

Organizational Info

Organization Name: City of Vancouver

Presenter: Jimmy Zammar

Organization URL: <https://vancouver.ca/home-property-development/one-water.aspx>

Challenge Synopsis: Within the City of Vancouver, rain events increasingly overwhelm our sewer and storm pipe system, which lead to overflows of polluted urban rainwater runoff and untreated sewage into our oceans and waterways. We are therefore looking for practices, solutions, and technologies to help us retain and manage rainwater closer to where it falls, with a strong focus on modular and scalable solutions around buildings, sites, and in public spaces. We are also looking for innovative solutions to better understand and predict flows within the City's sewer and storm pipe system through monitoring, data analysis, telematics, and real-time reporting and controls.

Challenge Statement & Context: The City of Vancouver harbors a deep connection to its local waters and the environment. However, the resilience of our infrastructure, communities and the future of our natural environment are at risk due to climate change impacts such as extreme storms and floods, depleted water reservoirs, drought, forest fires, and sea level rise, as well as population growth and aging infrastructure.

Vancouver's Rain City Strategy charts a new course for a resilient future with a new approach to water resource planning (One Water) that values all forms of water including drinking water, rainwater, groundwater and waste water. The city is therefore investing in the innovative use of data, monitoring, modelling, smart controls, distributed and emerging technologies and materials to better conserve, harvest, reuse, treat, and manage water at every scale including buildings and sites, roadways and plazas, parks, and across the City's sewer and pipe system and its discharge points such as our oceans and streams.

One key area of focus is rainwater. Rain events increasingly overwhelm our storm and sewer pipe system, and lead to overflows of polluted urban rainwater runoff and untreated sewage into our oceans and waterways. We are therefore looking for practices, solutions, and technologies to help us:

- i) Retain and manage rainwater closer to where it falls with strong focus on modular and scalable solutions:
 - a. On and around homes and buildings through water-managing roofs (e.g. blue-green roofs), harvest and reuse solutions, and smart controls; and
 - b. On streets, in public spaces, and in parks, through permeable pavements, nature-based solutions and green infrastructure, innovative storage solutions, and smart infrastructure.

- ii) Monitor and understand flows in the City's sewer and storm pipe system through monitoring, data analysis, telematics, and real-time reporting and controls including:
 - a. Flow monitoring devices and remote sensing technologies that can scale to effectively help us understand the flow quantities in the City's 2,400+ km pipe system; and

- b. Approaches to data analysis that enable aggregation, interpretation, and potentially prediction of flows, spills, and water quality outcomes and overflows.

We are interested in exploring pilots that can demonstrate innovative and reliable functionality as well as potential for scalability. We are open to diverse partnerships, including product suppliers, solution providers, joint ventures, and research-based endeavours.

Response Criteria:

- Describe your organization and what services, solutions, or products your organization provides to address the problem statement(s);
- Describe the unique value proposition that your services, solutions, or products bring relative to mainstream solutions already available in the market (if any);
- Provide an overview of existing successful implementations, including scale, cost, timeframes, dates, outcomes, operation and maintenance considerations, and references related to the services, solutions, or products you offer to address the problem statement;
- Describe the top three key success factors you have found to be critical to deliver positive and lasting outcomes with your recent clients; and
- Describe the top three root causes for failure or barriers to overcome to achieve positive and lasting outcomes for your clients.

Next Steps:

If interested in responding to this challenge and participating in this session, please contact John McPherson at the Vancouver Economic Commission: JMcPherson@vancouvereconomic.com.