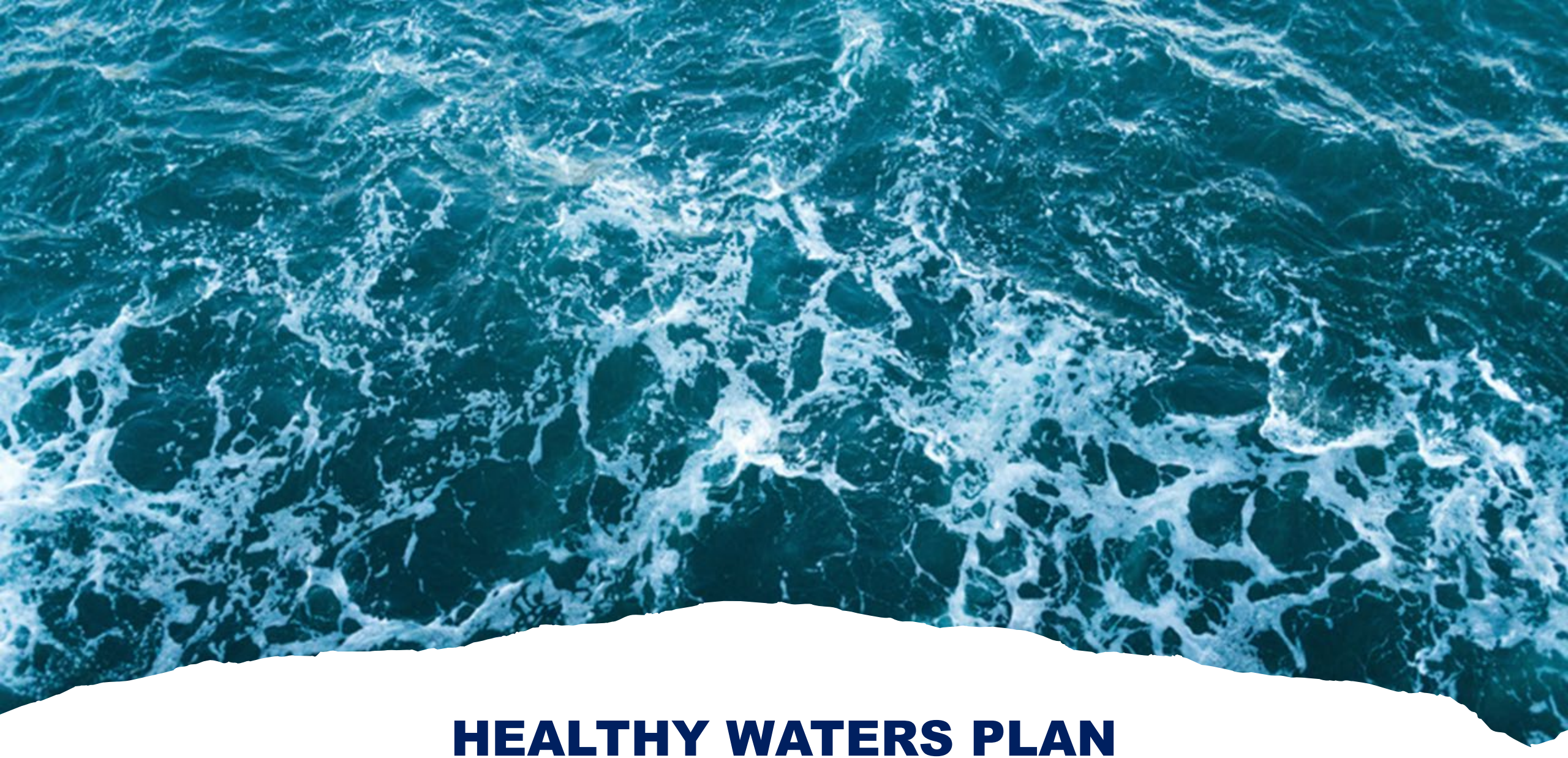


HEALTHY WATERS PLAN

Standing Committee on City Finance and Services

February 1, 2023

CITY OF VANCOUVER

one water | HEALTHY WATERS PLAN

BACKGROUND - JULY 2019 MOTIONS

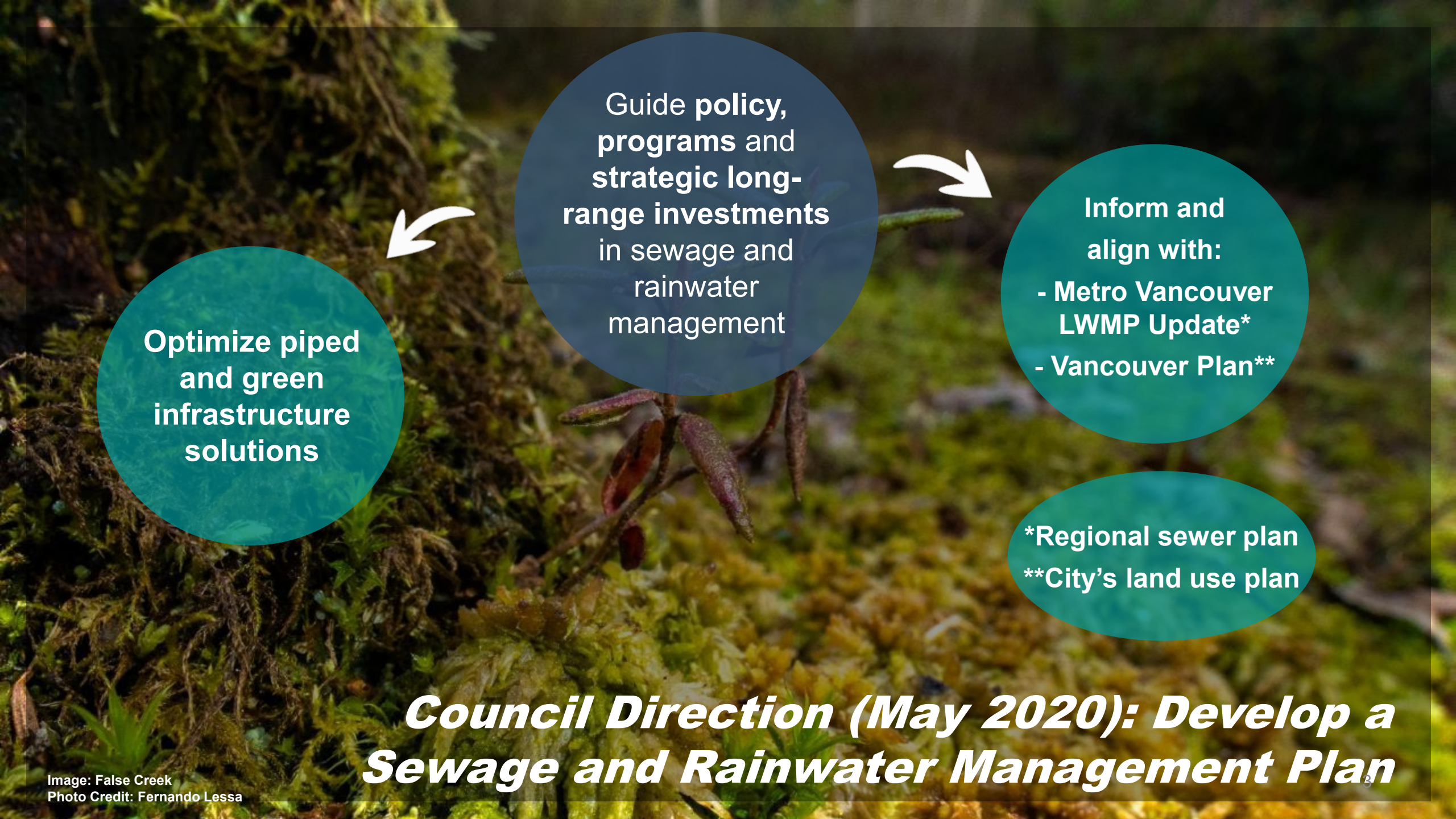
City Council

Explore options to cost-effectively achieve accelerated water quality outcomes related to CSOs by 2029

Park Board

Call on CoV to prioritize infrastructure investments to achieve water quality improvements by 2029

