



REGIONAL
DISTRICT
OF NANAIMO

Implementation Update on the Regional Strategy for Rainwater Management

RECOMMENDATION

That the Board receive the Implementation Update on the Regional Strategy for Rainwater Management for information.

BACKGROUND

In March 2022, the RDN Board endorsed the [Regional Strategy for Rainwater Management](#) (RSRM) for collaborative implementation with member municipalities, Provincial agencies and community partners. Since that time, staff have been working with partners on implementing the strategy and are presenting an update on activities by way of this report.

Rainwater management is defined as the management of precipitation across the landscape and associated strategies to protect the natural water balance and health of watersheds in terms of:

- Maintaining groundwater recharge
- Mitigating flooding
- Protecting water quality
- Enhancing climate resilience

Rainwater, by its nature, is cross-jurisdictional and there are many organizations and individuals involved in managing rainwater on different scales. Municipalities manage rainwater and drainage within their boundaries through stormwater service areas. Upstream of the municipalities in our region, rainwater management in the rural areas is fragmented across various organizations including the RDN as the land use planning authority and the Ministry of Transportation and Infrastructure as the rural road drainage authority. This means collaboration is essential to ensure a holistic and effective approach to maintaining the natural water balance across the landscape in a changing climate, amidst land use changes and development.

The Highlights of the Strategy

The Regional Strategy for Rainwater Management is a foundational document to guide region-wide efforts in managing precipitation (all rain events, not just storms) across the regional land base. The Strategy outlines a framework for achieving a resilient approach to rainwater management in the region, structured as follows.

Set the Foundation → complete watershed studies, continue watershed monitoring, generate regional climate change projections, and complete a funding assessment.

Develop Performance Targets → use the foundational studies and data to set targets for: release rate, retention volume, recharge volume, and water quality to be applied to development within the region’s watersheds. While watershed-specific targets are being developed, interim regional targets can be implemented as a stopgap.

Implement Technical, Policy and Planning Tools → compile regional design standards and specifications for rainwater infrastructure, as well as develop regional guidance documents and manuals to support a comprehensive technical approach to rainwater management regionally; update policies, bylaws, development permit areas (DPAs), official community plans (OCPs); explore the use of covenants; update the development approvals process to include new requirements such as meeting performance targets; deliver targeted outreach and education programming on rainwater management; include a rainwater management focus in asset management planning including natural assets and parkland co-benefits; explore regional programs on recharge management and rainwater facilities.

Ongoing Implementation to Date

The following is a synopsis of activities related to the RSRM that took place in 2022-2023, listed with the associated Section of the Strategy or the associated Task # presented in the Implementation Recommendations tables in the RSRM.

Performance Targets

Section 5 Complete: Developed Watershed Performance Targets for Rainwater Management in the French Creek Water Region, presented to the Board in April 2023. The targets include baseflow release rate, retention volume, and infiltration area. These are proposed to be interim targets for the region until other watershed-specific targets are developed.

Foundational Studies

T.1 Near Complete: Regional Downscaled Climate Projections are being created for the region by Pacific Climate Impacts Consortium, for adoption in early 2024. These include projections related to temperature and precipitation.

Technical, Policy, Planning Tools

T. 24 Underway: Draft policy language related to improved rainwater management is being developed as part of the Area F OCP Update.

T. 21, T. 22 Underway: Draft Development Permit Area (DPA) Guidelines related to rainwater management and aquifer protection are being created as part of the Area F OCP Update, with the intention that it would roll into a region-wide DPA update in 2024 / 2025. This would be the mechanism by which to implement the interim watershed performance targets.

T. 11 Underway (related to above): A Rainwater Management Plan Checklist is being drafted and reviewed by Qualified Professionals as part of Area F OCP Update / New DPA Guidelines. This would standardize the requirements for Rainwater Management Plans submitted as part of development applications, for the ease of the applicants, professionals, and reviewers.

- T. 28 Ongoing: A Rainwater Strategy Implementation Group (a.k.a. the RDN Rainwater Working Group) has met three times since the RSRM was endorsed by the Board in March 2022. This multi-jurisdictional working group includes staff from member municipalities, RDN departments, the Ministry of Transportation and Infrastructure, community groups, etc., and meets bi-annually (spring and fall). It is a forum to keep communication lines open on projects relevant to rainwater management across the various organizations in the region and guide the implementation of the Strategy at the operational level.

