



# DRAINAGE

## AT A GLANCE

Stormwater can pose a large risk to all infrastructure if it is not properly managed. To help protect life and property, the Town owns and operates engineered and natural assets, including:

- 20 km of drainage pipe
- 300 manholes
- 600 catch basins
- Culverts
- Ditches

Natural Assets for stormwater management include:

- 3 ponds (White Tower (2), Parkland)
- 6 km of creeks (Goosebird, Charman and Chaster)

Our Drainage Infrastructure Policy and Integrated Storm Management Plan (ISMP) helps to outline priorities and guide staff decision-making.

**Valuation of Whitetower Park**

In 2017, the David Suzuki Foundation measured the hydrological and ecological functions performed by Gibsons' creeks and woodlands. They determined that the Whitetower Park ponds have a value of \$3.5 to \$4.0 million in terms of the stormwater management services they deliver. Accordingly, the Town's Development Cost Charges (DCC) Bylaw was expanded to include this pond system. Gibsons' DCC Bylaw requires developers to contribute to the improvement of, and in some cases, the rehabilitation of, the Town's natural assets, as well as upgrades to engineered infrastructure.

## COMMUNITY GOALS

- Developers must provide overall drainage plan which:
  1. ensures there is no increase in runoff due to their development
  2. manages and reduces runoff
  3. limits impervious areas
- Consider long-term viability of privately owned stormwater management structures
- Support greening of existing paved surfaces to promote permeability
- Be mindful of downslope effects of infiltration

## RELIABILITY AND RISKS

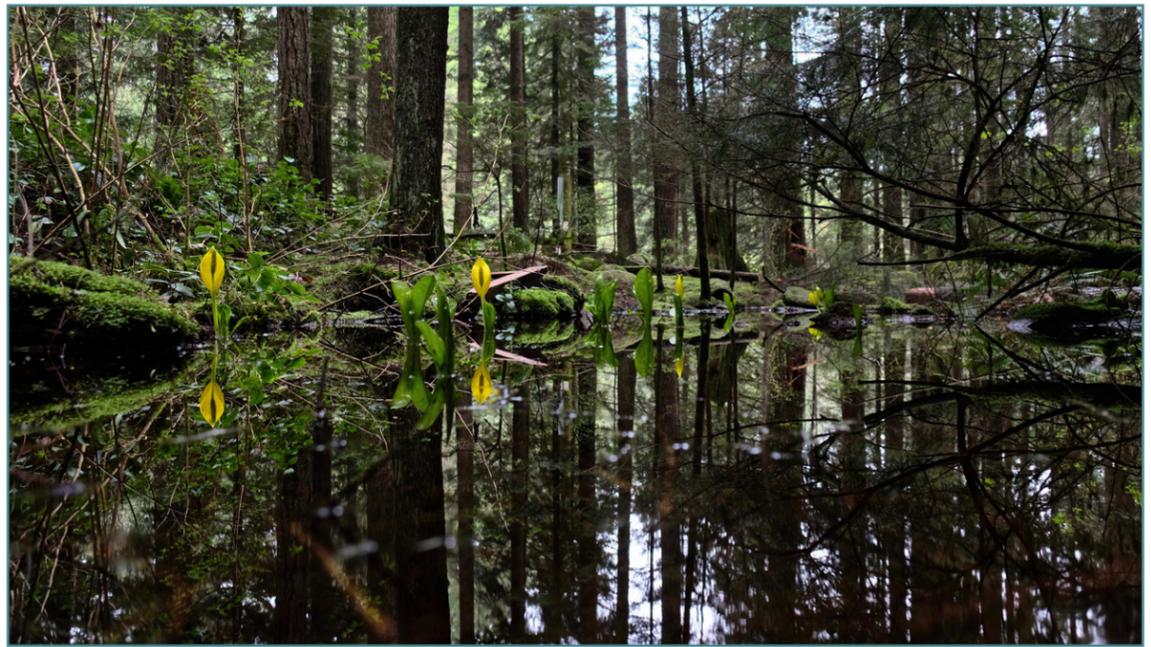
The Town is currently monitoring the engineered stormwater assets through an annual video program to capture data, identify repairs, evaluate risks and make informed replacement decisions.

Reliable service requires:

- Regular monitoring
- Preventative maintenance

Risks of cutting costs are:

- Costly reactive maintenance
- Property damage from blockages



**ASSET MANAGEMENT**

**Operations & Maintenance**  
Annual videoing, flushing and monitoring program; manhole inspections; catch basin cleaning; creek cleaning

**Current & Planned Capital Projects**

**2018**

- Gibsons Way culverts & ditch (North Road to Bals): \$132,000
- ISMP completion: \$181,000
- Annual drainage improvements: \$10,000

**2019**

- Annual drainage improvements: \$45,000
- Whitetower Pond upgrade: \$662,000

**2020**

- Annual drainage improvements: \$47,000
- Charman Creek Naturalization: \$70,000

**2021**

- Annual drainage improvements: \$49,000
- Foreshore Improvements: \$569,000

**2022**

- Annual drainage improvements: \$52,000
- Charman Creek Naturalization: \$430,000

**Integrated Stormwater Management Plan (ISMP)**



In essence, an Integrated Stormwater Management Plan is a document that sets out how to manage rainwater runoff in order to protect people, natural and built assets.

Gibsons' first ISMP was developed in 2010, with a new update just completed. The new document draws heavily on the Town's natural asset management philosophy, and relies on a chain of both natural assets and constructed assets that mimic natural features to address the Town's stormwater needs.

In 2017, the Town successfully applied for and was awarded a \$249,000 grant from the Clean Water and Wastewater Fund, under which the Canadian and BC governments are investing up to \$373.6 million to support infrastructure projects in communities across the province. The grant amount covered about 85% of the \$300,000 in ISMP project costs.

The ISMP Update and Implementation Project comprises seven elements:

- the ISMP update;
- Whitetower pond design;
- Brothers Park stormwater retention design;
- Charman Creek plan;
- improvements to Goosebird Creek within Labonte Park to reduce flooding and improve natural habitat;
- permitting updates; and
- bylaw updates.

Bylaw changes recommended in the updated ISMP will be considered by Council in 2019.