Photo Credit: Ho Yeong Jung on Unsplash

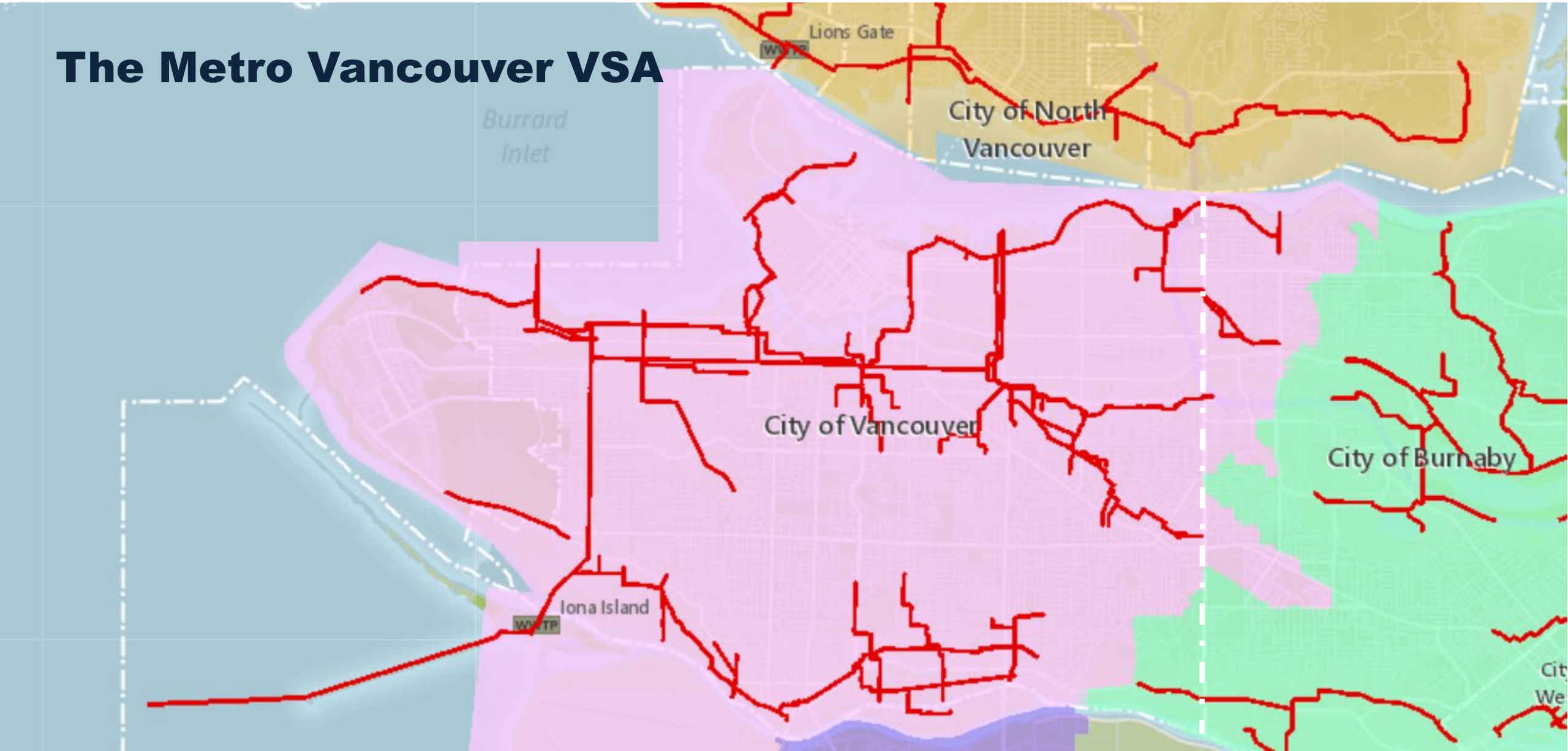


Council Direction (May 2020): Develop a Sewage and Rainwater Management Plan

Image: False Creek
Photo Credit: Fernando Lessa

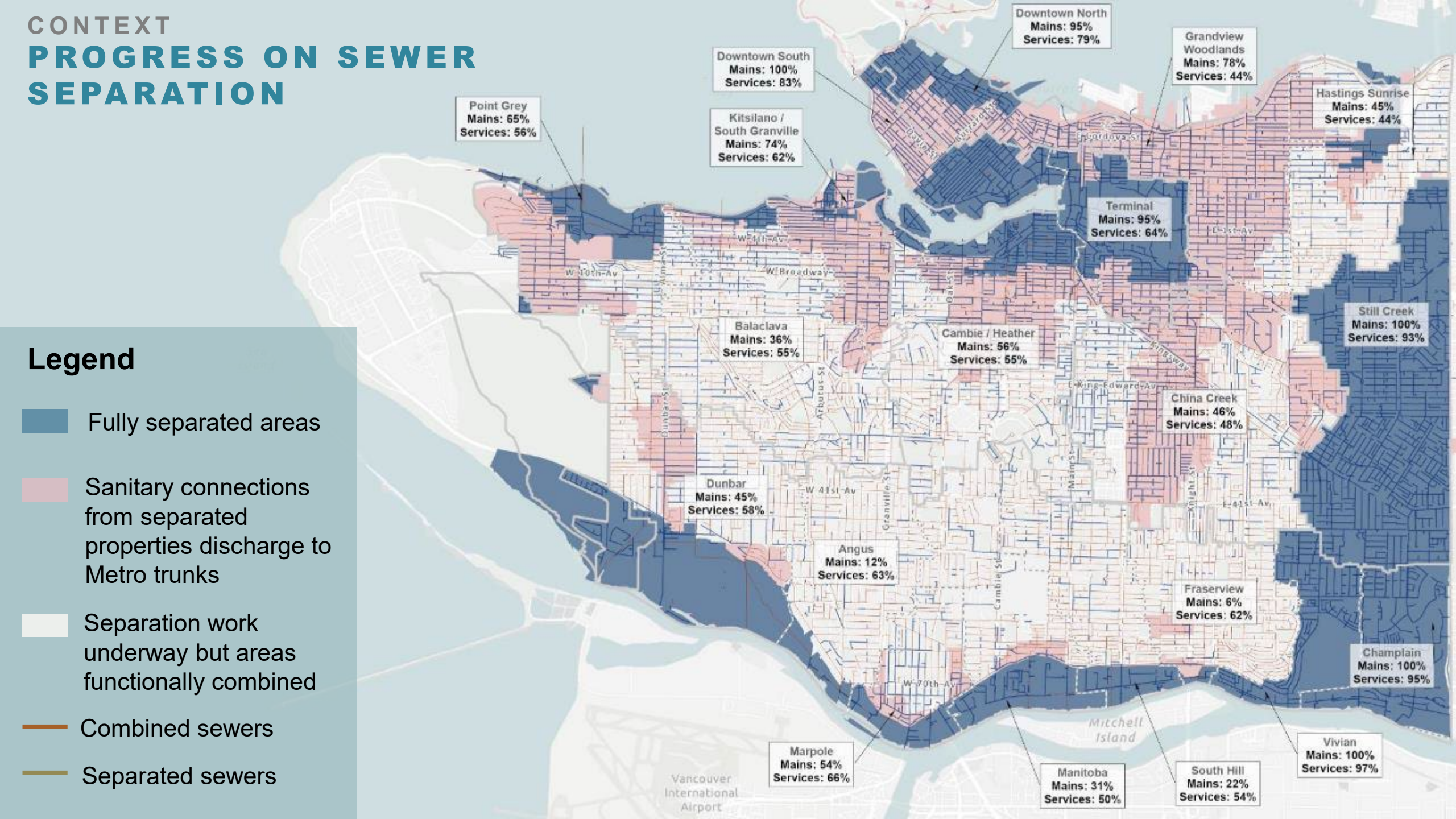
What problems do we need to address?

