seecon

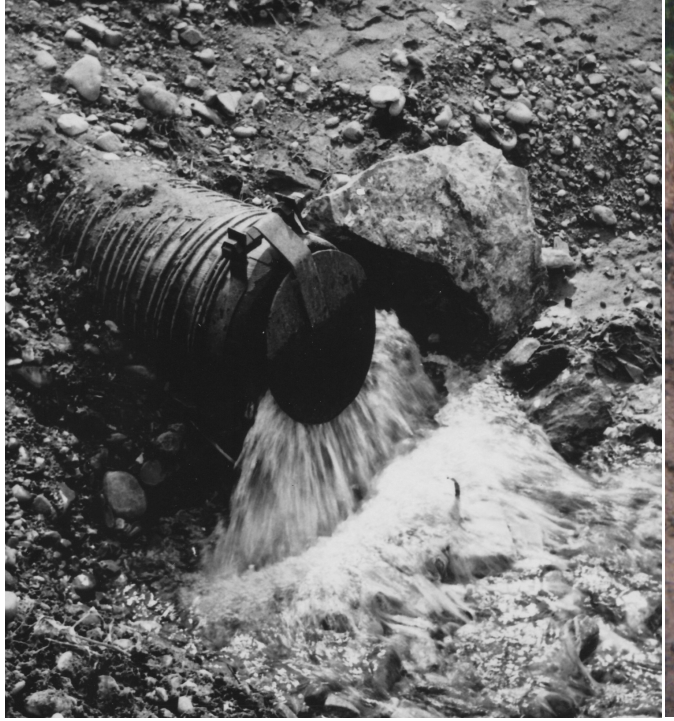
The Cold and the Old

a select history of the places, and projects associated with water and sanitation in Canada's far north

Ken Johnson
Environmental Planner and Engineer
Cold Regions Specialist
Edmonton Alberta Canada
cryofront@gmail.com

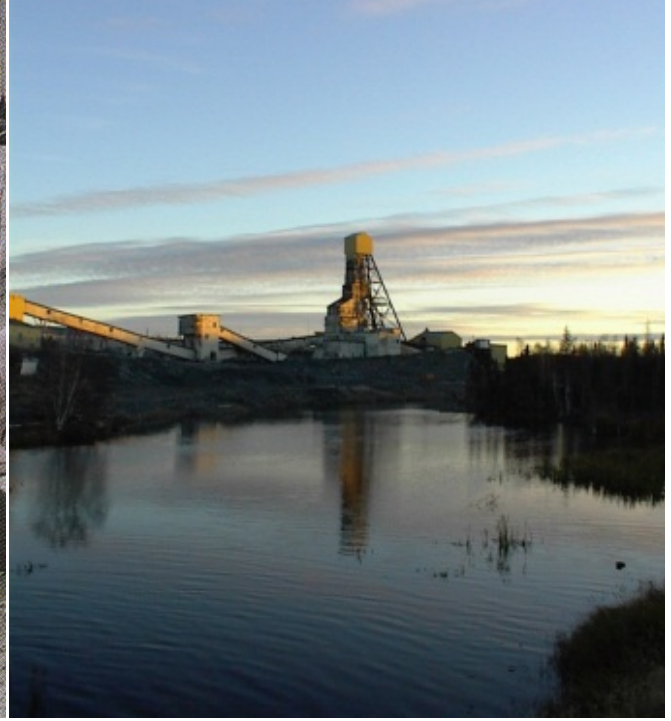
The Places

Dawson City – water and sewer “after the big rush”



