

Environmental Engineers

A guide for newcomers to British Columbia



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1. Working as an Environmental Engineer

Job Description

Environmental engineers help maintain clean and healthy surroundings through the protection of air, soil, and water quality.

Working as an **Environmental Engineer** you perform the following duties:

- Assess the environmental impact of government and private sector projects
- Advise companies on environmental laws or policies that affect their projects
- Create project plans to clean up air, water, soil contamination
- May help design and build landfills or water filtration and sewage treatment
- May be involved in the treatment and storage of toxic materials

Sources:

- WorkBC, Career Profiles at <http://workbc.ca/Careers> [search NOC 2131]
- *Career Cruising* database [profile for Environmental Engineer]
<http://www.vpl.ca/digital-library/career-cruising>
Available from the VPL Digital Library | Explore our Digital Library page

Industry Overview

Environmental engineering is a new type of engineering that is related to civil engineering, chemical engineering, environmental sciences, and other related disciplines. You may be involved in a wide variety of projects and activities.

The environmental engineering sector is one of the most promising areas for employment opportunity growth. Protecting the environment has become a major concern that has generated new activities and job openings.

Job Outlook in BC

In British Columbia, environmental engineers are considered to be a specialization within the field of civil engineering.

Job prospects for Civil Engineers (NOC 2131)



Chart from WorkBC

WorkBC provides job openings in BC regions from 2015-2025:

Region	Expected # of Job Openings	Average Annual Employment Growth	Expected Increase in Employment
Vancouver Island	300	0.6%	55
Lower Mainland / Southwest	2450	1.3%	890
Thompson-Okanagan	340	2.8%	165

You can learn more about working as an environmental engineer from:

- **WorkBC, Career Profiles** at <http://workbc.ca/Careers> [search NOC 2131]
- **ECO Canada, Environmental Engineer Career Profile**
<http://www.eco.ca/career-profiles/environmental-engineer>
- **Career Cruising** database [profile for Environmental Engineer]
<http://www.vpl.ca/digital-library/career-cruising>

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Types of Employers

Environmental engineers work for:

- government agencies
- engineering consulting firms
- companies in resource industries such as forestry, mining, petroleum, and pulp & paper
- environmental companies that deal with problems such as oil spills and toxic chemical leaks
- property management companies

Salary

In BC, the median annual salary for civil engineers (including environmental) is \$75,186. Senior engineers or those in management positions may earn more.

Your salary is affected by your level of education. If you have a bachelor's degree in engineering you tend to earn less than if you have a master's degree or PhD.

In addition to your salary, full-time engineers often receive benefits such as pension plans, dental coverage, sick leave, and paid vacations.

Sources: WorkBC & Career Cruising

Across B.C. regions you can expect to earn:

Location	Wage (\$/hr)		
	Low	Median	High
British Columbia	21.46	36.78	67.00
Kootenay Region	21.46	36.78	67.00
Lower Mainland - Southwest Region	19.23	35.71	66.22
Thompson--Okanagan Region	22.98	33.88	53.39
Vancouver Island and Coast Region	21.46	36.78	67.00

Source: Job Bank, Wage Report http://www.jobbank.gc.ca/wage-outlook_search-eng.do?reportOption=wage

In its *2016 Report on Members' Compensation and Benefits*, Engineers & Geoscientists British Columbia (formerly APEGBC) provides these salary figures:

	Mean	Lower Quartile	Median	Upper Quartile
Engineering Consulting – Environmental	\$92,399	\$65,000	\$75,000	\$115,500
Bachelor's degree – Base salary – Environmental Engineer	\$87,446		\$85,000	

Source : Engineers & Geoscientists British Columbia <https://www.egbc.ca/Careers/Compensation-Survey>

Working Hours

Engineers work between 8 and 10 hours a day, 40 to 50 hours a week.

You may need to work nights and weekends if an important deadline is approaching.