THE VANCOUVER SEWERAGE AREA ("VSA")



CONTEXT

PROGRESS ON SEWER SEPARATION



Legend

- Fully separated areas
- Sanitary connections from separated properties discharge to Metro trunks
- Separation work underway but areas functionally combined
- Combined sewers
- Separated sewers

CONTEXT

POLLUTION FROM RAINWATER RUNOFF

We must consider the impacts runoff pollution in tandem with CSOs

CONTEXT

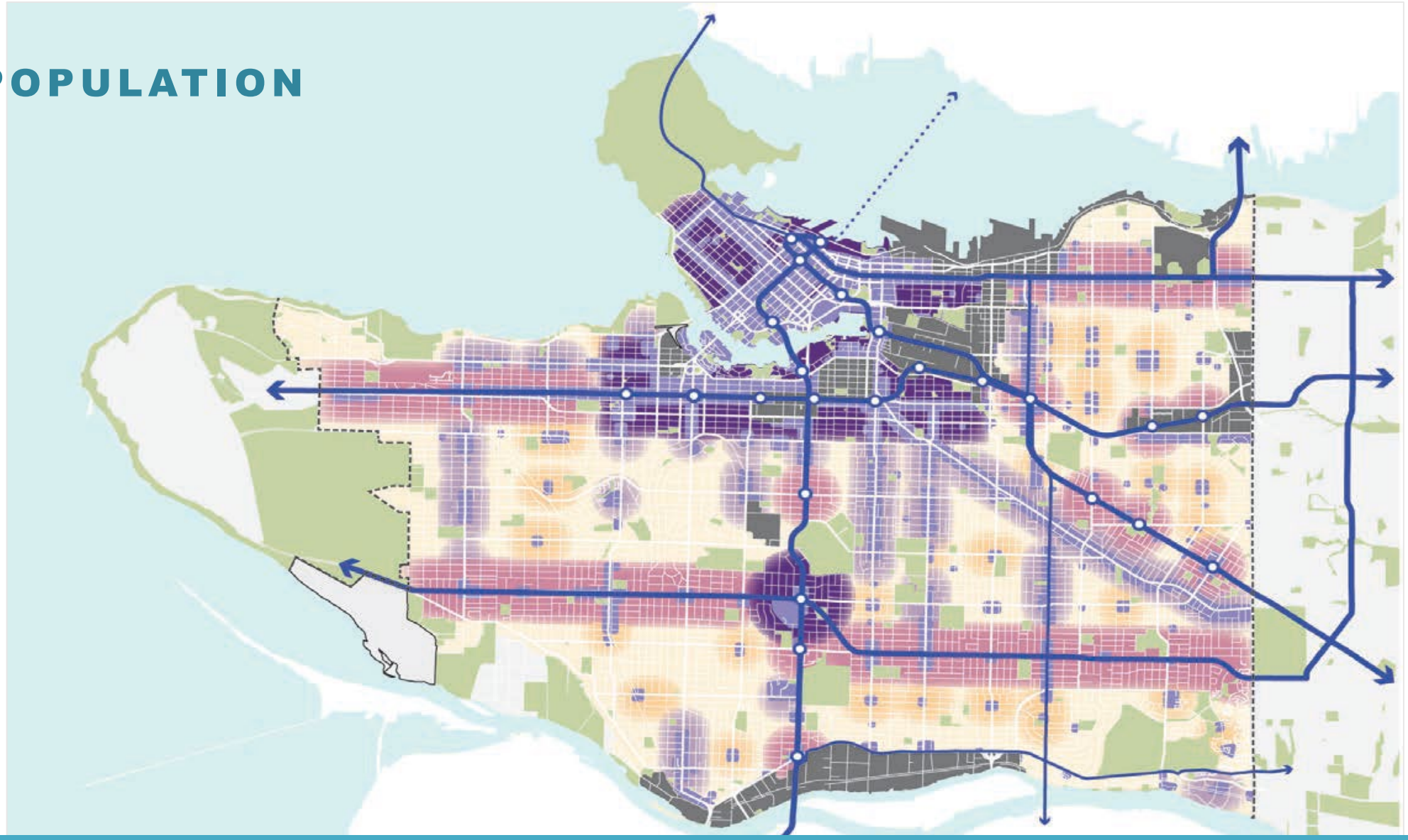
CLIMATE CHANGE AND EXTREME WEATHER

