# CIVIL ENGINEER

*Civil Engineers are vital members of a mine's engineering department, helping to prepare budgets and monitor project progress. They help design and build new infrastructure and contribute to the efficient and profitable operation of a mine.*

## Job Description

- Estimate detailed quantities of inputs and prices for new works, feasibility studies and formal tenders, and suggest innovative cost-effective construction solutions
- Analyze construction documents and drawings to prepare cost estimates, budgets and programs
- Assist with preparing tendering competitions, evaluating bids, negotiating variations and remedial works
- Prepare construction progress schedules, budgets and cash-flow forecasts
- Write brief reports, attend meetings, exchange information with other professionals, record and store information
- Facilitate the handover of information to the operations team and set up appropriate cost codes and data collection for controlling budgets
- Analyze records of past construction work, the materials and equipment used and the outcomes produced and store in a database for future reference
- Develop a personal network of practitioners who can provide advice when required
- Play a leading role in controlling future construction costs at all stages of the mine life cycle
- May negotiate with contractors, subcontractors and suppliers to reduce costs, improve quality and finalize contracts

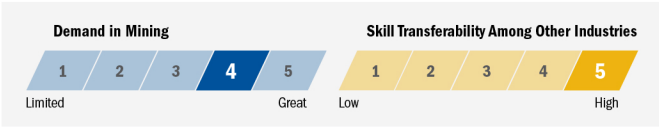
## Compensation

**$99,800** — **$180,000**

**Average $139,400**

(Source: *Canadian Mine Salaries, Wages & Benefits: 2018 Survey Results* InfoMine USA, 2018).

## Job Prospects




## Why are People Attracted to this Career?

Civil Engineers are motivated to advance their careers in construction. They enjoy developing innovative solutions with careful calculation and estimation, and appreciate the opportunity to work as a member of a multidisciplinary team and to use the latest techniques and technology.

## What is it Like to Work as a Civil Engineer in Mining?

***Note:*** *conditions vary according to employer and region.*

Civil Engineers are likely employed by a construction company serving the mining industry, based in an office and do not spend much time at construction sites. They use significant experience in construction or base estimates on analysis of past projects to plan and price new works.

## Success Profile

- ☑ Develops innovative solutions in a high pressure, fast-paced, changing environment
- ☑ Identifies issues and priorities, and solves problems with a positive attitude
- ☑ Visualizes, quantifies and plans a wide variety of construction projects
- ☑ Builds trust and maintains positive relationships with a wide variety of personnel
- ☑ Committed to accuracy, improved production, reduced costs, safety and environmental protection
- ☑ Learns quickly, especially detailed legal, technical and production information.
- ☑ Organized with good time management and communications skills
- ☑ Strongly interested in technology, information technology and data
- ☑ Strong numerical, math, computer and planning skills
- ☑ Thorough understanding of, and compliance with, legislation and regulations concerning safety, employment and environmental protection

## Job Entry Requirements

***Note:*** *The requirements listed below illustrate what it takes to start the career and do not take into account on-the-job training given to new employees.*

***Fixed Requirements***

- High school diploma or equivalent
- Post-secondary diploma in civil or construction engineering technology (or mechanical or electrical engineering, or architectural technology) or experience as a qualified tradesperson in a construction trade (e.g. plumbing, carpentry, electrical)
- Proficiency with word processing, spreadsheet, email and presentation software
- Proficiency with scheduling software
- Use of computer-based databases and estimation programs using engineering, construction and mining software
- Must be able to pass a medical test
- Must be able to pass a drug test
- Willingness to work in a diverse environment
- Proficiency in language of operation

***Regional Requirement***

- Five to ten years of experience in construction

***May be Required***

- Professional Certification as a technician, technologist or engineer

***Assets***

- Willingness to relocate
- Other languages