

Appendix 3.1
CATEGORY GLOSSARY
Professional & Technical
and
RISP ADJUDICATION CRITERIA
By Fields

September 2010



Ministry of
Transportation
and Infrastructure

RISP

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
(BCMOT)

CATEGORY GLOSSARY

Professional and Technical

and

RISP ADJUDICATION CRITERIA

By Fields

Important Notices
About Category Types

PROFESSIONAL vs TECHNICAL CATEGORIES:

Only members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) can apply for Professional Categories (these are categories that have an even number after the dash, such as 01-32 and marked with P in column 2 on the Glossary). The only exceptions are the design categories that start with 05 before the dash (such as 05-66). For the design categories, experienced design technicians and design EITs may enter their design experiences for the appropriate design categories (Technical or Professional) in part 2 of the application. These experiences may be approved if they meet the adjudication criteria. The technical employee and EIT will not be approved for these Professional categories but their approved Professional category experiences will count in approving the office's requested maximum preferred contract amount.

GEOGRAPHICAL CATEGORY TYPES:

The rule described here is applied only for consulting work estimated at or below \$75,000. RISP categories are classed as Provincial, Regional or Local. Local categories (marked with L in column 1) and Regional categories (marked with R in column 1) cover services which by their nature require either a rapid response, familiarity with local conditions, or other reasons for having these consulting services to be available close to the site or the Ministry's office where the contract is managed. A Local search starts with one of the 28 Ministry of Transportation and Infrastructure (BCMOT) Maintenance Service Contract Areas, expanding if necessary to the surrounding Contract Areas if no matches are found. A Regional search starts with one of the five RISP regions, expanding if necessary to the surrounding Contract Areas if no matches are found within the first region. Provincial categories (marked with Pr in column 1) cover services which can be provided by any qualified RISP registered firm in or out of the Province, hence the search criteria are Province wide then out-of-Province. For more information, refer to the document on the "RISP Business Rules" and the RISP Local and Region Areas map. For more information, refer to the document on the "RISP Business Rules" and the map of RISP Geographic Areas in Appendices 3.6 and 3.7 of the RISP User Manual

RISP ADJUDICATION CRITERIA

NOTICE: New name – Ministry of Transportation and Infrastructure or BCMOT

The following criteria apply to the adjudication of all RISP categories. Additional information on category-specific criteria follows.

Adjudication of consulting firms is on a "PASS" or "FAIL" basis. Firms must be registered in British Columbia. Firms that meet the "PASS" threshold must have staff identified in Part 2 of the RISP application form (Form H1095) who meet the specific requirements listed for the categories for which they are applying.

The following factors are taken into consideration in assessing the experience of a firm's personnel:

Professional Qualifications

For some categories, specific professional designations or other qualifications are identified as required.

Number of Projects

In most categories, staff members must have completed a certain minimum number of projects in the category being evaluated. In some categories, relevant experience is restricted to relevant ministry experience because of the ministry's specific requirements, while in other categories, comparable work for other clients is considered relevant.

Relevance of Projects

Only consulting work and knowledge that can be directly applied and relevant to highway projects will count in the evaluation. The application must clearly demonstrate that work experience meets all requirements for the category they are applying for. The past experience of staff members that is considered in the adjudication should involve experience with responsibilities that are normally assigned to staff having a senior level of technical knowledge and experience.

Value of Project Assignments

A minimum value of past projects is generally used to ensure that past work has been on projects of appropriate scale and complexity. Past work that is below the minimum value will not be considered relevant in the adjudication. Dollar amounts must indicate "design" costs; construction costs are not relevant.

Timeframe for Assignments

In most cases, each past project used in the adjudication process must have been performed within a specified number of years, in order to ensure that past work is relevant, given evolving techniques and technologies. For some categories, the timeframe is relatively long, as assignments in these categories are few and the technology and tools do not change substantially over time.