The Places

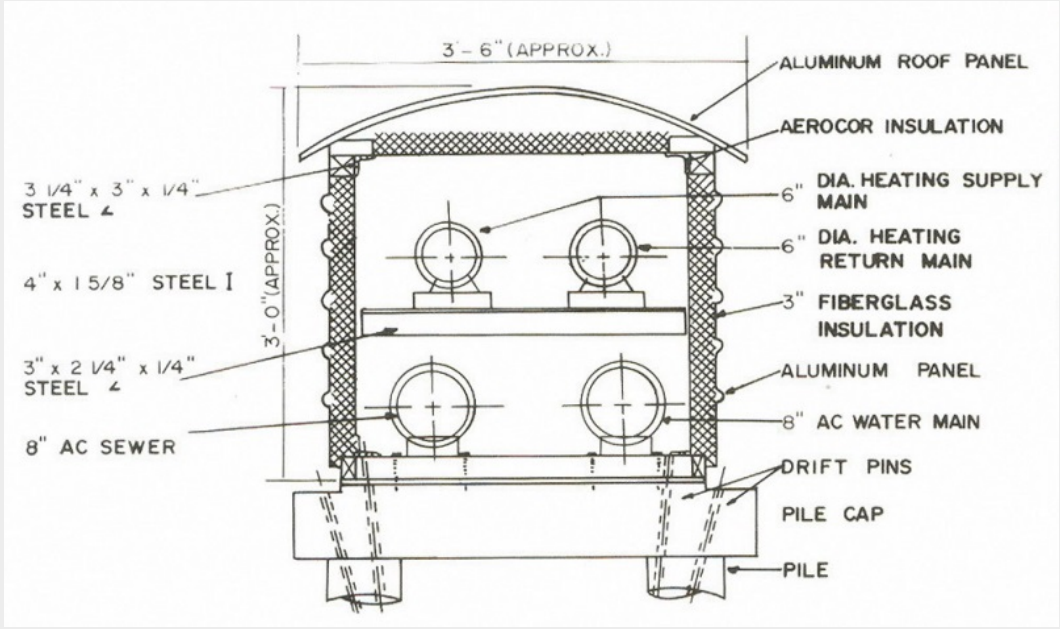
Alert – water and sewer “on the edge”



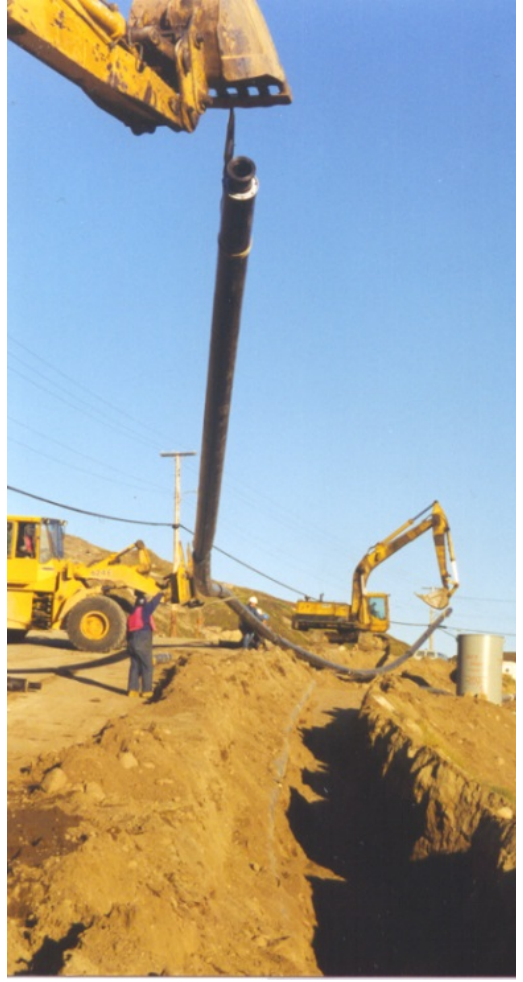
The Places

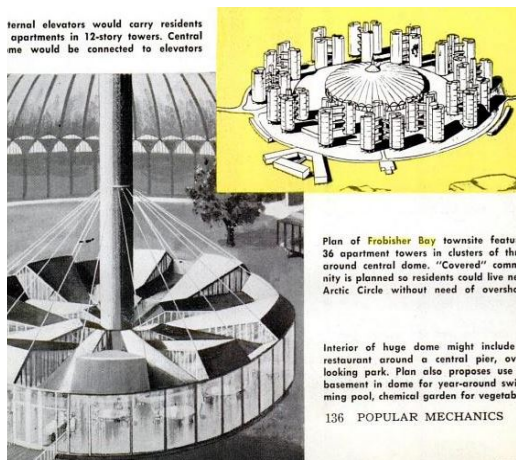
Yellowknife – water and sewer “on the rocks”