Climate change adds complexity to infrastructure planning and design decisions, with uncertain financial implications. Having an adaptive plan is critical.

CONTEXT

A GROWING POPULATION

- Increase of 150,000 people by 2041
- Increasingly distributed growth and density across the city



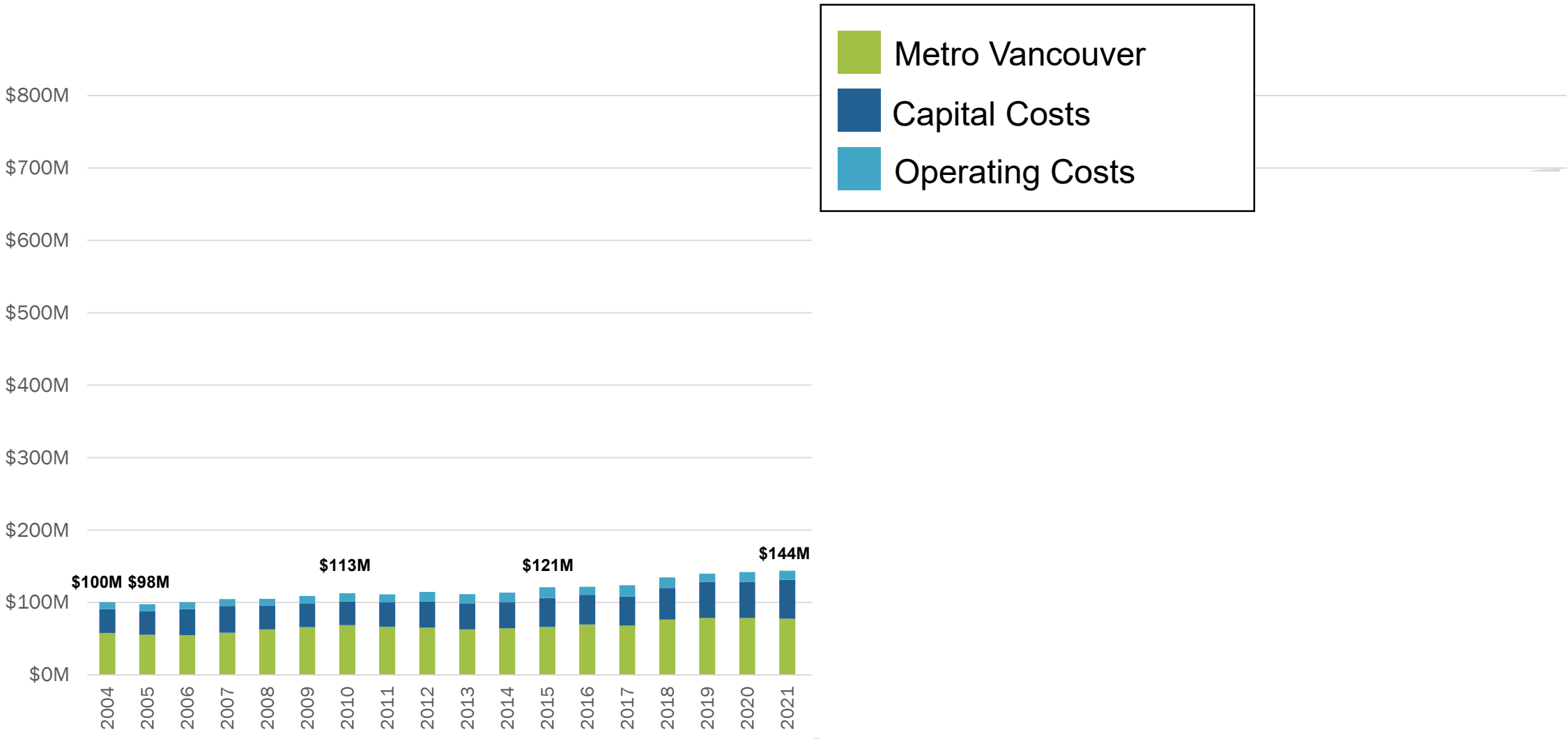
Growth is expected to be more distributed across the city than past years. This underscores the importance of aligning utility, land use, and financial planning.