Location of past work

In some categories, experience with the unique terrain and circumstances of British Columbia is considered particularly important. For these categories, past experience must indicate knowledge and experience in dealing with the unique conditions of the province, and in some cases, the specific area of the project.

RISP Category Glossary and RISP Adjudication Criteria

Notes:

- In column 1: *L* indicates a local category – *R* indicates a regional category – *Pr* indicates a provincial category.
- In column two: *P* indicates Professional categories which have even second numbers in column 3 – *T* indicates Technical categories which have odd second numbers in column 3.
- The Adjudication Criteria are listed at the end of each series in yellow highlight. Just click on the criteria numbers to flip between the category descriptions and the corresponding criteria.

| RISP Category Glossary – Professional and Technical: 01-series | | |
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| 01-series | | |
| BRIDGE & STRUCTURAL CONSULTING & INSPECTION | | |
| Bridge Design: Additional to the development of conceptual and design, the scope of work generally includes the production of detailed engineering drawings, contract specifications and cost estimates. | | |
| <i>Pr</i> | <i>P</i> | 01-10 Provide conceptual/detailed design for complex long span structures (suspension, cable-stayed, hinged arch). Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>P</i> | 01-12 Provide conceptual and detailed design for intermediate to long span structures. Must have P.Eng. membership in APEGBC. |
| <i>L</i> | <i>P</i> | 01-14 Provide conceptual and detailed design for short-span structures Must have P.Eng. membership in APEGBC.. |
| <i>L</i> | <i>P</i> | 01-16 Provide conceptual and detailed design for culverts, retaining walls and miscellaneous structures. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>T</i> | 01-17 Structural Drafting Services: The scope of the work would include the development of bridge contract drawings from engineering sketches with dimensions, details and quantities. |
| Seismic Retrofit Engineering: The scope of work generally includes the seismic assessment and strategy, development of conceptual and detailed designs, engineering drawings, and contract specifications and cost estimates. | | |
| <i>Pr</i> | <i>P</i> | 01-18 For long-span structures (suspension, cable stayed and hinged arch structures, etc.). Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>P</i> | 01-20 For intermediate to long span structures. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>P</i> | 01-22 For short-span structures. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>P</i> | 01-26 Bridge Deck Rehabilitation: Includes condition surveys for the structure, the preparation of tender documents for bridge deck overlay, cathodic protection, or full deck replacement. The scope will also include the design for removal and replacement of deck joints and deck railings where required. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>T</i> | 01-27 Deck Condition Inspection: The work includes inspection of the deck surface utilizing methods such as visual inspection, chain drag, half-cell survey, concrete coring with chloride and petrography analysis. Provide an inspection report that can be utilized in developing designs and tender documents for bridge deck re-surfacing. |
| <i>Pr</i> | <i>T</i> | 01-29 Wood Truss Structure Inspection: The work is limited to inspection of the truss members using visual inspection and wood boring and probing techniques to record section loss. |
| <i>Pr</i> | <i>T</i> | 01-31 Steel Structure Coating Inspections: The work consists of inspection of all types of coatings using visual, non-destructive and destructive techniques to evaluate both new and old coating systems. Minimum qualifications are NACE Level 1. |
| Bridge Rehabilitation Design: Perform condition inspections on structures, develop detailed designs and prepare tender documents for repair or replacement of components. | | |
| <i>Pr</i> | <i>P</i> | 01-32 For long-span structures (suspension, cable stayed and hinged arch structures, etc.) Must have P.Eng. membership in APEGBC.. |
| <i>Pr</i> | <i>P</i> | 01-34 For intermediate to long span structures. Must have P.Eng. membership in APEGBC. |
| <i>L</i> | <i>P</i> | 01-36 For short-span structures. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | <i>T</i> | 01-39 Underwater Bridge Inspection: Projects consist of inspecting underwater components of all types of substructure elements, utilizing visual and non-destructive testing. Minimum qualifications are certification as a bridge inspector or a Professional Engineer with bridge experience. Inspectors must also be certified divers. |
| <i>Pr</i> | <i>P</i> | 01-40 Forensic Analysis: Review structures subject to either damage or failure due to vehicular impact, prepare recommendations on the cause for insurance claims purposes, |

