

DATE OF MEETING JULY 15, 2020
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SUBJECT CLIMATE CHANGE RESILIENCE STRATEGY

OVERVIEW

Purpose of Report:

To present an overview of the City Climate Change Resilience Strategy for information purposes.

Recommendation

That the Environment Committee receive the report and presentation titled, “Climate Change Resilience Strategy”, dated 2020-JUL-15, for information purposes.

BACKGROUND

Climate resiliency refers to the ability of a socio-ecological system to not only absorb the shock and stress caused by climate change but to maintain its function and adapt and renew itself into a system better prepared for future climate impacts.

In order to effectively address climate change in Nanaimo, the City will need to do more than lower greenhouse gas emissions. It will need to be prepared for the expected changes to our climate. Recognizing this need, staff began work on developing a climate resiliency strategy in late 2017. On June 22, 2020, Council adopted the Climate Change Resilience Strategy.

The objective of the Resilience Strategy is to identify all climate change related vulnerabilities within the City of Nanaimo using the best available data and develop recommendations for the City to address or avoid any climate related risks identified.

DISCUSSION

The Climate Change Resilience Strategy has identified a number of climate change related impacts anticipated for Nanaimo based on provincial modeling. Some of the key expected impacts are:

- Water supply strain from hotter drier weather.
- Property damage from short high-intensity rain and wind events.
- Potential changes in species range for wildlife.
- Heat-related illness exacerbated by aging population and rising homelessness.
- Landslides triggered by saturated soils, leading to damage to infrastructure and homes.

Risk and vulnerability assessments were completed with input from City staff and community stakeholders. From these assessments, a list of prioritized themes (focus areas), objectives, actions and recommendations were developed. They include the following:

1. **Water Supply:** Actions to prepare for a more limited water supply and improve the resilience of existing water infrastructure.
Priority Actions:
 - a. Update the *Water Supply Strategic Plan* to account for climate change, population growth and identify additional sources of drinking water.
 - b. Update the *Emergency Response Plan* for the water treatment plant and water supply infrastructure.

2. **Flooding and Drainage:** Actions to minimize urban and overland flooding resulting from heavy rainfall and to prepare for the impacts of rising sea levels (i.e. shoreline erosions and coastal flooding risk).
Priority Actions:
 - a. Identify, enhance and re-establish overland flow paths, drainage basins and protected right-of-ways on private property.
 - b. Prioritize and accelerate storm water catchment master planning for local water basins.
 - c. Explore the potential for a storm water utility rate to generate revenue as a sustainable funding source to mitigate impacts from climate change.
 - d. Review policies and standards in the *Building and Zoning Bylaws* with consideration of the coastal flood construction levels and other recommendations of the *Sea Level Rise Study*.

3. **Environment, Parks and Recreation:** Action to support Nanaimo's urban forest and natural areas under a changing climate and to help improve the resilience of watercourse and marine ecosystems.
Priority Actions:
 - a. Review and update City planting standards (for both City-led and private developments) to prioritize the use of climate resistant tree species.
 - b. Reduce safety and assess issues by improving tree resilience to storm and wind events along main transportation routes.
 - c. Inventory natural assets that are key to the City and incorporate these into the City asset management program to protect and maintain their function.

4. **Well-being and Preparedness:** Actions to help Nanaimo prepare and respond to climate related events and limit health issues.
Priority Actions:
 - a. Develop an *Extreme Heat Response Strategy* that includes information on cooling spaces that can serve community members during severe heat waves.
 - b. Work with Island Health and other stakeholders to deliver coordinated information on what the public can do during heat waves and poor air quality events.
 - c. Review and update the *North Slope Geotechnical Study* to incorporate climate change impacts and projections and expand these lessons to other steep slope coastal areas (i.e. Cilaire, Stephenson Point).

5. **Land Use and Buildings:** Actions to enhance resilience for new and existing buildings, which would include, public facilities and homes, along with regulations to help limit risk.

Priority Actions:

- a. Develop a coastal development permit area with guidelines for new construction, major renovations and infrastructure placement in areas of risk of coastal flooding.
 - b. Review and update the *North Slope Geotechnical Study* to incorporate climate change impacts and projections and expand these lessons to other steep slope coastal areas (i.e. Cilaire, Stephenson Point).
 - c. Develop a policy to require future climate considerations into new construction projects and rezoning applications (i.e. passive design, future climate modelling).
 - d. Identify forest wildfire risk areas adjacent to residential properties and City infrastructure and establish a wildfire development permit area.
6. **Corporate Governance and Mainstreaming:** Actions to help improve the City's agility to respond and recover from climate related events, along with, guidance on working with neighbouring jurisdictions and common goals.

Priority Actions:

- a. Ensure contingency reserves contain an allowance for recovery from climate related events.
- b. Incorporate climate change resilience into the review and development of asset management plans.
- c. In light of climate projections, review existing servicing agreements between the City, Snuneymuxw First Nation, Regional District of Nanaimo and the District of Lantzville and make appropriate adjustments to ensure consistent service to limit the transfer of risk across jurisdictional boundaries.]

CONCLUSION

The accompanying presentation intends to provide the Committee with an overview of the process and recommended actions in the Strategy in order to help inform the committee and provide some background in preparation for the upcoming Reimagine Nanaimo OCP review process.

SUMMARY POINTS

- Climate resiliency refers to the ability of a socio-ecological system to not only absorb the shock and stress caused by climate change but to maintain its function and adapt and renew itself into a system better prepared for future climate impacts.
- The objective of the Climate Change Resilience Strategy is to identify all climate change related vulnerabilities within the City of Nanaimo using the best available data and develop recommendations for the City to address or avoid any climate related risks identified.

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