The Places


3'-6" (APPROX.)
ALUMINUM ROOF PANEL
AEROCOR INSULATION
3 1/4" x 3" x 1/4" STEEL ∠
6" DIA. HEATING SUPPLY MAIN
6" DIA. HEATING RETURN MAIN
4" x 1 5/8" STEEL I
3'-0" (APPROX.)
3" FIBERGLASS INSULATION
3" x 2 1/4" x 1/4" STEEL ∠
ALUMINUM PANEL
8" AC WATER MAIN
8" AC SEWER
DRIFT PINS
PILE CAP
PILE


INUVIK



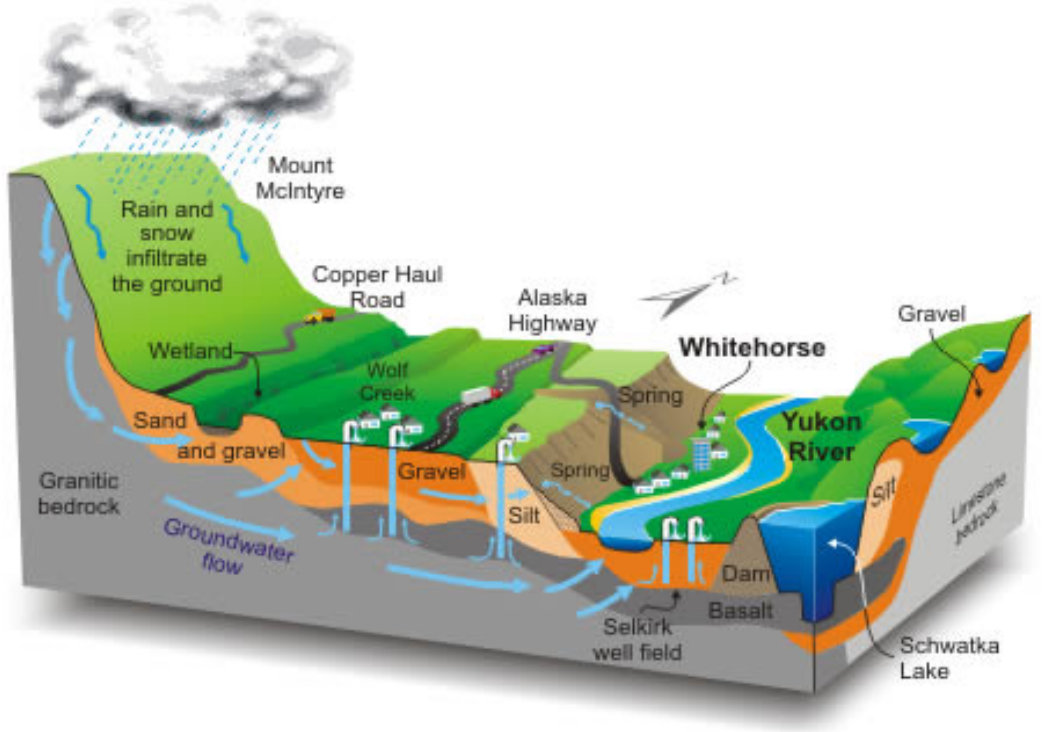


The Places

Iqaluit – water and sewer
“in a military town”

The Places

Whitehorse –
water and sewer
“at the end of the rail”