RISP Category Glossary and RISP Adjudication Criteria

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| | | | and provide expert testimony as required. Must have P.Eng. membership in APEGBC. |
| Pr | P | 01-42 | Structural Instrumentation – Analysis and Design: The scope of work would include ambient vibration tests on the structure and provision of a Finite Element Model of the structure, development of seismic mode shapes, a condition assessment that identifies critical changes in the structure and potential compromises to the structural integrity, determination of the appropriate sensors and data delivery mechanisms to integrate with the Ministry’s Smart Infrastructure Monitoring System. Must have P.Eng. membership in APEGBC. |
| Pr | | 01-43 | Structural Instrumentation – Testing and Calibration: The work includes ensuring the synchronized working of the seismic or structural health monitoring system under simulated conditions and the integration of the system with the Ministry’s Smart Infrastructure Monitoring System. |
| Pr | P | 01-50 | Marine Structures Design and Rehabilitation: to provide conceptual and detailed design complete with drawings, specifications and cost estimates for tender for dock (for marine vessels) and marine structures, including debris and impact protection systems. Must have P.Eng. membership in APEGBC. |
| L | T | 01-61 | Project Supervision (Bridge / Structural)...small to medium projects fee value ≤ \$300,000 and capital cost ≤ \$3 M. |
| L | T | 01-63 | Project Supervision (Bridge / Structural)...medium to large projects fee value > \$300,000 and capital cost > \$3 M. |
| L | T | 01-65 | Project Supervision (Concrete Bridge Deck Re-Surfacing). |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA: 01-SERIES | |
| Bridge/Structural Engineering | | ADJUDICATION CRITERIA BY CATEGORY | |
| Professional Cat: (For these, must be P.Eng. member of APEGBC): 01-10 , 01-12 , 01-14 , 01-16 , 01-18 , 01-20 , 01-22 , 01-26 , 01-32 , 01-34 , 01-36 , 01-40 , 01-42 , 01-50 | | 01-10 01-12 01-14 Must have professional engineer(s) currently active in the structural design of bridges who have been the design engineer of record or a senior-level designer for completed designs for these types of structures for highway/ roadway projects. Must be P.Eng. member of APEGBC. | |
| Technical Cat: 01-17 , 01-27 , 01-29 , 01-31 , 01-39 , 01-43 , 01-61 , 01-63 , 01-65 , 15-71 , 35-51 | | 01-16 Must have professional engineer(s) currently active in the structural design of culverts, retaining walls and miscellaneous structures who have been the design engineer of record or a senior-level designer for completed designs for these types of structures for highway/ roadway projects. 01-18 01-20 01-22 Must have professional engineer(s) currently active in the structural analysis and design of bridges who have been the design engineer of record or a senior-level designer for completed designs for seismic retrofit of these types of structures for highway/ roadway projects. Must be P.Eng. member of APEGBC. | |
| | | 01-26 Must have professional engineer(s) currently active in the structural design of bridges who have been the design engineer of record or a senior-level designer for completed designs of bridge deck rehabilitation for highway/ roadway bridge projects, or must have professional engineer(s) currently active in materials engineering on bridge projects who have been the engineer of record or a senior-level designer for completed designs for bridge deck rehabilitation for highway/ roadway bridge projects Must be P.Eng. member of APEGBC.. | |

RISP Category Glossary and RISP Adjudication Criteria

01-32

01-34

01-36

Must have professional engineer(s) currently active in the structural design of bridges who have been the design engineer of record or a senior-level designer for completed designs of bridge rehabilitation for highway/ roadway bridge projects, or must have professional engineer(s) currently active in materials engineering on bridge projects who have been the engineer of record or a senior-level designer for completed designs for bridge rehabilitation for highway/ roadway bridge projects Must be P.Eng. member of APEGBC..

