place stadium are visible in the background. In the foreground, the Science World dome is prominent on the right, and the waterfront area with various buildings and boats is on the left. A semi-transparent blue banner with the text "Community Values" is overlaid across the middle of the image.

# Community Values



# COASTAL ADAPTATION

## Community Values

The community concerns and desires that represent what residents and other stakeholders care about most.



Communities  
and People



Environment



Health and  
Safety



Infrastructure and  
Transportation



Local and  
Regional Economy



Culture and  
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Recreation



# COASTAL ADAPTATION

## Community Values

Communities and People



Flood and damage to homes & displacement and impacts to residents



# COASTAL ADAPTATION

## Community Values

Environment



Damage and loss of shoreline habitat & release of contaminants



# COASTAL ADAPTATION

## Community Values

Health and Safety



Disruptions and impacts to public safety and well being during an emergency



# COASTAL ADAPTATION

## Community Values

### Infrastructure and Transportation



Damage and disruption of utility, power, transportation and telecommunication services



# COASTAL ADAPTATION

## Community Values

Local and Regional Economy



Business interruptions and damage to related assets and loss of employment lands



# COASTAL ADAPTATION

## Culture and Heritage



## Community Values



Damage to archeological and cultural sites and damage to heritage and landscapes



# COASTAL ADAPTATION

## Community Values

### Recreation



Damage and other impacts to shoreline trails and local recreational facilities



# COASTAL ADAPTATION

## Community Values



Communities  
& People



Health &  
Safety



Local &  
Regional Economy



Culture &  
Heritage



Infrastructure &  
Transportation



Environment



Recreation

**Anything missing?**

**Unique values for False  
Creek?**



# Polling Questions 8-9



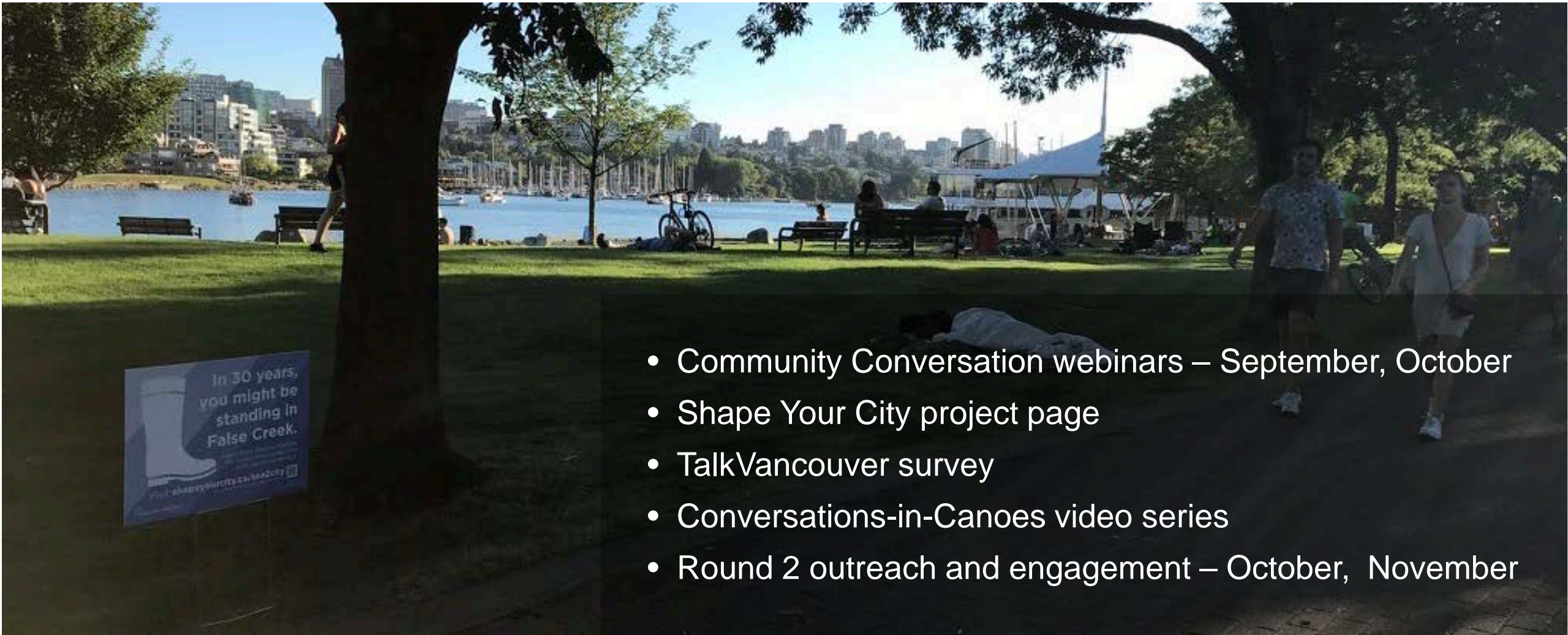


# Next Steps



# COASTAL ADAPTATION

## Continuing the Conversations





# COASTAL ADAPTATION

## Adaptation Approaches

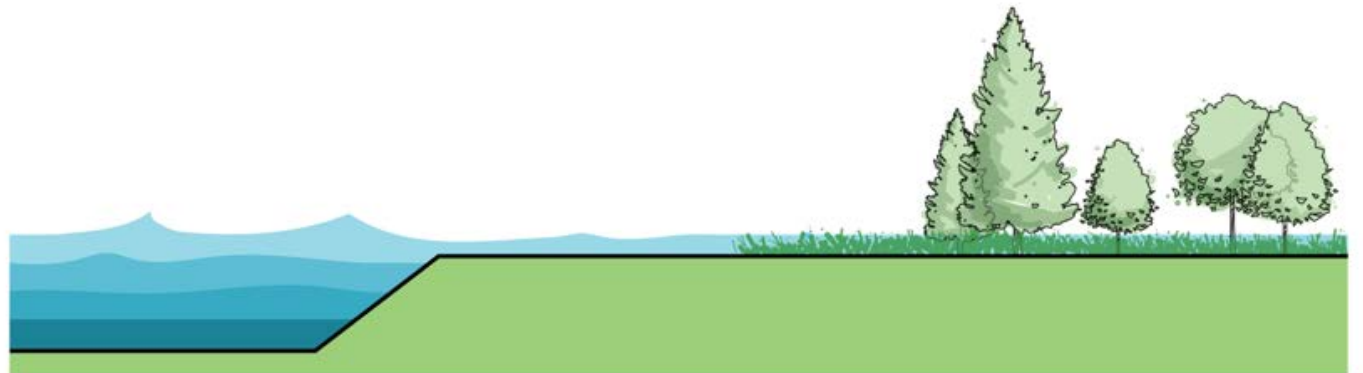
**RESIST**



**ACCOMMODATE**



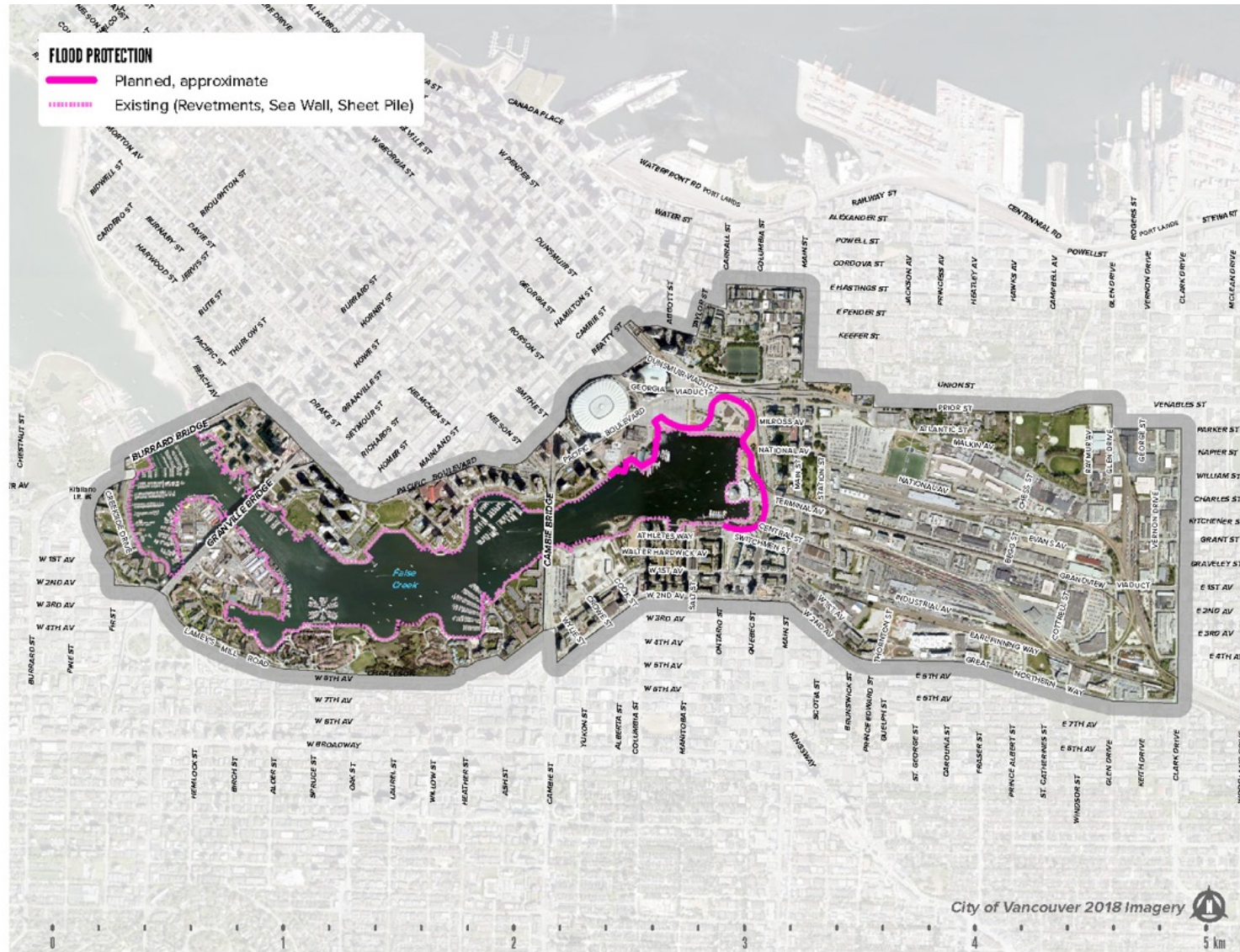
**MOVE / AVOID**





# COASTAL ADAPTATION

## Adaptation Approaches





# COASTAL ADAPTATION

## Adaptation Approaches







A unique, community-driven design challenge to be launched in **2021**

- ✓ Guide urban development and ecological revitalization in False Creek **and** along the Fraser River Foreshore
- ✓ Inform next phase of Coastal Adaptation Plan process
- ✓ Be guided by community values and design principles identified in False Creek and the Fraser River Foreshore projects



An aerial photograph of Vancouver, British Columbia, taken at sunset. The sun is low on the horizon, casting a warm orange glow over the city. The Vancouver skyline is visible in the background, with numerous high-rise buildings. In the foreground, the False Creek waterway is filled with boats, including sailboats and larger vessels. The Science World dome is prominent on the right side of the image. A semi-transparent blue banner with the text "Some Final Questions" is overlaid across the middle of the image.

# Some Final Questions



# Polling Questions 10-13



# COASTAL ADAPTATION



## Stay Involved!

- Visit the Shape Your City project page for the survey, resources, and more information
  - [www.shapeyourcity.ca](http://www.shapeyourcity.ca)
- Email us
  - [sealevelrise@Vancouver.ca](mailto:sealevelrise@Vancouver.ca)
- Participate in next round of webinars in October/November to discuss adaptation approaches and design principles



# Polling Question 14



# COASTAL ADAPTATION

THANK YOU!

False Creek Community Conversations

