

Water Resources Engineer

Design the pipes, dams and flood defences that move water safely. A four-year engineering degree, then a licence.

TYPICAL PAY

\$101,000

a year, full time

PAY RANGE

\$67k to \$150k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Good

job outlook

LICENCE NEEDED

Yes

regulated job

WHERE YOU WORK

Consulting firms, conservation authorities, cities, provincial minis...

How you get there

- 1 High school** Grades 11 and 12
 Calculus, Advanced Functions, Physics and Chemistry. Engineering admission usually wants marks in the mid 80s or higher.
- 2 Engineering degree** 4 to 5 years with co-op
 A four-year civil or environmental engineering degree accredited by the Canadian Engineering Accreditation Board. Take every water course you can: hydrology, hydraulics, open channel flow, groundwater.
- 3 Engineer-in-training** About 4 years
 Register with your provincial regulator and work under a licensed engineer. Keep a written record of your experience.
- 4 Professional practice exam** During your training years
 A law and ethics exam set by your regulator.
- 5 Get licensed** About 8 years after high school
 You become a professional engineer, hold a stamp, and take legal responsibility for what you design.

Pros and cons

- + Work that protects real towns from real floods
- + Steady demand from climate change and ageing infrastructure
- + A licence that transfers across Canada and abroad
- Four hard years of school, then four more to the licence
- Consulting runs on billable hours and deadlines
- Projects can take a decade, so you rarely see fast results

Good to know

Canada is water rich, but not where it counts

Canada holds roughly a fifth of the world's fresh water, yet most of it is locked in lakes and ice rather than flowing past the places people live. Managing the flowing part is the job.

Flooding is the costliest disaster in Canada

More Canadian homes are damaged by water than by fire, wind or earthquakes. Insurance payouts for urban flooding have climbed for years, which is why cities keep hiring people to re-map the risk.

Optional boosts

Flood modelling software. A master's degree in water resources. Dam safety. GIS (geographic information system) skills.

Where these numbers come from

Job Bank: Water resources engineer, wages (updated Nov 2025)

Engineers Canada: Overview of the licensing process

alis Alberta: Civil Engineer occupational profile

Environment and Climate Change Canada: Water overview

Numbers checked September 2026. Pay figures are typical full-time annual amounts in Canadian dollars, based on Government of Canada Job Bank wage data and published salary grids. They vary by province, employer and experience. Tuition is for domestic students. Sources, links and the click-through version: <https://career.help/ca/careers/water-resources-engineer>



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