01-40

Must have professional engineer(s) currently active in the structural design or analysis of bridges who have been the design engineer of record or a senior-level designer for completed bridge designs for highway/ roadway bridge projects, or must have professional engineer(s) currently active in the structural design or analysis of bridges who have been the engineer of record or a senior-level designer or an expert witness involving detailed structural forensic analysis of damaged or failed highway/ roadway bridges. Must be P.Eng. member of APEGBC.

01-42

Must have professional engineers currently active in the analysis and design of real-time seismic and structural health monitoring systems consisting of static and dynamic components and with experience with state-of-the-art fibre optics, electronic monitoring equipment and wireless technology and their use in real-time structural health monitoring applications. Must have access to and experience with ambient vibration equipment. Must be P.Eng. member of APEGBC.

01-50

Must have professional engineer(s) currently active in the structural design of marine structures who have been the design engineer of record or a senior-level designer for completed designs for these types of structures. Must be P.Eng. member of APEGBC.

01-17

Must have technicians and/or technologists currently active in the structural drafting of detailed bridge drawings using AutoCAD, who have been the senior-level draftsman for completed designs for highway/ roadway bridges.

01-27

Must have professional engineers or technicians/ technologists with current experience in completing bridge deck inspections, and must have field and laboratory equipment required for carrying out complete inspection of bridges using visual inspection, half cell surveys, concrete coring, chloride analysis and petrography analysis, and must have professional engineers or technicians/ technologists with recent experience in preparing inspection reports that can be utilized in developing designs and tender documents for bridge deck resurfacing.

01-29

Must have professional engineers or technicians/ technologists with current experience in carrying out inspection of wood truss members using visual inspection and wood boring and probing techniques to record section loss, and must have professional engineers or technicians/ technologists with current experience in preparing inspection reports for wood truss structure inspections.

01-31

Must have professional engineers or technicians/ technologists with current NACE level 1 certification and with current experience in carrying out inspection of all types of coatings using visual, non-destructive techniques and destructive techniques to evaluate both new and old coating systems on steel bridge structures, and must have equipment required for

RISP Category Glossary and RISP Adjudication Criteria

carrying out bridge coating inspections, and must have professional engineers or technicians/ technologists with current experience in preparing coating inspection reports for steel bridge structures.

01-39

Must have technicians/ technologists with current certification as bridge inspectors who are also certified divers and who have current experience in carrying out underwater inspection of bridge or marine structures using visual and non destructive testing, or must have professional engineers who are also certified divers and who have current experience in carrying out underwater inspection of bridge or marine structures using visual and non destructive testing. Also must have professional engineers or technicians/ technologists who have current experience in preparing underwater inspection reports for bridge or marine structures.

01-43

Must have professional engineers and/or technologists currently active in the testing and calibration of real-time seismic and structural health monitoring systems and experience integrating such systems with structural analysis and damage assessment software.

01-61

01-63

Must have professional engineers or technicians/ technologists with current experience as bridge construction inspectors or as bridge project supervisors who have been the senior technical person that carried out and was responsible for full time inspection/ supervision for the complete construction of these types of structures for highway/ roadway projects, and must have equipment required for carrying out the work.

01-65

Must have professional engineers or technicians/ technologists with current experience as bridge construction inspectors or as bridge project supervisors who have been the senior technical person that carried out and was responsible for full time inspection/ supervision for the complete construction of these types of structures for highway/ roadway projects, and must have equipment required for carrying out the work, and must have current experience in inspection/ supervision of concrete bridge deck resurfacing projects.

15-71

Must have professional engineers or technicians/ technologists currently certified as Level 3 welding inspectors (CWB or equivalent) qualified to perform radiographic and ultrasound testing of welds who have current experience with weldment testing on bridge structures, and must have equipment required for carrying out radiographic and ultrasound testing of welds.

35-51

Firms must have professional engineers and/or technologists/technicians with current experience in carrying out inspections, preparing assessments and developing maintenance and rehabilitation strategies for existing highway infrastructure systems and corridors including roads, bridges and other structures.