CONTEXT

AGING INFRASTRUCTURE & RENEWAL NEEDS

Infrastructure is deteriorating at a higher rate than sewer renewal investments. 23% of assets currently in poor condition.

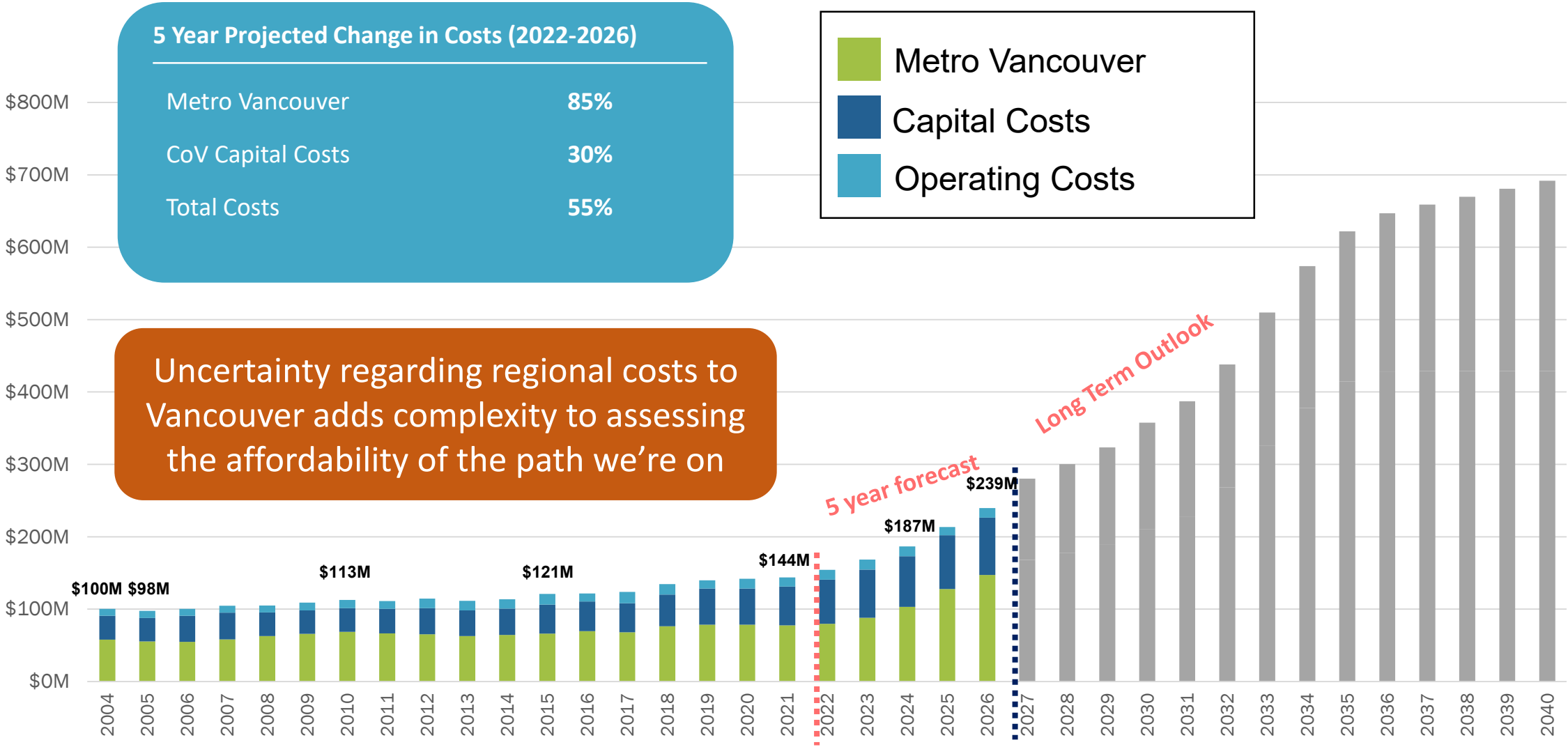
FINANCIAL CONTEXT + PROJECTION (2020 $)