- T. 30 Ongoing: Community monitoring partnerships have continued to collect data on surface water quality, benthic invertebrates, and wetlands, and are expanding into more streamflow data collection in partnership with the Province and BC Conservation Foundation.

- T. 32 Underway: At the RDN Admin Building, a project has been initiated to enhance an existing landscape swale into a rain garden demonstration site. This will serve as an educational asset as well as a green infrastructure asset.

- T. 36 Underway: As part of the Municipal Natural Assets Initiative, the RDN includes rainwater management assets in a high-level inventory, condition assessment, risk analysis, and level of service summary for the region. A separate but related initiative is implementing the Ecological Accounting Protocol for the riparian areas in the French Creek Water Region, similar to what has previously been completed for the Millstone River. This project uses a methodology that applies a land valuation to the natural commons area occupied by the stream corridor, to come up with a financial figure that could apply to funding natural asset management and maintenance.

- T. 31, 38, 39 Planned: Expand existing community education partnerships and outreach materials (i.e. multimedia, print, school-based, public workshops) to focus on resilient rainwater management in the RDN.

Next Steps Looking Ahead

While several activities have been completed and/or are underway, there are further actions recommended in the RSRM that have not yet been initiated. These actions will require more resources to be directed to their implementation in 2024 and beyond. Each year the RDN Rainwater Working Group should evaluate which recommendations to prioritize, and collectively assign resources to. The following are examples of some recommendations for consideration in the short term (2024-2026). Please refer to the RSRM in its entirety to see the full list of implementation recommendations, as for expediency not all are highlighted here.

- Section 4.4 Funding Assessment – complete an assessment of the funding needs and potential avenues for funding the full suite of actions within the RSRM, beyond what can be implemented via the Drinking Water and Watershed Protection (DWWP) operational budget and work plan.

- T. 13,
T. 17-20 Rainwater Management Guide – explore the creation of a document that could serve as a reference for the region, that compiles performance targets, design standards & specifications, Best Management Practices, etc., and would provide a harmonized approach across municipalities and Electoral Areas, if adopted by way of a new Rainwater Management Bylaw or Amendments to the Zoning Bylaws or Subdivision Servicing Bylaw.

- T. 29 Regional Rainwater Facility Feasibility – explore the feasibility of establishing facilities for water storage, infiltration, and flood detention, at various scales across the region, based on where there is hydrological need (i.e. where the performance targets cannot be met without) and also where there is available land or opportunity to engage in operational partnerships for such facilities.
- T. 37 Identify Co-benefits of Parkland Assets for Rainwater Management – related to the above, investigate where existing or potential Parkland could be used for intentional rainwater management (i.e. rainwater detention ponds, naturalized areas for groundwater recharge, allowable flood zones for times of high water etc.). This would require a geospatial assessment based on agreed-upon criteria.
- T.40 Workshops with Development Community on Performance Targets – related to the prospective implementation of new Development Permit Area or Zoning Bylaw requirements that include watershed performance targets for rainwater management, explore the opportunity to host educational workshops to keep the development community informed and involved.

FINANCIAL IMPLICATIONS

Several of the foundational tasks within the RSRM are aligned with the RDN’s Drinking Water and Watershed Protection Action Plan 2.0 and will be funded through the existing approved operating budget and work plan for the DWWP function. Member municipalities have existing operating budgets for stormwater infrastructure and services. Additional funding is required to support broader implementation of the full suite of actions within the RSRM, however. Through discussions with municipal partners, additional or repurposed funding sources via rainwater utility fees, development cost charges, cash-in-lieu, and grants can be investigated to expand financial support for the regional efforts under the RSRM. Once further developed, funding options will be presented to the Board for approval, informed by the Funding Options Assessment that is outlined in Section 4.4. of the RSRM.

STRATEGIC PLAN ALIGNMENT

Water Security - Understand our water resources and their risks, to manage our water resources effectively and sustainably.

Managing Impacts of Climate Change - Advance priority actions that are identified within RDN Board-approved plans and initiatives.

REVIEWED BY:

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