North Shore Sea Level Rise Risk Assessment and Adaptive Management Strategy:
Initial Engagement Launch

January 20, 2020
Regular Council Meeting
Policy Context

- Climate change objectives & policies

Adaptation

- Climate Change Adaptation Strategy

Mitigation

- Community Energy and Emissions Plan

Sea Level Rise

Official Community Plan

Climate Change Adaptation Strategy

2050 Community Energy & Emissions Plan
Existing Policies and Plans Considering Sea Level Rise

• Creek Hazard Development Permit Area
• Engineering studies on creek hydrology, floodplain mapping and bridge hydraulic assessments
• Town and Village Centre Implementation Plans
• Capital renewal plans
Regional Coastal Impacts

Jan 2019 Deep Cove, king tide

Dec 2018 White Rock Pier damage

Feb 2019 Horseshoe Bay
High winds/waves

Dec 2012 coastal storm
West Van seawall, Stanley Park seawall

Photos (L-R): NS News, CBC News, Vancouver Sun
Sea Level Rise

Causes of sea level rise

- Melting glaciers and polar ice caps
- Changes in ocean circulation
- Warming oceans cause waters to expand
- Land raising or sinking

Measured rise (20th Century):
- Global average: 0.17m (7”)
- Vancouver: 0.04m (1.5”)
- Varies due to local conditions
Anticipated Sea Level Rise

(MOE/Ausenco Sandwell, 2011)
North Shore Sea Level Rise Strategy Process

**Technical Analysis**
SUMMER 2018 - SPRING 2019
- Review context
- Identify coastal flood hazards
- Assess vulnerability and risk

**Adaptation Actions Development**
SUMMER 2019 - WINTER 2020
- Explore adaptation approaches
- Develop adaptation concepts and action areas

**Final Strategy**
WINTER 2020 - SPRING 2020
- Refine adaptation concepts and action areas
- Finalize strategy

**JANUARY 21, 2020**
DNV.org/SeaLevelRise

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**We are here**

- Initial public & stakeholder engagement
- Potential adaptation approaches
1m & 2m Sea Level Rise Scenarios

Without adaptation measures

Sea level rise planning area
- 1m flood extent with sea level rise during extreme storm
- 2m flood extent with sea level rise during extreme storm

TWN outside study area
Consequences

Without adaptation measures

During major storm, whole study area
1m
1,300+ residents could experience flooding
450+ businesses could experience flooding or power outage
~$900 million in building damage

During extreme storm, whole study area
2m
2,700+ residents could experience flooding
~1,900 businesses could experience flooding or power outage
~$2.7 billion in building damage
Adaptation Approaches

Likely a combination of approaches

Resist

Accommodate

Avoid

Advance

North Shore Sea Level Rise Strategy
Next Steps

Starting January 21st: Initial public and stakeholder engagement

[DNV.org/SeaLevelRise](DNV.org/SeaLevelRise)

- Video
- Online survey
- Letters
- DNV community workshops

Spring 2020:
- Draft strategy: develop, engagement, present to Council
Thank you