FINANCIAL CONTEXT + PROJECTION (2020 $)

5 Year Projected Change in Costs (2022-2026)	
Metro Vancouver	85%
CoV Capital Costs	30%
Total Costs	55%

Uncertainty regarding regional costs to Vancouver adds complexity to assessing the affordability of the path we're on



CURRENT STATUS - HEALTHY WATERS PLAN

A PHASED APPROACH TO PLAN DEVELOPMENT

Today

Phase 1: Current State and Strategic Framework

Q2 2021 to Q4 2022

- Develop strategic framework of guiding principles, goals and objectives
- Shared learning of how our systems function and preliminary baseline forecast
- Identify ‘no regrets’ priority actions to take while planning

Phase 2: Pathway Development

Q4 2022 to Q1 2024

- Set and refine performance measures to evaluate options
- Refine the baseline forecast
- Clarify alternative pathways (projects, programs, policies, partnerships)
- Evaluate consequences using performance measures to identify optimal pathway

Phase 3: Finalize the Adaptive Plan

Q2 2024 to Q2 2025

- Final plan recommendations and financial strategy
- Develop adaptation framework
- Implementation, monitoring, and adaptation

Ongoing Technical and Financial Analysis

Ongoing Structured Decision Analysis

Expert Advisory Panel | Project Partners | Stakeholders

Regional LWMP and Vancouver Plan Alignment

PHASE 1 RECAP

ENGAGEMENT COMMITTEES

Technical Working Group

Subject matter experts to guide plan development

- City of Vancouver staff
- Metro Vancouver staff
- Musqueam Indian Band
- Tsleil-Waututh Nation

Project Advisory Group

Input on strategic framework and plan development

- Musqueam Indian Band
- Metro Vancouver, BC Ministry of Environment, Vancouver Coastal Health, community representatives and ENGOs

Leadership Forum

Inter-jurisdictional alignment on major directions

- Musqueam Indian Band
- Tsleil-Waututh Nation
- Metro Vancouver
- BC Ministry of Environment
- Environment and Climate Change Canada