The Projects

Resolute Water and Sewer

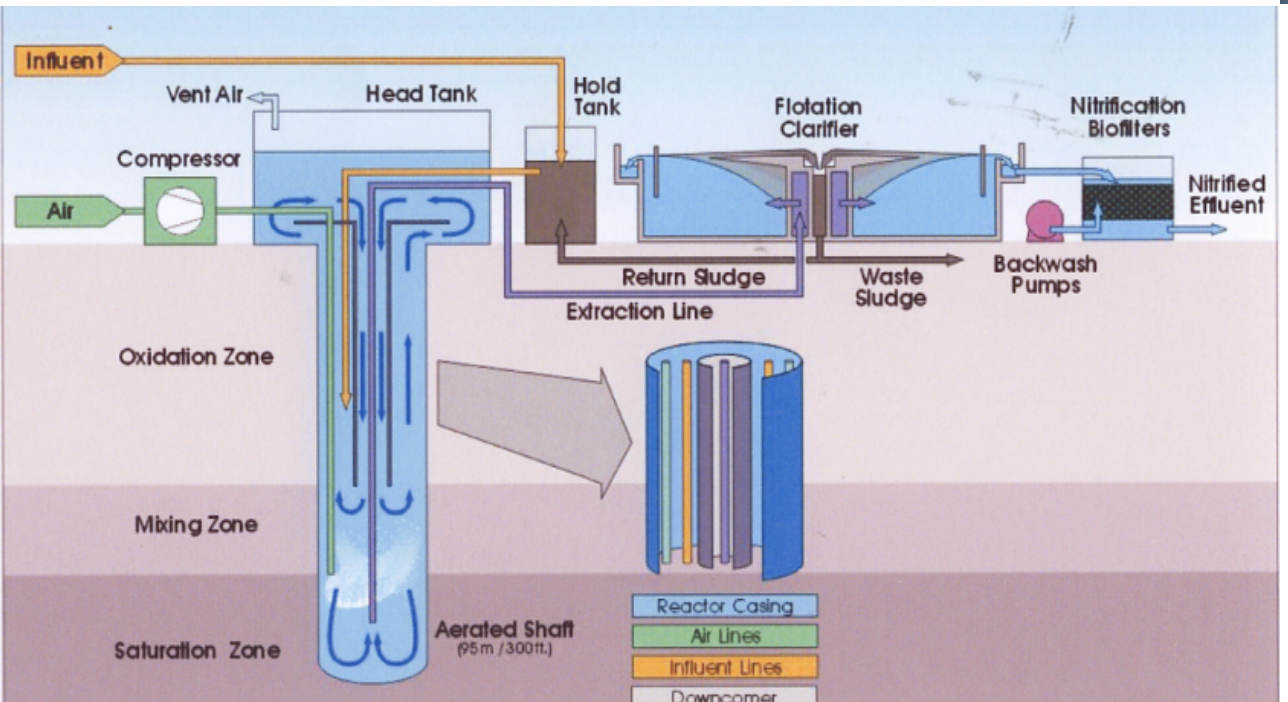
A piped water and sewer system envisioned to service a community of 2500 people was built in 1975,
and has ultimately served a population of only 250.

The Projects

Dawson wastewater facility

Dawson wwtp (without roof)

Drill mud recycling for construction of two 100 deep shafts



Dawson City gets the “deep shaft” with a $25 million wastewater system that continues to be non compliant with its effluent quality.

The Projects

Pangnirtung Reservoir

The reservoir was the a benchmark project for the design and construction of a geomembrane lined water retaining earth structure in permafrost ground conditions.

The Projects

Inuvik Utilidor

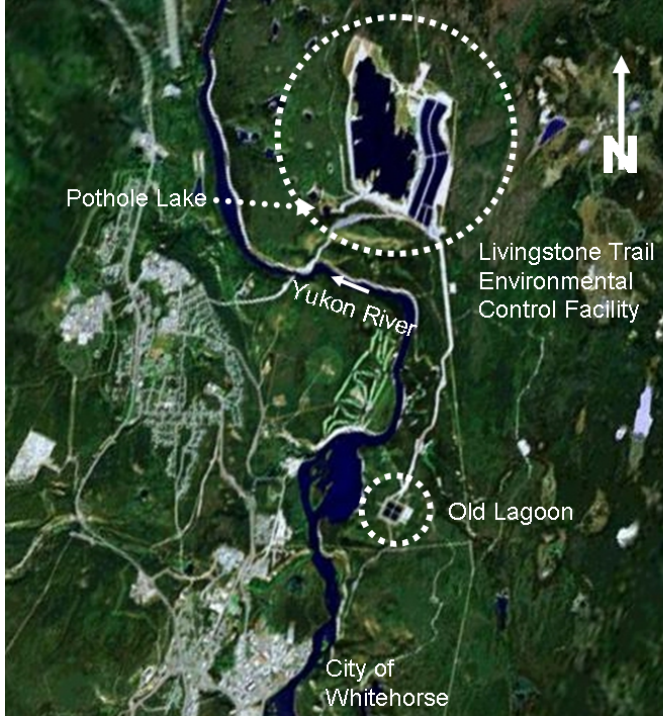
The “utilidor” infrastructure in Inuvik
is slowly being replaced with modern materials
that include metal clad, insulated pipe, and steel pile systems.

