Professional Practice Guideline

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Selecting Engineering and Geoscience Consultants

APEGA
The Association of Professional Engineers and Geoscientists of Alberta

DOCUMENT HISTORY

Date	Version	Revision Description
2006	**1.0**	Initial issue for membership use
March 2013	**1.1**	Administrative revision with the changes to the name of the association and the governing legislation
April 2022	**2.0**	Substantive revision for added clarity, including case studies

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Preface

An APEGA professional practice guideline describes the level of performance expected of *licensed professionals*. Part 8 of the *General Regulation* under Section 58 allows APEGA to publish guides that define the expectations of APEGA *permit holders* and *licensed professionals*.

The differences between a professional practice standard, a practice guideline, and a practice bulletin are as follows.

- An APEGA professional practice standard sets the minimum standard of practice *permit holders* and *licensed professionals* must meet. It is the standard against which a *permit holder*'s or *licensed professional*'s practice and conduct will be assessed by APEGA's statutory boards.
- A professional practice guideline provides professional practice advice and best practice recommendations to help *permit holders* and *licensed professionals* meet their professional obligations. APEGA statutory boards may assess a *permit holder*'s or *licensed professional*'s practice and conduct against practice guidelines.
- A professional practice bulletin provides clarity and guidance on a specific subject related to professional practice. Bulletins remain in force until a practice standard or guideline on the subject is developed, or until the practice bulletin is repealed.

Practice standards, guidelines, and bulletins should be read in conjunction with the *Engineering and Geoscience Professions Act* and *General Regulation*, APEGA's bylaws, and any other applicable legislation, codes, or standards.

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1.0 Overview

Sections 57 and 58 of the *General Regulation* specify that APEGA may publish guides to help *clients* select qualified *consultants* and to define for *clients* the scope of *professional services* to be expected from the *consultants*. For the public to have confidence in the quality of the services provided, it is important for APEGA as regulator of the practices of engineering and geoscience in Alberta to recommend to its *licensed professionals* and *permit holders* the best practices for selecting *consultants* for *professional services*.

The acquisition of most commodities in industry uses a tendering process to identify the vendor with the lowest price for the commodity. Consulting services are not commodities, and their procurement may not be effectively obtained using this approach. *Bidding* and using price as the primary selection criterion for selecting engineering or geoscience *consultants* may undermine the qualifications and expertise necessary to complete a *project*. This may lead to unacceptable risk and may negatively impact the quality of work.

This guideline describes a process for selecting *consultants* to provide professional engineering or geoscience services that meet best-practice principles. The process can be adapted to any type or scope of assignment but must not violate the Code of Ethics. The process is based on the following three key principles:

- protecting the public interest
- selecting *consultants* based on qualifications, competence, and value for the *client*
- creating a relationship that encourages mutual trust between the *client* and the *consultant*

Research has shown that *consultant* selection based on qualifications, commonly known as *qualifications-based selection (QBS)*, meets the above principles and offers significant advantages over competitive *bidding* (ACECC 2006; ACEC 2000; ACEC, n.d.; CEA 2015; CEA 2016; EC, n.d.; FCM, n.d.; PTAB 2013). *QBS* ensures the most qualified firm is selected for each *project* and has the best potential to reduce long-term *project* costs (ACECC 2006; ACEC 2000; ACEC, n.d.; CEA 2015; FCM, n.d.; PTAB 2013). Using *QBS* is considered best practice for selecting *consultants* by many professional associations in Canada and jurisdictions around the world. This document details the *QBS* process.

1.1 PURPOSE AND SCOPE

This guideline outlines the *QBS* process for evaluating and selecting engineering or geoscience *consultants*.

The guideline is not meant to replace or undermine the requirements in APEGA's practice standard *Relying on the Work of Others and Outsourcing*. *Licensed professionals* must meet the requirements outlined in APEGA's practice standards and bulletins when selecting a *consultant* to provide *professional services*.

Consulting fees for *professional services* is out of scope for this guideline. Similarly, descriptions of other *consultant* selection methods or a comparison of them are also out of the scope of this guideline.

1.2 REFERENCES

The following publications support this guideline. Refer to the latest versions available at apega.ca/practice-standards.

- The *Engineering and Geoscience Professions Act*, the *General Regulation*, and APEGA's bylaws
- *Authenticating Professional Work Products*
- *Relying on the Work of Others and Outsourcing*
- *Guideline for Ethical Practice*
- Good Standing Policy

The following external references[1] also support this guideline:

ACEC (American Council of Engineering Companies). 2000. *Qualifications-Based Selection: A Guide Including Model Local Government Policy and Procedures for Selecting Architects, Engineers and Land Surveyors*. http://docs.acec.org/pub/9E675727-0EEE-1DC9-3B51-2A94F3CFDF3B.

ACEC (American Council of Engineering Companies). n.d. Qualifications-Based Selection Resource Center. Accessed Jan. 26, 2022. https://www.acec.org/advocacy/qbs/.

ACECC (Association of Consulting Engineering Companies – Canada). 2006. Decision Making and Investment Planning: Selecting a Professional Consultant. https://www.acec.ca/files/Publications/InfraguideEnglish.pdf.

CEA (Consulting Engineers of Alberta). 2016. *Best Practice for Procurement of Consulting Engineering Services: A Quick Summary*. https://www.cea.ca/files/9111_Report_Quick%20Summary_Best%20Practices%20-%20Feb%20Edit%20-web.pdf.

CEA (Consulting Engineers of Alberta). 2015. *Guidelines for Municipalities: Selecting Your Professional Services Team*. https://www.cea.ca/publicationsresources/guidelines-for-municipalities-selecting-your-professional-services-team.html.

EC (Engineers Canada). n.d. *Qualifications-Based Selection*. Accessed Jan. 26, 2022. https://engineerscanada.ca/sites/default/files/public-policy/positions_qualifications_based_selection.pdf.

FCM (Federation of Canadian Municipalities). n.d. InfraGuide: National Guide to Sustainable Municipal Infrastructure. Accessed Jan. 26, 2022. https://fcm.ca/en/resources/mamp/infraguide-national-guide-sustainable-municipal-infrastructure.

PTAB (Professional Technical Advisory Board). 2013. *Owner's Manual for Qualifications-Based Selection (QBS): A Process for the Selection of Design Professionals by Public Owners*. http://www.ptabnm.org/wp-content/uploads/2013/04/Owners-Manual-for-QBS-01-13.pdf.

[1] These web links were accessed at the time of writing of this document and may change in the future. Please contact the respective organization for a specific document if it is not available via the link in this guideline.

1.3 DEFINITIONS

For the purposes of this guideline, the below terms and definitions apply. These terms are italicized throughout the text.

Authentication

Authenticating a *professional work product* means a *licensed professional* has completed, performed a *thorough review* of, or *directly supervised and controlled* the engineering or geoscience work and accepts professional responsibility for the engineering or geoscience involved. *Authentication* must be performed in accordance with the practice standard *Authenticating Professional Work Products*.

Bidding

Offering a price for consulting services. This price is used as the primary basis for *consultant* selection or differentiation among the bidders without due consideration of other factors, such as relevant experience, quality, public safety, extent of work, and life-cycle-management benefits.