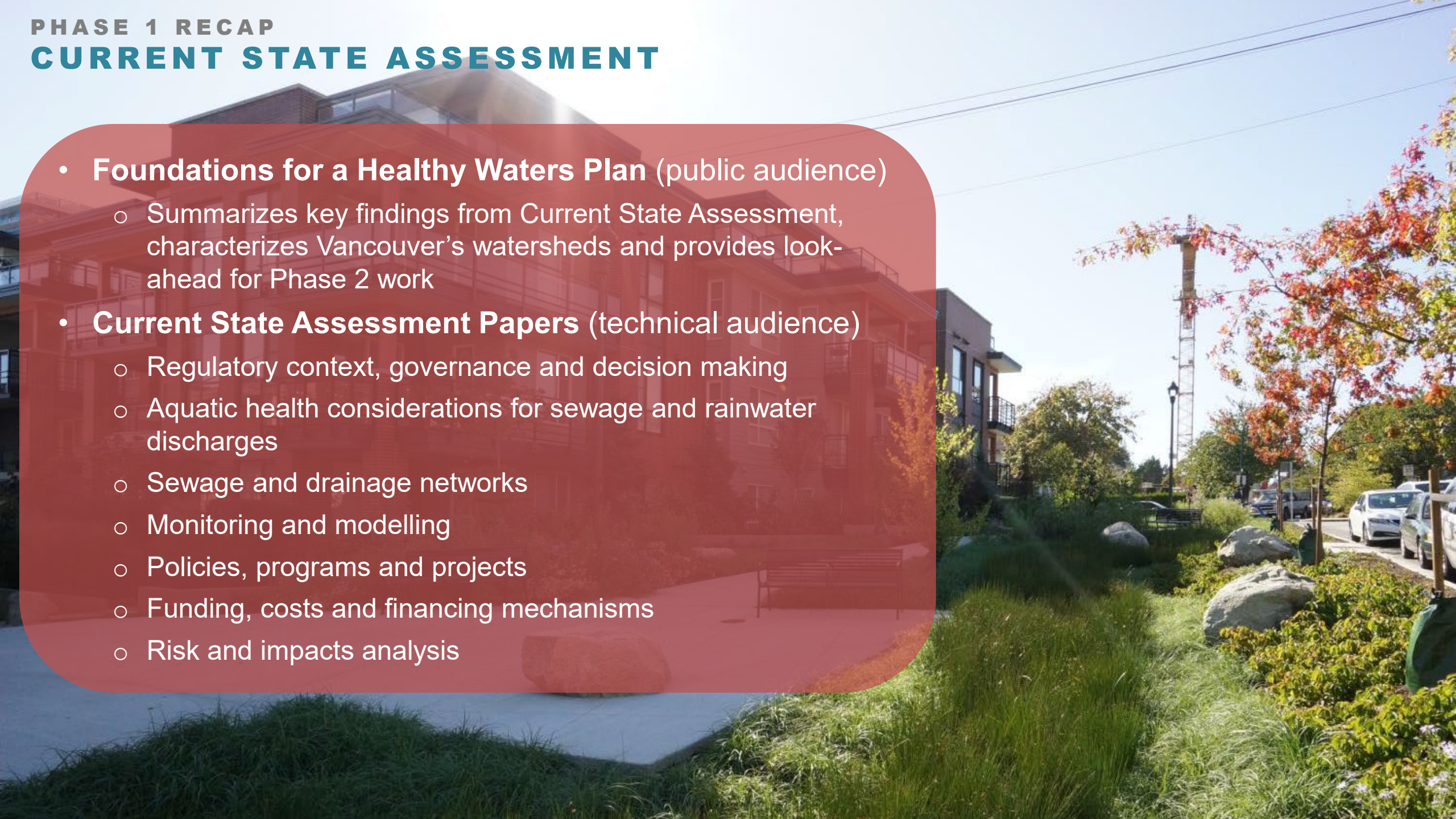
Expert Advisory Panel

Independent expert advice to guide plan development

- CSO and wet weather city expertise
- Coastal planning and adaptation
- Environmental justice & stewardship
- Traditional Indigenous ecological knowledge

PHASE 1 RECAP

CURRENT STATE ASSESSMENT



- **Foundations for a Healthy Waters Plan** (public audience)
  - Summarizes key findings from Current State Assessment, characterizes Vancouver's watersheds and provides look-ahead for Phase 2 work
- **Current State Assessment Papers** (technical audience)
  - Regulatory context, governance and decision making
  - Aquatic health considerations for sewage and rainwater discharges
  - Sewage and drainage networks
  - Monitoring and modelling
  - Policies, programs and projects
  - Funding, costs and financing mechanisms
  - Risk and impacts analysis

PHASE 1 RECAP

STRATEGIC FRAMEWORK

Principles necessary to guide all phases of Healthy Waters Plan development and implementation

- Equity, Reconciliation and Resilience are foundational to the Vancouver Plan
- Collaboration added, given critical need for various levels of government to work together to achieve outcomes
- Stewardship by non-government partners and the public is also essential to protect and restore aquatic ecosystem health

PHASE 1 RECAP

STRATEGIC FRAMEWORK

Goal Area	Objectives
1. Healthy Waterways	1. Work towards elimination of pollution of waterways due to combined sewer overflows 2. Work towards elimination of pollution of waterways due to sanitary sewer overflows 3. Reduce the pollution of waterways due to urban runoff 4. Minimize rainwater and groundwater conveyed to Metro Vancouver Wastewater Treatment Plants 5. Reduce improper discharges into the sewage & drainage system
2. Healthy and Liveable Watersheds	1. Increase the retention and infiltration of rainwater into the ground 2. Increase the amount of naturalized areas within the rainwater management system 3. Reduce the impact of drought on street trees and other natural assets 4. Increase the connectivity of naturalized areas and green rainwater infrastructure
3. Adapt to Risk and Uncertainty	1. Minimize sewer back-up risk to people, critical infrastructure, and property 2. Minimize overland flooding risk to people, critical infrastructure, and property 3. Minimize flooding risk due to sea level rise, storm surges and king tides disrupting drainage services 4. Minimize seismic risk to sewage and drainage services 5. Minimize system capacity risk due to growth, development and climate change
4. Affordable and Optimal Service Delivery	1. Minimize the cost of public infrastructure to taxpayers and ratepayers 2. Minimize the cost of private infrastructure to property owners and development 3. Maximize the equity of cost distribution 4. Maximize the adaptability of investments to manage future uncertainties

PHASE 1 RECAP

PRIORITY ACTION PLAN

Actions underway to achieve positive water quality outcomes:

1. Capital programs including sewer renewal, targeted CSO elimination and distributed green infrastructure projects
2. Improved monitoring of CSOs and development of modeling tools
3. Integrated approach to watershed planning
4. Targeted interventions to address water quality issues (e.g. False Creek, Still Creek)

Report Recommendations

For Standing Committee on City Finance and Services – February 1, 2023

A. THAT Council approve the Strategic Framework of Guiding Principles, Goal Areas and Objectives, as outlined in this report, to guide development of the Healthy Waters Plan.

B. That Council direct staff to report back in 2024, with a progress update on the outcomes of Phase 2 work and key directions for Council to inform long-range investments, policy and other actions in sewage and rainwater management in the coming years.


THANK
YOU