RISP Category Glossary and RISP Adjudication Criteria

| RISP CATEGORY GLOSSARY – PROFESSIONAL AND TECHNICAL: 05-SERIES | | |
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| 05-series | | HIGHWAY DESIGN & SURVEY ENGINEERING |
| <div style="border: 2px solid red; padding: 5px; display: inline-block;"> READ </div> | | <p><i>Note: Most of these categories are listed in the Professional Category Glossary (starting with 05-XX with XX being an even number.) Only RISP Offices with qualified Professional Engineers registered in British Columbia can be approved for these categories. Technician, EITs and Engineers not registered in BC may list these categories to indicate their work experience in design and survey work in Part 2 of their application. However; RISP Offices can only apply for the highway design and survey engineering categories in Part 3 when there is at least one experienced Design Engineer that is listed their RISP application.</i></p> |
| L | T | <p>05-13</p> <p>Design Survey: Provide all cadastral, planimetric detail, ground surface, topographical features and underground utility ties using electronic gather equipment for processing with CAiCE software program. Produce all ground surface models and base plans (in AutoCad), including site plans for water, railway or utility crossings. Provide field staking of proposed alignments, R/W, cut/fill toes, setting hubs and benchmarks in the field, etc. Survey to meet the latest version of the Ministry's General Survey Requirements Manual.</p> |
| Pr | T | <p>05-15</p> <p>Topographic Mapping from Aerial LiDAR Scanning Sources: Provide digital and hard copy 10 to 15 cm resolution colour orthophotography with horizontal positional accuracy of 30 cm RMSE at the 95% confidence level. Provide digital point cloud data, in LAS format, compiled to meet 15 cm relative vertical accuracy at the 95% confidence level on hard open surfaces. Provide filtered LiDAR data to meet point density, spacing and feature code identification for points and chains; data to be delivered in BCMOT Survey File Format for import into CAiCE Visual Transportation software (refer to Sections 900, 1000 and 1200 of the General Survey Guide)</p> <p>http://www.th.gov.bc.ca/publications/eng_publications/survey/General_Survey_Guide.pdf</p> <p>Provide data in the projection and datum required to meet project deliverable. Dependent on the terms of the assignment, provide ground control and quality control audits using GPS (Refer to section 300 of the General Survey Guide).</p> |
| Pr | T | <p>05-17</p> <p>Topographic Mapping from Aerial Data Collection Sources: Provide hard copies and/or digital topographic mapping for highway design and engineering through the use of approved / recognized aerial methods of data capture such as photogrammetry. Provide hard copies and/or digital un-rectified and rectified photo mosaics. Provide or coordinate, if necessary, the acquisition of ground control, aerial data, air photos, etc. for producing controlled digital topographic mapping.</p> <p>Digital Data including point density, spacing and feature code identification for points and chains shall be delivered in BCMOT Survey File Format for import into CAiCE Visual Transportation software (refer to Section 900, 1000 and 1200 of the General Survey Guide at the following Internet address: http://www.th.gov.bc.ca/publications/eng_publications/survey/General_Survey_Guide.pdf).</p> <p>Provide data in the projection and datum required to meet project deliverables.</p> |
| L | T | <p>05-19</p> <p>Highway Design Drafting Services: The scope of work generally includes the drafting of detail roadway design drawings in accordance with Ministry standard layout.</p> |
| | | <p>Highway Design – Less Complex Preliminary, functional, and/or detailed design assignments for less complex highway engineering projects. Projects are typically in rural flat or rolling terrain with minimal stakeholder, geotechnical, environmental, R/W, or access mgmt risks.</p> |
| L | P | 05-66 Small assignments under \$100,000 |
| R | P | 05-68 Medium assignments between \$100,000 and \$300,000. |
| Pr | P | 05-70 Large assignments greater than \$300,000. |
| | | <p>Highway Design – Complex Preliminary, functional, and/or detailed design assignments for complex highway engineering projects. Projects typically have significant stakeholder, geotechnical, environmental, R/W, or access mgmt risks. Typical projects include work in: mountainous terrain; urban areas; major intersection improvements; interchange designs.</p> |
| L | P | 05-72 Small assignments under \$100,000. |
| R | P | 05-74 Medium assignments between \$100,000 and \$300,000. |
| Pr | P | 05-76 Large assignments greater than \$300,000. |
| Pr | P | 05-90 Water Supply and Drainage Systems: analysis of existing water supply systems, design |