The Projects

Yellowknife water treatment facility

Yellowknife has invested $30 million in a membrane water treatment facility, with a provision for future arsenic removal to address the potential legacy arsenic from Yellowknife Bay.

The Projects

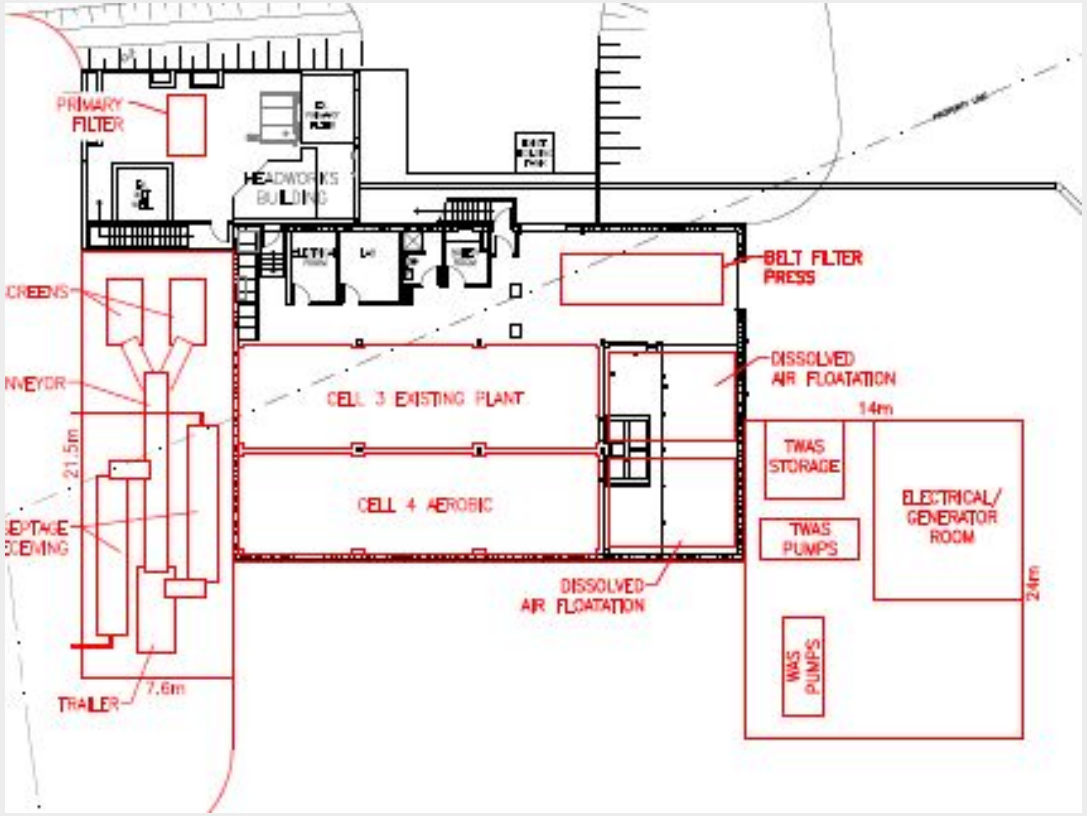


Whitehorse Sewage Lagoon

The lagoon was a $20 million investment in 1994 for sewage treatment, and has demonstrated the high quality treatment capabilities of northern lagoon systems.

The Projects

Iqaluit wastewater treatment facility



Bioreactors to be retrofitted from original MBR bioreactor construction for MBBR process

Construction of phase 1 of rehabilitation work in 2005

A membrane bioreactor process was advanced by a design build contract in 2000, but the work was never completed. A conventional treatment facility was designed, and a phase 1 was completed in 2005. An MBBR design may be completed in 2016, with plans for upgrading by 2020.

Questions?