Client

The *person*, owner, or agent of the owner who requires the services of a consulting *licensed professional*.

Consultant

A *permit holder* or *licensed professional* in Alberta who provides *professional services* directly to a *client*.

Contract

An agreement entered between two or more parties, which may give rise to obligations the courts may enforce.

Direct Supervision and Control

The high degree of guidance a *licensed professional* provides to one or more individuals. The *licensed professional* accepts professional responsibility for engineering or geoscience tasks performed under their guidance. *Direct supervision and control* includes directing, monitoring, and controlling the engineering and geoscience work performed, including making all the decisions related to the practices of engineering and geoscience.

Direct supervision and control requirements are detailed in the practice standard *Relying on the Work of Others and Outsourcing*.

Good Standing

Permit holders, *licensed professionals*, and members-in-training are considered in *good standing* with APEGA if they meet the criteria set out in the Good Standing Policy.

Licensed Professional

A professional engineer, professional geoscientist, professional licensee (engineering), professional licensee (geoscience), licensee (engineering), or licensee (geoscience) entitled by the *Engineering and Geoscience Professions Act* to practise engineering or geoscience in Alberta.

Output

See *Professional Services Output*

Permit Holder
A partnership, or other association of persons, or corporation that holds a *Permit to Practice* as defined in Section 48(1)(d) of the *General Regulation* under the *Engineering and Geoscience Professions (EGP) Act*. The Association of Science and Engineering Technology Professionals of Alberta (ASET) permit holders, as defined in Section 86(4) of the *EGP Act,* are not included.

Permit to Practice
An APEGA licence given to *permit holders* to practise engineering or geoscience in Alberta.

Person
An individual, corporation, company, association, firm, partnership, society, or other entity or organization.

Professional Practice Management Plan
A *permit holder*'s written corporate policies, procedures, and systems describing the quality control and assurance measures in place to ensure appropriate standards of professional practice are maintained as described in Section 48(1)(d) of the *General Regulation*.

Professional Services
Services that involve the practice of engineering as defined in Section 1(q) of the *Engineering and Geoscience Professions (EGP) Act* or the practice of geoscience as defined in Section 1(r) of the *EGP Act*. The products of *professional services* are called *outputs*.

Professional Services Output (or Output)
Any product resulting from a *professional service*. *Outputs* can be physical, electronic, or digital and can be delivered through traditional methods, such as by mail, or electronically through computers, tablets, personal digital assistants, cell phones, voicemails, emails, teleconferencing, videoconferencing, or SMS (text). Not all *outputs* require *authentication* and *validation*.

Professional Work Product
An *output* of a *professional service* that requires *authentication* and *validation* as described in the practice standard *Authenticating Professional Work Products*. Defined in the *General Regulation* as "...plans, specifications, reports, or documents of a professional nature," a *professional work product (PWP)* is any *output* of *professional services* with *technical information* relied upon by others, internally or externally, to make a decision or to take action. A *PWP* can be physical (e.g., paper, plastic film), electronic (e.g., electronic document, image), or digital (e.g., software, modelling, simulation, or any other computer application that cannot be reproduced in a physical or electronic format). See the *authentication* test in the practice standard *Authenticating Professional Work Products* when assessing whether an *output* is a *PWP*.

Project
The total consulting work or *professional services* planned.

Qualifications-Based Selection
A competitive process for the procurement of professional consulting services that is based on qualifications.

Responsible Member
A *licensed professional* who is responsible to provide oversight of the practice of engineering or geoscience by the *permit holder* and meets the specification in Part 7, Section 48(1)(c) of the *General Regulation*.

A *Responsible Member* must be qualified by education and experience in the profession of engineering or geoscience in which the partnership corporation or other entity intends to engage, designated in writing by the *permit holder,* and registered with APEGA as a *Responsible Member.*

The *Responsible Member* must have a sufficiently close relationship with the *permit holder* to undertake the roles and responsibilities associated with acting as a *Responsible Member.* The role of *Responsible Member* may not be delegated to other *licensed professionals* who are not *Responsible Members*.
A *Responsible Member* can be:

- a full-time, permanent employee of the *permit holder*
- a member of the *permit holder*
- a *sole practitioner*
- an individual providing *professional services* to the *permit holder* through a contractual arrangement or as a part-time employee

The *permit holder*'s *Responsible Members* direct, supervise, and control all or part of a *permit holder*'s professional practice in accordance with the *permit holder*'s *Professional Practice Management Plan* and all relevant legislation, regulations, and codes.

Sole Practitioner
Within Alberta, an individual who practises as an incorporated entity. A *sole practitioner* must hold a *Permit to Practice.*

Technical Information
An all-encompassing term for any content or data derived from the practice of engineering or geoscience as defined by the *Engineering and Geoscience Professions Act. Technical information* includes advice, analyses, assessments, calculations, designs, evaluations, inputs (e.g., to planning or to modelling and simulation), interpretations, notes, opinions, recommendations, and process descriptions.

Thorough Review
An evaluation of the *outputs* of *professional services* prepared by others to verify their reliability, validity, and technical accuracy. *Thorough review* requirements are detailed in the practice standard *Relying on the Work of Others and Outsourcing*.

Validation
Validating a *professional work product (PWP)* means a *permit holder*'s *Responsible Member* has reviewed the *PWP* to ensure it meets the quality control and assurance measures described in the *permit holder*'s *Professional Practice Management Plan. Validation* must be performed in accordance with the practice standard *Authenticating Professional Work Products*.

2.0 Selecting Consultants Based on Qualifications

The primary objective of selecting professional consulting services is to retain a qualified *consultant* to provide appropriate services for an agreed-to scope of work.

There are several methods available for selecting professional *consultants*. Research shows q*ualifications-based selection (QBS)* serves the public interest by using a sound and fair process to minimize *project* life-cycle cost and manage risk (ACECC 2006; ACEC 2000; CEA 2015; CEA 2016; EC, n.d.).

The advantages of *QBS* to *clients* include (ACECC 2006; ACEC 2000; ACEC, n.d.; CEA 2015; CEA 2016; EC, n.d.; FCM, n.d.; PTAB 2013):

- providing a vigorous and open competition, and a transparent selection system that focuses on qualifications, competence, creativity, innovation, and proven performance
- selecting highly qualified *consultants*, which will help refine, or sometimes define, the scope of work as part of the selection process, effectively reducing the potential for scope changes later in *project* delivery
- providing the *client* visibility into the *consultants'* technical, managerial, and organizational skills
- giving *clients* better control of the hiring process by providing flexibility to negotiate an appropriate level of effort aligned with the *client's* expectations and budget for the completion of the work
- emphasizing the *client's* objectives and quality expectations, and adapting to current conditions and future trends
- identifying the best design team and the most appropriate technology for the *project*
- promoting a professional relationship in which the *client* and *consultant* collaborate to maximize the quality, value, cost effectiveness, and usefulness of the final product. This gives a greater potential for *project* savings, promotes a cooperative professional relationship, and minimizes the potential for dispute and litigation. A healthy relationship between a *client* and *consultant* is essential for the successful execution of a *project*
- creating designs that are economical to implement and maintain in accordance with the *client*'s requirements and in the public interest
- adding value by focusing on managerial and organizational proficiencies and technical capacities—including innovation, knowledge, and experience—will reduce life-cycle costs of an asset. Life-cycle costs consider the total cost of asset ownership, including engineering, construction, operation, and maintenance

The benefits of *QBS* to *consultants* include (ACECC 2006; CEA 2015; CEA 2016):

- recognizing and valuing expertise and quality of services
- expecting and encouraging innovation and talent

- improving the definition of the scope due to the *client* engaging the highest-rated, qualified *consultant* to build an agreement on expectations, task deliverables, and budget. This reduces risks and improves understanding for both parties
- enabling smaller firms to demonstrate their unique capabilities such as niche market expertise, knowledge of local regulations, and business practices, leading to better *project* execution

Case studies in Appendix A demonstrate the benefits of *QBS*, including how it protects the public interest in infrastructure *projects* and the potential disadvantages of using price as the primary factor in selecting a *consultant*.