RISP Category Glossary and RISP Adjudication Criteria

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| | of new water supply and distribution systems. For the design of highway drainage systems, use either this category or any of the categories 05-72, 05-74 and 05-76. |
| <p>Fields & RISP Categories</p> | <p>CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA-05-SERIES</p> |
| <p>Highway Design, Survey & Mapping</p> <p>Professional Cat. (For these, must be P.Eng. member of APEGBC): 05-66, 05-68, 05-70, 05-72, 05-74 05-76, 05-90</p> <p>Technical Cat: 05-13, 05-15, 05-17, 05-19</p> | <div style="border: 2px solid red; padding: 10px;"> <p>IMPORTANT NOTICES:</p> <p>1)</p> <ul style="list-style-type: none"> • RISP work categories serve a dual purpose: 1) To register staff experience. 2) To select a consulting office. • Since the Ministry does not hire Design offices without a P.Eng. experienced in highway Design on staff, only Professional categories were created for Design categories. • Offices needed a way to register the experience of their Design staff who are not P.Eng. or Limited Practice Member of APEGBC. Therefore, we allowed offices to enter their Technicians' and EITs' experiences by using Professional design categories. These experiences can be "Accepted" or "Declined" by adjudicators; but the eRISP software will not allow the Technician or EIT to be "Accepted". • The adjudicator should take into account <u>all</u> of the experience that was "Accepted" whether it is from Technicians, EIT and Engineers when considering approving a "Preferred Amount" for the office in Part 3. • Please ensure that your adjudicator assistants are aware of this procedure. • Headquarters RISP administration will be communicating with RISP offices to ensure that, from their end, they register <u>all</u> of their Design staff experiences in Design using the Professional Categories. <p>2) FOR DESIGN ENGINEERS, TECHNOLOGISTS AND TECHNICIANS APPLYING FOR DESIGN CATEGORIES (05-SERIES) THAT REQUIRE KNOWLEDGE AND ABILITIES IN USING CAICE AND AUTOCAD: YOU SHOULD CLEARLY SPECIFY YOUR KNOWLEDGE IN USING CAICE AND AUTOCAD WHEN ENTERING YOUR WORK EXPERIENCES IN PART 2 OF THE APPLICATION. FAILURE TO DO SO WILL RESULT IN BEING DECLINED FOR THESE CATEGORIES.</p> </div> <p>ADJUDICATION CRITERIA BY CATEGORY</p> <p>05-66, 05-68, 05-70, 05-72, 05-74, 05-76</p> <p>For the above categories, the staff members must have completed three ministry projects within the previous five years or five municipal or other highway projects within the previous seven years. Must demonstrate a working knowledge of Caice software.</p> <p>05-90 <i>Water Supply and Drainage Systems</i> 05-13 <i>Design Survey</i> 05-15 <i>Topographic Mapping from Aerial LiDAR Scanning Sources</i> 05-17 <i>Topographic Mapping from Aerial Data Collection Sources</i> 05-19 <i>Highway Design Drafting Services</i></p> <p>For the above categories, the staff members must have completed three projects within the previous five years.</p> <p>For 05-13 must demonstrate a working knowledge of Caice. For 05-15 we look for evidence and examples that the office has skilled geomatics technicians and appropriate software to deliver LiDAR, Orthophotography and Filtered digital data products. Third party processing of the data will not be accepted; the Ministry of</p> |

