

Groundwater/Stormwater Status 13th Council

Town of Happy Valley-Goose Bay Departmental Management
November 2021

Department of Engineering

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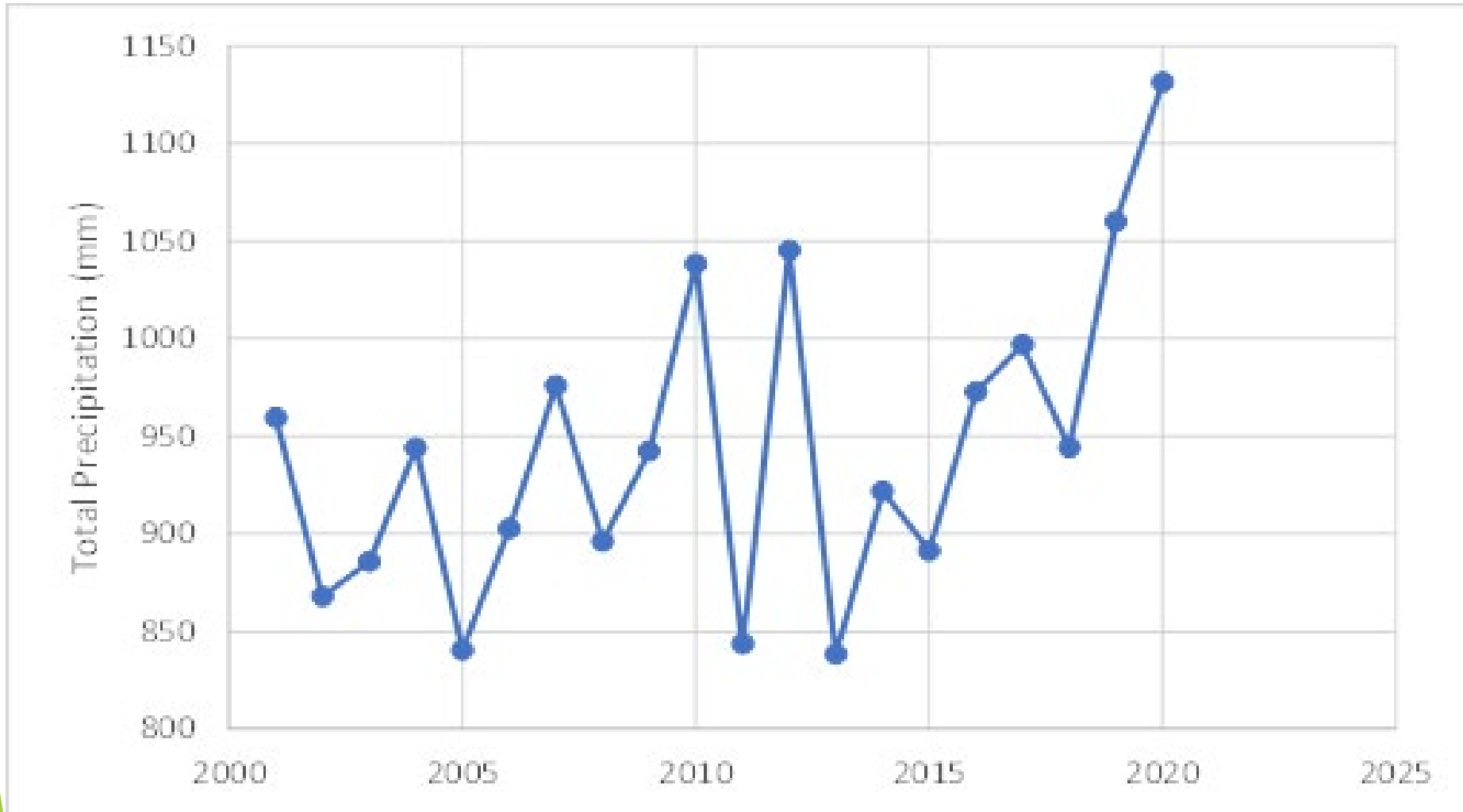
Background

- ▶ In late April and May, complaints were received from two residents in relation to flooded basements. One resident lived on Mitchell St. and the other on Rendell Crescent. Complaints were also received from residents with flooded basements in the Cartwright Road area.
- ▶ There were subsequently other complaints of wet crawl spaces from residents without full basements in the Mitchell/Pottle area.
- ▶ In May, CBCL as authorized to proceed with a desktop hydrogeological investigation in relation to the flooding of basements.
- ▶ Investigation determined that the cause of flooding was groundwater infiltration due to a rising water table.
- ▶ Initial indications from the desktop study are that flooding issues are likely to persist, and that engineered solutions may be cost prohibitive and/or limited by the physical setting of the Town.

Background

- ▶ In May, approval had been requested from the Department of Transportation and Infrastructure to allocate funds under the Town's Multi Year Capital Works Programs.
- ▶ On June 17th, approval was given by TI to proceed with the Canal Upgrades project. Total approved funding was \$275,080.
- ▶ On June 1st, CBCL was authorized to proceed with the design/tender process which was prior to official approval by TI in an effort to expedite the project.
- ▶ In October, a helicopter reconnaissance was performed north of Kelland Drive and along the canal. Nothing unusual was found other than extensive wetlands as evident from aerial photographs.

Total Precipitation



Long-term Accumulation

Long-term Accumulation



Current Status

- ▶ Ditching and shouldering has been completed throughout Town with focus on the Valley area.
- ▶ Catch basin and drainage systems were installed in the Lower Valley area problem areas.
- ▶ Creek cleanup (clearing of brush) in the Lower Valley from Markland road to D's Landing.
- ▶ Culvert and discharge channel cleanup was completed at D's Landing to Churchill River.

Current Status

- ▶ Culverts under Kelland Drive in the vicinity of Voisey Drive and in the same drainage channel under the Bike Trail have been opened and cleaned.
- ▶ Catch basin and culvert cleanup throughout Town has been completed in preparation for winter.
- ▶ Monitoring wells are in the process of being installed by the Town at 4 locations in the Mitchell/Pottle and Voisey Drive areas to monitor groundwater level.

Current Status

- ▶ Canal Upgrades project is under construction. Contract was awarded on 2021-08-17.
- ▶ The contractor has installed a new culvert and lowered the existing culvert at Corte Real Road and has completed some of the deepening and widening on the down stream end.
- ▶ After experiencing some issues with the methodology being used, the contractor has now shifted their focus to the upstream side and has advised that they have over 1.3 km of the deepening done (excluding side slopes and clean-up) and are working towards the culverts on Corte Real Rd.
- ▶ Final completion is expected within a month.

Path Forward

- ▶ A proposal has been received from the Town's consultant, CBCL, to continue with hydrogeological investigation.
 - ▶ Task 1 – Desktop Study has been completed.
 - ▶ Task 2 will allow for establishment of surface and groundwater monitoring stations. The work will consist of the following components:
 - ▶ Field Reconnaissance
 - ▶ Monitoring Well Drilling
 - ▶ Drainage Feasibility Study
 - ▶ Frost Zone Test Pits
 - ▶ Task 2 is presently under review by Council.
- Estimated cost to complete Task 2 is \$133,331.

Path Forward

- ▶ Future Tasks
 - ▶ Task 3 - Numerical Modelling
 - ▶ Task 4 - Pilot Scale testing

Culvert Inlet - Kelland Drive



Culvert Outlet - Kelland Drive



Bike Trail - Culvert Inlet



Bike Trail - Culvert Outlet



Monitoring Well



Thank you!