



## **Consulting Engineers of Alberta**

---

### **Best Practice for Procurement of Consulting Engineering Services**

#### **A Quick Summary**

October 2022

## Table of Contents

1.0 Why Procurement Is Important .....	1
2.0 The Recommended Best Practice .....	1
3.0 How the Best Practice works .....	1
3.1 What is Qualifications Based Selection (QBS)? .....	1
3.2 Selecting the right team for the right project at the right price .....	2
4.0 Benefit to Albertans .....	2
4.1 Better value to taxpayers .....	2
4.2 Significant life-cycle savings .....	2
4.3 A transparent and competitive process .....	3
4.4 What's wrong with the lowest price? .....	3
5.0 Who Supports QBS? .....	3
6.0 Contact Information .....	4

## 1.0 Why Procurement Is Important

Supporting Canada's infrastructure represents a significant investment of tax dollars. Upfront procurement decisions have a significant impact on not only the cost and quality of the design and construction phase, but on operations and maintenance of infrastructure assets over their entire design life.

As most public sector entities now outsource the majority of their engineering functions for planning studies and design services, appropriate selection of the consulting firms who do this work has a large effect on costs going forward. Consulting engineers in Alberta are strongly driven to bring value to the clients they work for and the projects that work on. Over the years we have observed that selection of consultants on the basis of price erodes the level of service that consultants can bring to the table, often to the detriment of the project through its design life.

In order to ensure the best possible value to taxpayers, eligibility for infrastructure funding should be conditional upon use of best practices, including the best practices for procurement.

## 2.0 The Recommended Best Practice

The currently recognized best practice for procurement of engineering services is Qualifications Based Selection process (QBS). One model of QBS was developed by the public sector and the Canadian Federation of Municipalities; namely Selecting a Professional Consultant, the best practice, which was developed in 2006. It was called the National Guide to Sustainable Municipal Infrastructure (InfraGuide). This guide was developed by the public sector for the public sector. Additionally in 2022, the Association of Professional Engineers and Geoscientists of Alberta (APEGA) published their Professional Practice Guideline entitled "Selecting Engineering and Geoscience Consultants" which provides best practice recommendations on procurement of the noted professionals.

## 3.0 How the Best Practice works

### 3.1 What is Qualifications Based Selection (QBS)?

QBS is a procurement process whereby the first considerations of the procuring agency are the qualifications of the potential consulting engineering firm chosen for the project.

Step 1 involves issuing an RFQ (request for qualifications). Firms interested in the project review the broad project parameters and submit their statement of qualifications.

Step 2 involves the project owner's evaluation of the qualifications of the responding firms and creation of a short list of three firms. The project owner may choose to interview the top three firms as part of the selection process. From the three firms one is chosen based on their experience and qualifications.

Step 3 involves creating a working partnership with the chosen firm to determine the appropriate scope of work, owner priorities, innovation options, life-cycle costs and other factors that may determine the design and completion of a successful project. Once scope discussions are completed the chosen firm and the project owner negotiate a fair price for the work. If a suitable price arrangement cannot be achieved, similar negotiations would be undertaken with the second place firm on the list.

### 3.2 Selecting the right team for the right project at the right price

The *Best Practice* by InfraGuide and APEGA recommend a competitive Qualifications Based Selection (QBS) model. QBS encourages the selection of the most qualified team to work with the project owner to jointly develop the required scope of services and the appropriate schedule and fees. QBS is similar to hiring people – identifying the candidate who will provide the most value to the organization and help the organization achieve its objectives, and then negotiate terms of employment. If the owner and the preferred team cannot come to terms on scope and fees (e.g. project budget), the client is free to proceed to the next-preferred firm/team.

## 4.0 Benefit to Albertans

### 4.1 Better value to taxpayers

QBS encourages innovation and provides better value to Alberta taxpayers on their infrastructure investments because both the selected engineering firm and the project owner sit down to discuss scope and options for the project. It also provides accountability by ensuring that fees will directly correspond to the level of service and the value of deliverables to be provided. QBS also results in more realistic and predictable budgets and schedules for capital expenditures.

### 4.2 Significant life-cycle savings

QBS maximizes the value of the engineer's contribution to a project while reducing the project's life cycle costs. Design engineering typically accounts for only about 2% of the life cycle cost of infrastructure, but dramatically impacts the cost and quality of the remaining 98%.

A 2021 University of Alberta study found that the average construction costs (compared to budgets) to be 11% higher when the engineering is procured based on price compared to QBS. Similarly, a recent American Public Works Association study shows that using QBS for engineering reduces construction cost overruns from an average of 10% to less than 3% - equivalent to a savings of up to \$700K on a \$10M capital project. (These savings are often greater than the original design fees!)

QBS emphasizes quality, fosters innovation, alignment with the owner's priorities and generates real savings in construction, operations and maintenance, saving taxpayer dollars while optimizing public safety and welfare.

### 4.3 A transparent and competitive process

QBS is a competitive process – the cost of engineering services is a factor in the procurement, but it is finalized after the most suitable firm for the project has been selected and a scope has been agreed. QBS is compliant with both current interprovincial and federal trade agreements.

### 4.4 What's wrong with the lowest price?

If public infrastructure development is based on the lowest possible fee, there are potential long-term consequences to both the economy (higher costs to the taxpayer) and public safety. Selecting the lowest fee creates pressure on consultants to expend the least amount of resources necessary to meet the bare minimum requirements of the project – losing an opportunity to optimize the design, reduce lifecycle costs and enhance safety. Often projects that are awarded based upon the lowest price result in high cost-overruns because the price is set for the bare minimum engineering scope of work. Lowest price selection also discourages innovation and effectively penalizes proponents that anticipate potential complexities or who wish to propose value-added solutions all to reduce life cycle costs. The results of this will be felt in the years to come.

There could also be a tendency for designs to be pushed to the limit of what is safe or acceptable in order to get the most from a limited budget. There also may be increased need for increased supervision to ensure there is no difference between what is designed and what exactly is constructed (something that is often difficult for clients to do). Potentially low-cost may increase life-cycle management costs because of under-design or lower level construction.

## 5.0 Who Supports QBS?

The QBS selection process is supported by the following industry associations:

- Consulting Engineers of Alberta
- Association of Professional Engineers and Geoscientists of Alberta (APEGA)
- Consulting Architects of Alberta
- Alberta Construction Association
- Alberta Roadbuilders and Heavy Construction Association
- Edmonton Chamber of Commerce
- All Consulting Engineering Associations across Canada
- Association of Consulting Engineers of Canada (ACEC)
- Engineers Canada
- Royal Architectural Institute of Canada
- International Federation of Consulting Engineers (FIDIC)
- American Public Works Association

## 6.0 Contact Information

For more information, please contact:  
Consulting Engineers of Alberta  
T: 780.421.1852  
[www.cea.ca](http://www.cea.ca)