RISP Category Glossary and RISP Adjudication Criteria

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| | <p>Transportation and Infrastructure will not contract offices that do not comply. For 05-17, we look for evidence and examples that the office has skilled experienced photogrammetrists on staff along with the equipment to properly deliver the product. Third parties to process the data will not be accepted; the Ministry of Transportation and Infrastructure will not contract with an office that doesn't actually do the work.</p> <p>For 05-19 must demonstrate a working knowledge of Autocad.</p> |
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RISP Category Glossary and RISP Adjudication Criteria

| RISP CATEGORY GLOSSARY – PROFESSIONAL AND TECHNICAL: 06-SERIES | | | |
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| 06-series | | FIELD SERVICES | |
| | | <p>Usual procedure for Multiple Category RISP Selections in the following category series:</p> <p>RISP selections using multiple 06-xx categories (such as 60% 06-45 and 40% 06-73, for a single project with both large grading and paving components) should not normally be done. Typically the RISP selection should be based on the 06-xx category that represents the largest portion of the work. This will allow firms to sub-contract services that they cannot provide internally. For exceptions to this procedure, contact the Lead Adjudicator.</p> <p>The primary exceptions to this multiple selection guideline will be:</p> <ul style="list-style-type: none"> • The Senior Project Supervisor and Construction Management categories (06-8x and 06-9x), where these categories give individuals of greater experience to oversee others from the normal 06-xx project supervision categories, and • for Day Labour Supervision with significant construction survey, when 06-6x may be used in conjunction with 06-11. <p>Where multiple categories are used with a single RISP selection, the aggregate fee cap is still \$1 million.</p> | |
| L | T | 06-11 | <p>Construction Survey – Provide construction surveys including: QA and quantity surveys; pick up of existing and As-built ground and details; material horizons; slope, off-set and shoulder stakes; setting/checking location of culverts, retaining walls, fencing, spot elevations, etc.; providing electronic survey data compatible with CAiCE software in accordance with Ministry standards. <\$1.0 M fees.</p> |
| | | <p>Project Supervision Categories (Non-structural): 06-4x, 06-5x, 06-6x and 06-7x</p> <p>These categories are to provide project supervision services for highway grading and/or paving projects, including quality management, record documentation, survey and volume determination, cost control and reporting, and inspection services for compliance with drawings, standards and specifications. It will involve administration of the construction contract, liaison with other individuals and agencies, and will require provision of all equipment, vehicles and tools necessary to complete the work.</p> <p>On projects requiring a structural Project Supervisor, categories 01-61 or 01-63 are to be used.</p> <p>06-4x: Project Supervision – Roadway: This category is to provide project supervision services for roadway grading projects, including CAiCE volume determination. The work will include paving and small structural elements (such as retaining walls and multiplate culverts) to a lesser extent.</p> <p>For supervision of projects with a high degree of complexity or risk, add a Senior Project Supervisor or Construction Manager by selecting 06-4x plus 06-8x or 06-9x. For projects valued at over \$10 million, select category 06-45 plus 06-84 or 06-93.</p> <p>06-5x: Project Supervision – Seal Coat/Micro-surfacing: This category is to provide project supervision services for seal coat, chip sealing, graded aggregates seal, and micro-surfacing projects. The work will include grading elements to a lesser extent.</p> | |
| L | T | 06-41 | Project Supervision (Roadwork)...Small <\$0.5 M CAP. COST <\$0.1 M FEES |
| R | T | 06-43 | Project Supervision (Roadwork)...Medium <\$3 M Cap. cost <\$0.5 M fees |
| Pr | T | 06-45 | Project Supervision (Roadwork)...Large ≥\$3 M Cap. cost <\$1 M fees |
| L | T | 06-51 | Project Supervision (Sealcoating) < \$0.2 M cap. Cost <\$0.1 M fees |
| Pr | T | 06-53 | Project Supervision (Sealcoating) ≥ \$0.2 M cap. Cost <\$1M fees ...typically a team providing services, including supervisor, lab people and inspectors |
| | | <p>06-6x: Project Supervision – Day Labour: This category is for staff to provide project</p> | |