There are many *projects* that are innovative and exploratory in nature, that have significant uncertainties in scope definition, or where a full understanding of the services is unknown at the outset. *Clients* may not have in-house staff able to prepare detailed terms of reference or monitor and provide guidance throughout the course of the *project*. For these types of *projects*, *QBS* has advantages as outlined in this guideline.

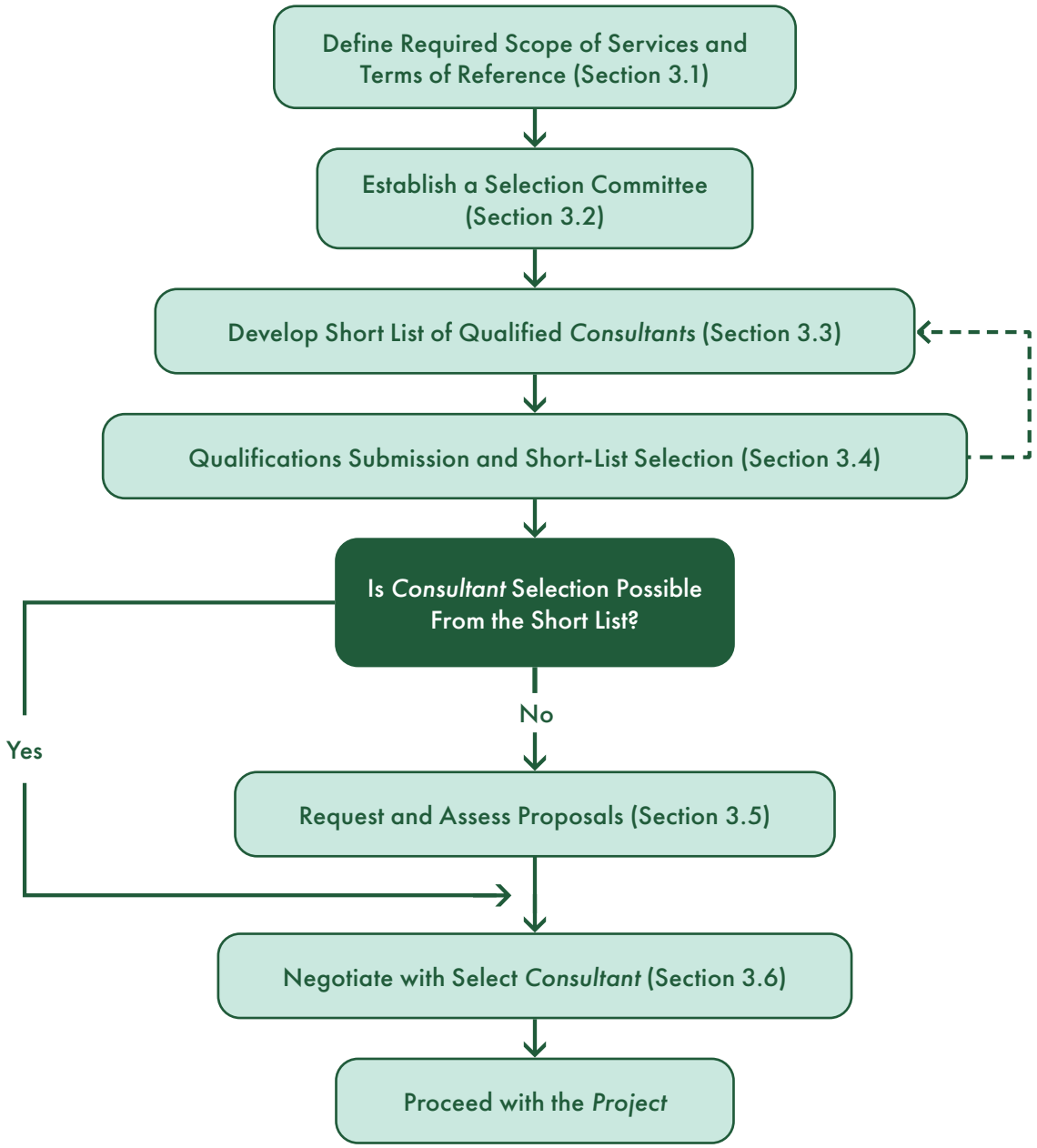
With *QBS*, price is considered during the later stages of selection, after the most qualified *consultants* have been shortlisted. *QBS* gives the *client* and the *consultant* an opportunity to negotiate a fee once they have jointly developed the detailed scope of services rather than at the beginning of the process when the scope is poorly defined and not understood.

QBS can be modified or adapted to accommodate routine *projects* or small ones that do not require highly specialized *consultants*. Similarly, *QBS* can be adapted to suit project complexity and other organizational needs and constraints. For example, two-envelope method may be used to assist with negotiating fees at a later stage in the *QBS*. Similarly, the direct-hire or single-source selection method may be used for routine type of projects. It is important, however, that the *QBS* principles are not undermined in any variations or adaptations.

In some situations, *clients*, particularly public-sector organizations, may be bound by national and international trade agreements or some other legislation. In these circumstances, *clients* can modify the *QBS* principles to ensure compliance with overarching laws and agreements while striving for selecting qualified *consultants*.

3.0 Qualifications-Based Selection Process

This section outlines the *qualifications-based selection (QBS)* process. This process is illustrated in Figure 1.



3.1 DEFINE REQUIRED SCOPE OF SERVICES AND TERMS OF REFERENCE

The first step in selecting a *consultant* is to define the terms of reference for the requested scope of services, including a clearly stated description of the *professional services* to be performed. This will provide a basis for the *client's* own understanding of requirements and the *consultant's* preparation of a submission. Emphasis needs to be on describing the *client's* objectives rather than specifying a methodology or technique unless these relate to other components of the *project*.

It is recommended that the description of the *project* include the following:

- a clear statement of the *client's* objectives and needs
- resource requirements, including specific services and expertise to be provided by the *consultant*
- any *project*-specific factors or conditions affecting the assignment
- a statement of the input, information, expertise, service, and other support provided by the *client*
- a time schedule showing the *client's* requirements for each major phase of the *project*, including selecting the *consultant*
- a deadline for completing the selection process
- a high-level statement of how the request for proposal (RFP) will be evaluated
- an outline of the *client's* budget for the assignment or *project*, when appropriate

3.2 ESTABLISH A SELECTION COMMITTEE

It is recommended that *clients* establish a selection committee to evaluate qualifications, interview candidates, and rank candidates in order of qualifications, particularly if the *client* is not using direct-hire or single-source selection (described in Section 3.7). The size and composition of the selection committee reflect the complexity of the *project* and the availability of *client* representatives who are qualified to evaluate the proposals. It is recommended that the committee include one or more *persons* representing a cross-section of experience and judgment with respect to the selection criteria and the *project*. In any case, the chair of the selection committee is typically the official liaison with all *consultants* that made submissions to ensure consistency in the selection process.