2. Skills, Education and Experience

Skills

- Critical thinking and problem solving
- Oral communication and public speaking
- Planning and organizing
- Team project work
- Project management
- Proposal writing and financial management
- Committee work- industry ethics

Education and Experience

- Bachelor's degree in environmental engineering or related engineering discipline is required
- Master's degree or doctorate in a related engineering discipline **may be** required

Qualifications

This occupation is regulated in British Columbia

This means that if you are working as an engineer you must either:

- be registered as a Professional Engineer in BC

OR

- work under the direct supervision of someone who is registered as a Professional Engineer in BC

Licensing Requirements for Civil Engineers

You must be licensed by **Engineers & Geoscientists British Columbia** (formerly APEGBC) to use the title "Engineer." This allows you to approve engineering drawings and reports and to practise as a professional engineer (P.Eng.).

Registration requires:

- graduation from an accredited educational program
- four years of supervised work experience in engineering
- successfully passing the professional practice examination
- completion of the law and ethics seminar

Internationally trained engineers: if you have completed your P. Eng application process you may qualify as a "Provisional Member" with Engineers & Geoscientists British Columbia. This designation provides member status to internationally trained engineering graduates who have completed the academic, experience, professionalism, character, and residency requirements.

For more information:

- **Engineers & Geoscientists British Columbia - Become a Member**
<https://www.egbc.ca/Become-a-Member>
- **Engineers & Geoscientists British Columbia Online Resource for Internationally Trained Engineers and Geoscientists :**
 - Self assessment tool: <https://www.egbc.ca/News/Articles/APEGBC-Makes-Self-Assessment-Tool-Available-for-In>
 - Job Mentoring Programs:
<https://www.egbc.ca/For-Members/Mentoring-Program>
- **A Roadmap to Engineering in Canada. Engineers Canada**
<http://newcomers.engineerscanada.ca/>

- **International agreements** between professional engineering associations
<http://www.engineerscanada.ca/mobility-international>

- **Introduction to Engineering in BC – Langara College**

These courses are designed to provide you with industry specific skills in order to find employment in an engineering environment. They also help you gain a good understanding of Canadian workplace culture.

<http://www.langara.bc.ca/continuing-studies/programs-and-courses/programs/introduction-to-engineering-in-bc/index.html>

3. Finding Jobs

You'll find job advertisements in local newspapers, trade journals, and electronic sources, as well as through professional associations' publications.

Local Newspapers

You can look at the *Vancouver Sun* & *The Province* at Vancouver Public Library for free. Check the job postings daily, the careers section in the *Vancouver Sun* on Wednesdays and Saturdays and in *The Province* on Sundays.

Job White Pages

- **JOB Freeway.com**

<http://www.vpl.ca/digital-library/jobfreewaycom>

Available from the VPL Digital Library | Explore our Digital Library page

Access at VPL locations only

Online Job Postings

- **Engineering Central Canada**

<http://www.engcen.ca/>

- **Indeed.com**

http://ca.indeed.com/advanced_search

- **Skilled Workers.com**

http://www.skilledworkers.com/search_job/search.php

- **TechJobs.ca**

<http://www.technicaljobs.ca/en>

Professional Associations' Career Resources

- **Association of Consulting Engineering Companies British Columbia (ACEC-BC)**
<http://www.acec-bc.ca/resources/>
- **Engineers & Geoscientists British Columbia Employment Centre**
<https://www.egbc.ca/Careers/Career-Listings>
- **Engineering Institute of Canada**
<http://www.engineeringcareers.ca/>

Identifying the Right Position

When you browse job advertisements, you'll find a wide range of different job titles that are relevant.

For Environmental Engineers, look for these related job titles:

- Environmental Consultant
- Municipal Engineer
- Water and Sewer Engineer
- Irrigation and Drainage Engineer
- Ocean Engineer
- Pollution Control Engineer
- Public Health Engineer
- Systems Treatment Engineer

Creating a List of Potential Employers

You can use directories to produce lists of employers in Vancouver or the Lower Mainland. Contact them directly to find out if they're hiring.