It is recommended that *permit holders* involve more experienced *licensed professionals*, such as their *Responsible Members*, in evaluating qualifications. Experienced *licensed professionals* are more likely to understand the consultants' approach to quality management including relevant processes described in the consultants' *Professional Practice Management Plan*. These *licensed professionals* can be involved in developing selection criteria, evaluating qualifications, and selecting the members of the selection committee itself.

3.3 DEVELOP SHORT LIST OF QUALIFIED CONSULTANTS

The selection committee prepares a short list of *consultants* qualified for the assignment. This may be accomplished in a variety of ways depending on the size and sophistication of the *client* organization. The following methods can be used:

- soliciting expressions of interest through local or regional advertising. Credentials used for shortlisting *consultants* include technical expertise and experience of key personnel
- obtaining names from industry associations and publications (e.g., Consulting Engineers of Alberta, Canadian Association of Geophysical Contractors, Canadian Society of Petroleum Geologists)
- obtaining names from directories
- obtaining referrals by contacting other *clients* that have undertaken similar *projects*
- having standing offers or extended partnerships in place with *consultants* that submit qualifications and fees annually or biannually
- maintaining a roster or list of qualified *consultants* and their areas of professional practice

It is recommended that the selection committee consider the following principles in developing a short list of *consultants*:

- required characteristics of the *consultant* (qualifications, quality service, innovation)
- experience in similar *projects*
- ability to develop a productive relationship with the *consultant*
- openness and transparency of the process
- efficiency, effectiveness, and flexibility of the process

3.4 QUALIFICATIONS SUBMISSION AND SHORT-LIST SELECTION

If a *client* is not aware of which *consultants* have the best expertise to handle a specific *project,* it can ask short-listed *consultants* for their qualifications as described in Section 3.3. The *client* can then review the qualifications and develop another short list, complete reference checks, and conduct interviews before negotiating with the most qualified *consultant.* Refer to Appendix B for sample reference and interview questions.

When it is not appropriate to single-source a qualified *consultant* (Section 3.7) or select one from a short list (Section 3.3), it is recommended that using a more detailed RFP process (Section 3.5). Since preparing proposals may be costly and time consuming for the *client* and the *consultant,* it is recommended that proposals are used with discretion. The procurement and selection process should also check if the *client* is bound by any trade agreements or laws that may require the *client* to use a detailed RFP process, regardless.

The amount of detail in the RFP reflects the complexity of the work and the *client's* requirements. The process of selecting a *consultant* based on a proposal may include:

- requesting proposals
- assessing proposals
- reviewing proposals
- interviewing *consultants*
- checking references
- finalizing *consultant* rankings, choosing one, and debriefing all *consultants*

A well-detailed RFP will clarify the required services, work plan, and scope. When developing an RFP and the proposal evaluation plan, the *client* should recognize all the steps required prior to calling for proposals. The RFP evaluation plan must comply with APEGA practice standard *Relying on the Work of Others and Outsourcing*.

The larger and more complex the *project*, the more detailed the RFP terms of reference need to be. For highly technical, long, or complex *projects*, it is sometimes advisable to hire a *consultant* to write the RFP terms of reference and develop the proposal evaluation criteria. This can be a significant *project* in itself.

It is recommended that proposals to perform engineering or geoscience services for *projects* include enough information that the *client* can assess them using the criteria outlined in Section 3.5.2. For complex *projects*, *clients* may request that *consultants* include additional information in their proposals so the *client* can assess details of the *consultant's* intended approach, methodology, implementation schedule, design philosophy, cost control, quality control, and safety program.

3.5 REQUEST AND ASSESS PROPOSALS

3.5.1 Request Proposals

Normally, receiving proposals from three *consultants* is considered enough, but it is up to the *client* to determine how many proposals are appropriate for a given *project*. If the *consultant* needs to develop a preliminary or conceptual design of a specialist or proprietary nature for its proposal, it should advise the *client* of this recommendation. To ensure that *consultants* submitting RFPs understand the *client's* expectations, the *client* may indicate in the RFP the *consultants* from whom the proposals have been requested. The *client* and the *consultants* can use a mutually appropriate method for clarifications on the RFP requirements or criteria.

If acceptable to the *client*, the *consultants* might initiate a sub-*consultant* agreement, in which they combine to form a stronger team with other *consultants* not involved in the RFP.

RFPs should contain a clearly stated description of the assignment and the terms of reference the *consultant* will

follow. It is recommended that RFPs describe the selection process, selection criteria, and the ranking system used to evaluate the proposals (see samples in Appendix B). The RFP may also request:

- the *consultant's* understanding of the *project* scope and objectives
- the names of the key technical staff to be involved in the assignment, along with information on the engineering and geoscience disciplines in which they are proficient, their areas of specialty, and details of their experience
- other commitments of the *project* manager and assigned staff, and the availability of other technical support staff and facilities
- a list and brief description of recent similar *projects* undertaken by the *consultant* and key staff, including dates and references
- the company profile and confirmation of registration with APEGA
- information on the *consultant's* approach to quality management, including relevant sections of a *permit holder's Professional Practice Management Plan*
- a description of how the assignment will be executed
- a description of the implementation schedule, design philosophies, and cost
- other factors such as hours committed by specialists and key staff, and overall time commitments to the *project* as appropriate to the evaluation process of the *client*
- a confirmation of appropriate professional and general liability insurance carried by the *consultant*

3.5.2 Review and Assess Proposals

Before a meeting, each member of the selection committee receives a copy of all the proposals. Each member should rank each proposal according to the RFP's selection criteria and ranking system. It is recommended that the assessment process be an appropriately formal, thorough, and equitable evaluation of *consultants'* qualifications for the *project*. You can find sample assessment forms in Appendix B.