- **BC Environment Industry Association Members Directory**
<http://www.bceia.com/members.html>
- **Association of Consulting Engineering Companies British (ACEC-BC),**
Directory of Member Firms
<http://www.acec-bc.ca/membership/directory-of-members.aspx>
- **Engineers & Geoscientists British Columbia**
<http://www.egbc.ca/Member-Directories>
- **Business in Vancouver. Book of Lists.**
Biggest Engineering Firms in BC
Available at the Central Library 338.9711 B97b and online at
<http://www.biv.com/lists>
- **Canadian Construction Association Membership Directory**
<http://www.cca-acc.com/en/membership/search-corporate-members>
- **Reference Canada**
<http://www.vpl.ca/digital-library/reference-canada>
Click on "Start Search" beside Canadian Businesses, then select the "Advanced Search" button. Select both "Keyword/SIC/NAICS" under Business Type and "City" under Geography. In the top search box enter "**environmental engineering**" and click LOOKUP. Select the appropriate headings. Lower down, select the Province, choose the cities, and click the "View Results" button.

Available from the VPL Digital Library | Explore our Digital Library page

NOTE: You can access this database from a Library computer. If you are using a computer from outside the Library, you will need a Vancouver Public Library card to login to this database. After clicking on the database name, you will be asked to enter your library card number and PIN (usually last four digits of your telephone number).

4. Applying for a Job

In Canada, employers usually expect to receive a resume or curriculum vitae and a cover letter that identifies the position you are applying for and summarizes your relevant experience.

Use the library catalogue, <http://vpl.bibliocommons.com/> to find books on writing resumes and cover letters specific to your industry.

To learn about applying for jobs in Canada, use the following pathfinders which are available in print at the Central Library or online at <http://skilledimmigrants.vpl.ca/>.

- **Writing Resumes and Cover Letters**
Go to <http://skilledimmigrants.vpl.ca>
[Search Writing Resumes and Cover Letters]

- **Getting Canadian Work Experience**
Go to <http://skilledimmigrants.vpl.ca>
[Search Getting Canadian Work Experience]

- **Networking for Employment**
Go to <http://skilledimmigrants.vpl.ca>
[Search Networking for Employment]

- **Learn More About Working in BC and Canada**
Go to <http://skilledimmigrants.vpl.ca>
[Search Learn More About Working in BC and Canada]

5. Getting Help from Industry Sources

Industry Associations

Associations for professional engineers in BC and Canada provide information & assistance. Registration and fees are required for membership.

- **BC Environment Industry Association**
<http://www.bceia.com/>
- **Association of Consulting Engineers Companies of British Columbia**
<http://www.acec-bc.ca/>
- **Engineers & Geoscientists British Columbia**
<https://www.egbc.ca/>
- **Canadian Society for Civil Engineering**
<https://csce.ca/>
- **Engineering Institute of Canada (EIC)**
<http://www.eic-ici.ca/>
- **Engineers Canada, Canadian Council of Professional Engineers (CCPE)**
<http://www.engineerscanada.ca/>
- **Society of Internationally Trained Engineers of British Columbia (SITE)**
<http://www.sitebc.ca/>
- **Society of Punjabi Engineers and Technologists of British Columbia**
<http://www.speatbc.org/>

Industry Journals & Books

Search the Vancouver Public Library catalogue for journals or books related to your profession. Examples at Central Library:

- **Canadian Environmental Resource Guide**
Available at VPL Central Library 363.70025 C21
Canada's most complete listing of environmental associations and organizations, government regulators, product and service companies.

- **Canadian Consulting Engineer /**
Association of Consulting Engineers of Canada, ACEC news
Available at the Central Library, 620.5 C212 and online at:
<http://www.canadianconsultingengineer.com/>

- **Environmental Science and Engineering Magazine**
Available at VPL Central Library 620.805 E61 and online at:
<https://esemag.com/magazine/>

- **Innovation /** Association of Professional Engineers & Geoscientists of BC
Available at the Central Library, 620.5 B86 and online at:
<https://www.egbc.ca/Resources/News-and-Publications/Innovation-Magazine/Innovation-Past-Issues>

Questions? Please ask the Information Staff in the Central Library, Vancouver Public Library or telephone 604-331-3603.

Please note that the information in this guide is also available online through the Skilled Immigrant InfoCentre website at <http://skilledimmigrants.vpl.ca>