Six principal criteria to be considered in assessing a *consultant's* qualifications to provide services for a specific assignment are:

1. technical credentials
2. experience and past performance
3. management approach
4. ability and capacity to perform the work, including the availability of resources
5. professional integrity
6. strategy or methodology for *project* execution

3.5.2.1 Technical Credentials

The *consultant* should have the education, training, and expertise to carry out the *project*. To evaluate credentials, it is recommended that the *client* examine the qualifications of the key personnel who will be involved in the *project*, including their:

- technical background
- appropriate knowledge, skills, and training relevant to the scope of work
- demonstrated creativity and innovation

3.5.2.2 Experience

It is recommended that the *consultant's* experience be evaluated against factors including:

- most recent and relevant past *projects* the company has successfully delivered, and references
- relevant experience of the staff who delivered those past *projects*
- successful application of required technology
- demonstrated continuous improvement (application of knowledge gained from experience to enhance the specific *project*)

3.5.2.3 Management Approach

A successful *project* requires the *consultant* to have the level of managerial and leadership skills needed for the *project*. The *consultant* should demonstrate capability in areas including:

- *project* organization, coordination, and management
- procedures for controlling quality, personnel hours, schedule, and *project* costs
- the process for managing technical and resource constraints and other *project* risks and challenges
- if applicable to the *project*, the strategy to commit to meaningful consultation with local communities
- if applicable to the *project*, the commitment and meaningful consultation of, building respectful relationships with, and obtaining the free, prior, and informed consent of Indigenous Peoples before proceeding with economic development projects[2]
- the quality management processes
- the process for interfacing with external and internal entities that may affect the timely delivery of *projects*

[2] Truth & Reconciliation Commission – Call to Action (https://indigenousworks.ca/en/partnership/what-does-intersection-mean/trc-call-action)

3.5.2.4 Availability of Resources

Current and potential commitments will affect the availability of a *consultant*'s resources. As such, it is recommended that the *client* review the *consultant*'s:

- commitment level and deployment of key technical personnel and managerial resources
- in-house and external resources workload allocation
- delegation of responsibility within the *project* team
- insurance coverage or insurability for the desired *project* limits
- relevant corporate resources, such as:
    - references, manuals, and databases
    - policies and procedures
    - technical specifications
    - equipment and systems and whether they are current and appropriate to the scope of the work
    - the use of technologies

3.5.2.5 Professional Integrity

Licensed professionals must conform to the Code of Ethics. They must enter into agreements in fairness and good faith and undertake only those assignments for which they are competent to perform by virtue of their training and experience.

To determine professional integrity, it is recommended that that the *clients* examine the *consultant's*:

- *good standing* status with APEGA
- references
- environmental, health, and safety records

3.5.2.6 Strategy or Methodology for Project Execution

The *consultant* should have a good understanding of the *project* requirements, including the:

- scope
- *client* needs, including deliverables and design requirements
- *project* site, environment, and community
- level of service and reporting schedule of the *project* information

During the selection committee meeting, committee members should discuss their individual rankings to give each member the benefit of other opinions. At this stage, there may not yet be a consensus.

3.5.3 Interview Consultants

Consultant interviews provide each *consultant* the opportunity to address and emphasize important items in its proposal and enable the selection committee to meet the *consultant's* key personnel and discuss specific issues. It is recommended that the interviews be scheduled over a short time period so committee members can compare proposals while details are fresh. You can review sample interview questions in Appendix B.

3.5.4 Check References

Checking references validates a *consultant's* proposal and interview responses. You can review sample reference questions in Appendix B.

3.5.5 Finalize Consultant Ranking

Immediately following *consultant* interviews, the selection committee can develop a consensus on the ranking of each proposal. As per the *QBS* process, the ranking system should be designed to select a *consultant* with the services and expertise most suitable for the *project* requirements and should include the information gathered about the *consultant*.

If the committee cannot resolve major ranking differences, it may seek clarification of some aspects of one or more *consultant* proposals. If further questioning is needed to complete the ranking, *clients* should take care to avoid giving one *consultant* an unfair advantage over the others. You can find a sample summary ranking sheet in Appendix B.

3.5.6 Select Most Qualified Consultant and Debrief

When all submissions have been ranked, the chair informs the *consultant* with the highest score. Because all *consultants* that submitted proposals committed time and expense to pursue the *project* and may be holding staff commitments, it is recommended that the *client* promptly debrief the *consultants* who are not selected. A debrief could include the strengths and weaknesses of their proposals, how the most qualified *consultant* was selected, and when they may be contacted again. This constructive feedback enables the *consultants* to submit better proposals in the future. *Clients* should take care to ensure proprietary and confidential information about all *consultants* is protected during such communications.

3.6 NEGOTIATE WITH SELECTED CONSULTANT

Once the most qualified *consultant* has been selected, negotiation may begin on the scope, schedule, clarification of roles and responsibilities, fee basis, and terms of the agreement.

3.6.1 Clarify and Reaffirm Scope

At this point, the *client* and *consultant* jointly develop a detailed and comprehensive scope of services and work plan, and they agree to ensure both parties have the same expectations and understanding of the *project* requirements. This step allows both parties to identify and resolve ambiguities and acquire missing information, and to review and assess options and innovations to be explored before proceeding to the fee negotiation.

3.6.2 Negotiate Fee Basis

Once the selected *consultant* and the *client* reaffirm the scope, the *client* can seek a fee proposal from the *consultant* and fee negotiation occurs. If negotiations are unsuccessful with the highest-ranked *consultant*, the *client* may begin negotiations with the second-ranked *consultant*. For fairness, once *contract* negotiations begin with the second-ranked *consultant*, negotiations should not resume with the first-ranked *consultant*.

3.6.3 Establish and Confirm Schedule

The schedule may be defined by a specific *project* start date and a substantial completion date (e.g., maintenance *contracts*) or scheduling conditions (e.g., expiry dates, acceleration clauses, extension clauses, termination clauses). Alternatively, it may be undefined, as when the schedule extends as long as is required to complete the *project*.

3.6.4 Clarify Roles and Responsibilities

The *client* and *consultant* roles should be clearly defined while establishing the scope of the assignment and entering a *contract*. The *client* will have responsibilities in planning, financing, provisioning for special services, setting a reasonable contingency allowance, and managing or coordinating the *project*. The *consultant* will have responsibilities in the governing codes and regulations, which should not be restricted in any way that would prejudice protection of the public and the needs of the *client*.

3.6.5 Prepare Agreement

Once the terms of the agreement have been negotiated, the *client* prepares the final agreement and awards the *contract* to the selected *consultant*. The *client*, through a normal written procedure, authorizes commencement of design services and completes the selection process.

3.7 VARIATIONS OF QUALIFICATIONS-BASED SELECTION

Clients can use many variations of the *QBS* method to suit the need of a *project* and adapt to other organizational needs and constraints. Some examples are:

- two-envelope method
- single-source selection
- rotational selection
- selection based on a submission for credentials, reference checks, or interviews
- selection based on a proposal, which could vary from a simple letter to a multi-volume document with details of staffing, schedules, drawing lists, and various deliverables

For example, small *projects* are often single-sourced. *Consultants* are often retained by referral. The terms of reference for a small *project* are often a letter proposal or simple agreement, finalized with the help of the *consultant*.

For medium-sized *projects*, it is recommended that the *client* present detailed terms of reference to at least three qualified *consultants*. The *client* will then evaluate and rank each *consultant's* proposal before interviewing the preferred and perhaps second-ranked *consultants*.

The terms of reference for larger, more complex *projects* are quite detailed. The initial step is to request detailed proposals from *consultants*. The process for larger and more complex *projects* typically takes the form of the full *QBS* process described above.

In this section, we outline two-envelope and single-source methods that are considered variations of pure *QBS* method.

3.7.1 Two-Envelope Method

The two-envelope method is used to assist negotiating fees at a later stage in the *QBS* process. It involves two sealed envelopes—the first contains the information required to make a *QBS*, and the second contains the fee proposal based on the initial proposal submission. The sealed fee envelope is not opened until the technical evaluation is complete. Once the *client* has selected a *consultant* based on the qualifications presented in the first envelope, it opens the chosen *consultant's* second envelope. The second envelopes of the *consultants* not selected remain unopened.

At this point, the *client* and the *consultant* review and confirm the scope and the price. If an agreement cannot be reached, the *client* will open the second envelope of the second-ranked *consultant* and confirms the scope and price. After successfully completing negotiations with the preferred *consultant*, the *client* notifies the other *consultants* and returns the unopened fee envelopes.

3.7.2 Direct Hire (Single-Source) Selection Method

In certain circumstances, it may be appropriate to hire known *consultants* directly based on their qualifications to do the work. This practice is often referred to as direct hire or single-source selection.

Retaining a known *consultant* is suitable when:

- the *client* has an existing and successful relationship with one or more *consultants*
- the *client*'s need for service continues or repeats itself from year to year
- the *client* would like to save time on preparing a request and evaluating the proposals for a small *project*
- the direct cost to the *consultant* in answering a proposal call is more than the fee for the *project*
- few *consultants* are capable of doing the work

In such cases, it may be suitable to single-source the work from preferred *consultants* or to rotate the work among a list of preferred *consultants* who have been previously qualified (using *QBS*) to provide services for a specified area or discipline of work.

Advantages of single-sourcing are:

- the *consultant* has knowledge of past *projects* and special *client* requirements, and has the necessary background and information to save time without compromising quality
- the *client* avoids the formal selection process and avoids having to re-establish the basis for an effective working relationship for each *project*
- a general understanding of an appropriate fee basis is established, so fees for each *project* can be agreed to with minimal negotiation, while scope of the work is established jointly
- better service and more innovation, as the *client* and the *consultant* are not limited by the defined terms of reference in the RFP
- avoiding the cost of preparing proposals, with the differential passed on to the *client*

In some cases, the *client* may enter into a standing-offer agreement with one or more known *consultants* it has used repeatedly to provide services on an as-requested basis, without the need for a separate procurement process each time. The arrangement benefits the *client* by increasing predictability and avoiding the expenses and unknowns of the selection process. When entering this type of agreement with the *consultant*, the *client* should be aware that:

- the *consultant* faces no competition, and this may lead to complacency
- the *consultant* may lack the necessary skills, which may be available elsewhere in the market
- the standing-offer agreement may limit the *client's* ability to seek the services of other *consultants*

This method of *consultant* selection usually leads to stable relationships and successful *projects*. The *client* and *consultant* may wish to re-evaluate the relationship and service at regular intervals.

4.0 Ethical Considerations

Multiple ethical issues may arise when selecting an engineering or geoscience *consultant*. A discussion of some of these issues follows.

4.1 BIDDING OR UNDERBIDDING FOR SERVICES

With *qualifications-based selection (QBS)*, the cost of *consultant* services is negotiated after the *consultant* is selected and the scope of services is agreed upon. The level of fees may be negotiated to reflect the *client's* needs and the detailed scope of services. *Clients* and all involved *consultants* have ethical obligations not to engage in *bidding* or underbidding for services during the *QBS* process.

4.2 SELECTING OR REPLACING A CONSULTANT MID-PROJECT

Sometimes, a *client* may need to replace the *consultant* in the middle of the *project*. A replacement should be found as soon as possible so the safety of the public is not jeopardized. *Clients* and all involved *consultants* have ethical obligations to each other and to the public. Refer to *Guideline for Ethical Practice* for additional information.

There may also be contractual, regulatory, or permitting obligations to consider when selecting or replacing a *consultant* mid-*project*. For example, to ensure the design and construction of the *project* meets appropriate safety standards and building regulations, the *client* should notify the authority in writing of any change in registered professional retained to review the construction.

Appendix A: Case Studies

A.1 CASE STUDY #1

A *client* puts out a competitive request for a *project* proposal. This is a *project Consultant* Q has already completed 90 per cent of the related work for, and therefore has a good understanding of its requirements. *Consultant* R submits a proposal for the work. *Consultant* R has never done this type of work in this jurisdiction, and therefore has no knowledge of the local issues and constraints. *Consultant* R puts in a price that is 25 per cent of *Consultant* Q's.

In this case, the *client* considered price and qualification criteria together to evaluate proposals. Price is worth 20 per cent and qualifications-related factors such as *project* understanding, experience, methodology, team, and other subjective criteria account for the other 80 per cent. However, the *client* subjectively scored results with an overtly heavy weight on price.

In the end, *Consultant* R wins the job. *Consultant* Q comes in a close second—the points it earned as an advantage in the qualifications category were not enough to make up the loss of points in the price category.

Fast forward two years, and the *project* is at a standstill. Through an advisory process, *Consultant* Q has been requested to review *Consultant* R's drawings. There are numerous technical problems with the drawings *Consultant* R prepared, which reveal its lack of understanding of the *project* requirements. The drawings also include elements that will be extremely difficult and costly to construct safely. *Consultant* R has expended its budget and is in a position of having to update the drawings at its own cost. It is unknown what quality assurance checks are in place, particularly as *Consultant* R is essentially working from a position of duress.

Had *qualifications-based selection* been in place, price would not have been a determining factor during the *consultant*-selection process. The *consultant* with the highest demonstrated qualification would have been selected to enter negotiations on an appropriate price for the appropriate scope.

Instead, the *client's* selection process in this case heavily weighed price in the original evaluation (at 20 per cent), coupled with the extremely low submitted price of *Consultant* R.

While the *client* thought they were originally going to save money on the engineering fees, the entire *project* has been derailed, there is a lack of trust between the *client* and *Consultant* R, and the quality of the finished product is still an unknown—potentially risking public safety. Furthermore, any savings in engineering fees are insignificant compared to the anticipated construction cost over-runs and other anticipated challenges should the *project* advance to construction following *Consultant* R's drawings.

A.2 CASE STUDY #2

Consultants A, B, and C—all *permit holders*—respond to a request for proposal (RFP) that includes a technical component (such as *project* understanding, experience, team, methodology, or innovation) and price (35 per cent), essentially a two-envelope system. *Consultants* A and B have done extensive work on directly relevant site conditions. They have knowledge of the local conditions and requirements and have identified potential risks within their proposals that will require mitigation to ensure the *project's* successful completion. *Consultant* C has never worked in the area or for the *client*. *Consultants* A and B scored much higher than *Consultant* C in technical scores.

The *client's* selection committee opens the price envelopes for all three *consultants* because the price is weighted significantly, even though in a typical two-envelope method the highest-ranked *consultant's* price envelope would be opened first. *Consultant* B's price is the highest, but only by approximately five per cent over *Consultant* A. *Consultant* C submitted a price less than 50 per cent of *Consultant* A's.

There are four ways this can play out.

Scenario 1

The price difference and the 35 per cent weight on price results in *Consultant* C being recommended to be awarded the *project*. A city council, which is the decision maker for the *client*, will make the final decision.

In this scenario, even at only 35 per cent, the price component has enough weight to swing the expected result and reduce the significance and importance of the technical scores.

- **Scenario 1A:** The city council awards the *project* to *Consultant* C, who was recommended and had the best score and the lowest price.
- **Scenario 1B:** The city council reviews the scores and notes that technically, *Consultant* A is the better choice. After discussion, the city council decides to go against the recommendation of *Consultant* C and awards the *project* to *Consultant* A based on technical score only, even though the price is higher. (This is not very common because the city council would be going against the recommendation and choosing to spend more, which is open to public scrutiny.)

Scenario 2

The 35 per cent weight on price brings *Consultant* C's score just below *Consultant* A's but above *Consultant* B. The recommendation is *Consultant* A, the highest-ranked *consultant*.

- **Scenario 2A:** The city council awards the *project* to *Consultant* A based on the recommendation. The *client* ends up with a good *project* as they have gone with the *consultant* that had the best technical score (even though that wasn't the sole reason for the recommendation).
- **Scenario 2B:** The city council goes against the recommendation and awards the *project* to *Consultant* C, justifying the decision by saying it is saving taxpayers money and will end up with the same quality of *project* in the end. Unfortunately, in these cases you often see *project* delays, scope changes, and ultimately extra money spent to complete the *project*.

A.3 CASE STUDY #3

A public-sector *client* has a section of rural highway that requires rehabilitation. Rehabilitation *projects* are viewed as straightforward, so staff members within the *client's* organization are debating whether *qualifications-based selection* (*QBS*) is the right method of procurement. Some staff members voice the opinion that straightforward *projects* do not benefit from a *QBS* process because *consultants* are pre-qualified. The argument is that any one of the pre-qualified firms can do the work, so the *client* will receive best value by awarding the *project* based on the lowest engineering fees.

The *client* prepares an RFP and releases it to the group of pre-qualified *consultants*. The RFP includes a general scope of work to rehabilitate a section of rural highway. Within the *project* limits, there is a poorly defined intersection at a hamlet, which includes a gas station in one of the quadrants. Access to the gas station is too close to the highway intersection and does not meet current design standards. There is a concern that access to the gas station is introducing operational problems for the main highway intersection. The scope of work in the RFP includes moving the existing access to a new location away from the main highway intersection.

- **Scenario 1:** After much debate, the *client* releases a competitive RFP for a *project*. Because the RFP uses a competitive *QBS* process, an evaluation criterion is used to score the RFPs received. The *client* evaluates each *consultant's* proposal against the evaluation criteria:

Evaluation Criteria	Maximum Points	*Consultant* Score		
		A	B	C
Project requirements and understanding	20	15	18	17
Key personnel and roles	25	25	19	22
Previous experience on similar *projects*	25	25	19	22
Project execution methodology and ability to meet schedule	20	17	20	19
Innovative value-add ideas	10	5	5	5
Total	**100**	**87**	**81**	**85**

Consultant A has many years of experience on this type of rehabilitation *project* and its most experienced team is available to complete the work. It scores slightly lower on *project* comprehension because it raises concerns in its proposal about the ability to receive stakeholder buy-in to move the gas station access. The *client* discounts this concern as it already has a previous agreement from the municipality to fund the access changes, which *Consultant* A seems to be ignoring. *Consultant* A also scores lower on its ability to meet the expected schedule, as it cautions that extra time will be needed to ensure stakeholder support of the access changes.

Despite the apparent disconnect on the access changes for the gas station, *Consultant* A is still the preferred *consultant* for the work because its team's qualifications and experience dominate the scoring.

During the scope and fee-negotiation phase of procurement, *Consultant* A again raises the concern about its ability to move the gas station access and meet the schedule identified in the RFP. The *client* and *Consultant* A discuss the concerns openly and agree that before the scope and fees are finalized, the *client* will contact the municipality to ensure funding is in place and contact the gas station owners to confirm they are receptive to the relocation plan.

One week later, *Consultant* A and the *client* reconvene, and the *client* reveals the municipality did not understand the *project* was advancing, so it does not have the budget available for the *project*. It also discovered the gas station owners have concerns with the proposed changes. Because the highway rehabilitation is a priority *project* due to safety and maintenance concerns, the decision is made to eliminate the gas station access changes from *Consultant* A's scope of work and pursue that work separately under a different assignment, which includes additional stakeholder consultation. This allows the rehabilitation *project* to proceed without delay and avoids any unnecessary expenditures related to access-modification design that will not meet the needs of all the affected stakeholders. It also mitigates the additional public expense and risk to public safety that will occur if the entire *project* is delayed.

Scenario 2: After much debate, the *client* releases a competitive RFP for a *project* using its value-based selection process because the *project* is deemed a straightforward one that any pre-qualified firm can execute. The evaluation criteria used to score the proposal submissions includes price. The price component of the evaluation is scored using a pro-rated relationship from the *consultant* with the lowest score. For example, if one *consultant's* fees are 100 per cent higher than the lowest-ranked *consultant's* fees, the lowest-ranked *consultant* will receive 100 per cent of the eligible points and the *consultant* with double the fees will receive 50 per cent of the eligible points. Three proposals are received in response to the RFP. The *client* evaluates each proposal against the evaluation criteria.

Evaluation Criteria	Maximum Points	*Consultant* Score		
		A	B	C
Project requirements and understanding	20	15	18	17
Key personnel and roles	25	20	15	18
Previous experience on similar *projects*	25	20	15	18
Project execution methodology and ability to meet schedule	20	15	20	19
Consultant resource and budget	10	5	10	5
Total	**100**	**75**	**78**	**77**

Consultant A has many years of experience on this type of rehabilitation *project* and its most experienced team is available to complete the work. It scores slightly lower on *project* comprehension because it raises concerns in its proposal about the ability to receive stakeholder buy-in to reconfigure the gas station

access. The *client* discounts this concern as it already has a previous agreement from the municipality to fund the access changes, which *Consultant* A seems to be ignoring. *Consultant* A also scores lower on its ability to meet the expected schedule, as it cautions that extra time will be needed to ensure stakeholders support the access changes.

Consultant A scores significantly lower on the resource-budget category for three reasons:

1. *Consultant* A assigns experienced designers and an experienced *project* manager to this project as opposed to *Consultant* B, which assigns junior staff with significantly less experience
2. *Consultant* A assumes additional time and resources will be needed to deal with the stakeholder concerns related to the scope of work. On the other hand, *Consultant* B assumes there are no issues with the access relocation and simply includes a best-case scenario for its design budget
3. *Consultant* B is short of work and needs a *project* to keep its staff busy. It makes the business decision to reduce its engineering costs further in hopes it can gain an even bigger advantage on the resource-budget component of the evaluation

The *client* likes *Consultant* B's proposal because it meets the requirements outlined in the RFP and has the cheapest overall engineering cost. The *client* awards the *contract* to *Consultant* B with the scope of work and fees outlined in the proposal.

Consultant B commences design immediately after being awarded the *contract*. It assumes the *client's* previous agreement with the municipality for the relocation of the gas station access is valid and does not inquire further. *Consultant* B completes the design and the *client* reviews it. The design is then forwarded to the municipality to comment on and to confirm its portion of the funding for the relocation.

The team discovers the municipality did not budget for the *project* and does not have the necessary funding in place. The team also discovers the gas station owners have significant concerns with the plan as it does not meet their business requirements. The design needs to be changed, and valuable time is lost by producing a design that is not funded and does not meet stakeholder requirements. The *consultant* needs to submit a scope change to the *client* to adjust the design and overall schedule.

In the meantime, the window to tender the overall rehabilitation *contract* is lost and the *project* is delayed by one year. Because of the delay, the *client* needs to spend additional money on maintaining the highway that was not originally anticipated, and public concerns are raised about the delay because of safety and the apparent lack of confidence in the engineers working on the *project*.

Appendix B: Qualifications-Based Selection Assessment Forms and Questions

The content and complexity of any *qualifications-based selection* assessment must complement the *project* to which it is applied. The *persons* or committee selecting the *consultant* should determine the selection process, develop the assessment criteria, and determine the relative weighting of criteria in advance. This assessment criteria should accompany any request for proposal.

Sample forms to assess proposals, interview *consultants*, check their references, and rank them in order of qualifications are provided here.

B.1 QUALIFICATIONS ASSESSMENT FORM – SAMPLE I

This sample form is designed for relatively simple *projects* involving several disciplines and functions. Rate each *consultant's* proposal in the categories listed below. To find the Total, multiply the Weight (%) by the *Consultant* Score (highest = 5, lowest = 1), then add the numbers in the last column together.

Assessment Criteria	Weight (%)	*Consultant* Score (1 to 5)	Weight x Score
Technical Credentials • key personnel • personnel credentials o technical background o appropriate knowledge o skills, training, and experience relevant to the scope of work o demonstrated creativity and innovation	_____ _____	_____ _____	_____ _____
Experience • corporate *project* experience	_____	_____	_____
Management Approach • corporate *project* management approach and system • organizational quality and cost control	_____ _____	_____ _____	_____ _____
Availability of Resources • key personnel and support staff • corporate resources and services • financial capacity	_____ _____ _____	_____ _____ _____	_____ _____ _____
Professional Integrity • licensure and permit status with APEGA • reference check results • other assessments such as outstanding disciplinary orders being served and any lawsuits or claims	_____ _____ _____	_____ _____ _____	_____ _____ _____
Strategy or Methodology for *Project* Execution • comprehension of the scope of work, including awareness of design requirements and other factors	_____	_____	_____
Others* • innovation • value • price (if the two-envelope method is used)	_____ _____ _____	_____ _____ _____	_____ _____ _____
Total score	_____	_____	_____

*Note: Items under Others should reflect the special needs associated with a specific *project*. Items such as innovation and value can be included. The weight percentage should be assigned after the items to be evaluated are established.

B.2 QUALIFICATIONS ASSESSMENT FORM – SAMPLE II

Rate each *consultant* in the categories listed below. To find each Total, multiply the Rating (highest = 5, lowest = 1) by the Weight (highest = 10, lowest = 1). Add all Totals together to determine the Grand Total. Based on this model, the maximum possible total is 500 points, assuming all categories were weighted as 10 and the design professional was rated a 5 in each category. Categories may be tailored to the *project*.

Category	Rating x Weight	Total
***Project* Requirements** *Consultant*'s analysis, preparation, and interest level	____ x _____	= _____
Design Approach and Methodology *Consultant's* or key personnel's creativity and problem-solving abilities	____ x _____	= _____
Key Personnel and Roles Key personnel's qualifications and professional skills	____ x _____	= _____
Previous Experience, *Consultant* *Consultant*'s related *projects*	____ x _____	= _____
Previous Experience, Key Personnel Key personnel's related *projects*	____ x _____	= _____
Technical *Project* Management Abilities in technical functions, such as *project* cost controls, construction observation, and time scheduling	____ x _____	= _____
Responsiveness to *Client's* Concerns *Consultant*'s ability to communicate and form successful working relationships	____ x _____	= _____
Other Relevant Issues	____ x _____	= _____
Grand Total	____ x _____	= _____

B.3 SAMPLE INTERVIEW QUESTIONS AND EVALUATION SCORE SHEET

Clients may ask these or other interview questions [ACEC 2000].

1. Have you worked on similar *projects* before? Provide examples.
2. Have you worked successfully with similar *clients*? Provide examples.
3. What education and training do you have?
4. Have you received any awards or professional recognition?
5. Will you use any sub-*consultants*? If so, what is their experience? Have you worked with them before?
6. What people will you assign to work on this *project*, and will they be fully committed to the *project* or will they share their time with other assignments?
7. What is your experience working with municipal, provincial, and federal agencies (regulatory and funding) that will be involved in this *project*?
8. What special facilities and equipment will you bring to this *project*? (e.g., software, GIS)
9. What are your in-house procedures for quality control?
10. Have you developed an approach to this *project*? If so, what is it?
11. What are critical decision points or milestones in your approach? How will you manage them?
12. What innovative or alternative technologies have you employed in the past for similar *projects*? How did you get regulatory approval?
13. What is your method and track record on estimation of costs?
14. What are your ideas on how to save money on design and construction?
15. How will you work with the community during this *project*?
16. How will you provide status reports to the community and how often?
17. What is your current workload and how will our *project* fit into this load?
18. How will you manage construction activities?
19. What is your experience with preventing and resolving contractor claims?
20. How do you manage, track, and administer payment requests or scope changes from the contractor?
21. How do you complete construction close out?

Sample Interview Evaluation Score Sheet

Consultant _____	**Very Good - 3**	**Average - 2**	**Poor - 1**
Overall impression of competence and experience with similar *projects*			
Managerial skills, corporate and *project* organization, communication			
Availability of resources			

B.4 SAMPLE REFERENCE QUESTIONS

The reviewers or chair of the selection committee may use this form [ACEC 2000], or a similar form, to record and assess reference information on each *consultant*. Rate each question from 1 (poor) to 5 (excellent).

***Consultant* Name:**					
Reference Information *Client*: *Person* contacted: Phone:		Address: *Project* referenced:			
Sample Questions					
1. What was the *project*?					
2. When was it completed?					
3. Did the *consultant* above do the work?					
4. What did they do for you? (e.g., design work, construction coordination, studies. If other, please specify)					
	Evaluation				
	5 (Excellent)	**4 (Good)**	**3 (Average)**	**2 (Fair)**	**1 (Poor)**
5. Which of the *consultant's* staff members worked with you on this *project*? Were you satisfied with their work?					
6. Was the *project* started on schedule?					
7. Was the *project* completed as planned?					
8. Was the *consultant* knowledgeable and qualified to do the work?					
9. Was the *consultant* responsive to your feedback?					
10. Was the *consultant* easy to communicate with?					
11. Did the *consultant* add value to the *project*?					
12. Did the *consultant* treat you fairly and respectfully?					
13. Other questions					
Total					

B.5 SAMPLE SUMMARY RANKING FORM

The chairperson of the selection committee may use this form to compile the interviewer's and reviewers' assessments of the *consultants*. Enter the totals for each *consultant* as assessed by the individual interviewer and reviewer (using one of the two qualifications assessment forms, the interview evaluation score sheet, or the reference check above).

To find the Grand Total, add the numbers in each column. Then, divide each *consultant's* Grand Total by the total number of interviewers and reviewers to find the Average Score. The highest Average Score will indicate the highest-ranked *consultant*.

Interviewer or Reviewer	***Consultant* A**	***Consultant* B**	***Consultant* C**	***Consultant* D**	***Consultant* E**
1					
2					
3					
4					
5					
6					
7					
Grand Total					
Average Score					