RISP Category Glossary and RISP Adjudication Criteria

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| | | <p>supervision and equipment selection, direction and monitoring on Day Labour construction. Must demonstrate the ability to plan and analyze work; select appropriate equipment; balance fleets; set and achieve challenging productivity targets; administer hired equipment; prepare and administer labour, equipment and materials supply contracts; maintain a safe and environmentally compliant site.</p> <p>Where survey and layout of the work is a substantial component of the work, category 06-11 may also be selected.</p> <p>06-61 (local): Generally a single person required. Equipment fleet would typically be 1-2 excavators, a loader, compactor, grader, and 6-10 trucks; Staff of 6-10, including labourers, flaggers and first aid.</p> <p>06-63 (regional): Generally a small team will be required – a project supervisor, with one or two assistants for inspection, surveying and QC, overseeing a larger fleet operating on multiple fronts.</p> <p>06-65 (provincial): A team of a project supervisor, assistants, surveyors, QC and administrative personnel are required, with foremen potentially required. Extensive fleet, much of it provided under supply contracts which would include foremen, including all types of construction equipment (excavators, scrapers, dozers, compactors, graders, on- and off-road trucks, cranes, etc.)</p> | |
| L | T | 06-61 | Day Labour Supervision ...Small - <\$0.5 M Capital cost - <\$0.1 M fees...typically one person providing service |
| R | T | 06-63 | Day Labour Supervision ...Medium - <\$2 M Capital cost - <\$0.5 M fees...typically a team providing services |
| Pr | T | 06-65 | Day Labour Supervision ...Large - <\$5 M Capital cost - <\$1 M fees...typically a team providing services |
| | | | 06-7x: Project Supervision – Surfacing: This category is to provide project supervision services for asphalt concrete paving projects (includes conventional, EPS, HIP, etc.). The work will include grading and structural elements to a lesser extent. |
| L | T | 06-71 | Project Supervision (Surfacing)...Small <\$0.5 M Cap. cost <\$0.1 M fees ...typically one person providing service |
| Pr | T | 06-73 | Project Supervision (Surfacing)...Medium ≥\$0.5 M Cap. cost <\$1 M fees ...typically a team providing services, including supervisor, lab people, profilers and inspectors |
| | | | Construction Management (P.Eng.) |
| | | | <p>This category series is for a single professional Construction Manager to simultaneously oversee the work of multiple Project Supervisors (Professional or Technical; normally employed by other firms) on multi-discipline (grading, surfacing and/or structural) projects.</p> <p>Where professional quality management or certification is required on a single project or the project value exceeds \$7 - 10 million, the category may also be used to retain a Construction Manager plus a Project Supervision team from the same firm, in which case the RISP selection shall be for both this category and 06-4x or other suitable supervision category.</p> <p>Duties include record documentation, cost control and reporting, management of the construction project schedule and budget, administration of the construction contract, second-stage dispute resolution with the Contractor, arranging / facilitating and documentation of construction project team meetings, liaison with other Ministries, individuals and outside agencies, and provision of all equipment, vehicles and tools necessary to complete the work. Must have P.Eng. membership in APEGBC.</p> |
| R | P | 06-80 | Construction Management Services <u>by a P.Eng.</u> <\$3 M Capital cost <\$0.1 M fees |

RISP Category Glossary and RISP Adjudication Criteria

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| <i>Pr</i> | P | 06-82 | Construction Management Services by a P.Eng. fees | <\$10 M Capital cost | <\$0.5 M |
| <i>Pr</i> | P | 06-84 | Construction Management Services by a P.Eng. fees | ≥\$10 M Capital cost | <\$1 M |
| Construction/project Supervision | | | | | |
| <p>Senior Project Supervisor - This category is for a single, non-professional, highly experienced Project Supervisor to oversee the work on one high-value or complex project, or simultaneously oversee multiple Project Supervisors (Professional or Technical; normally employed by other firms) on multidisciplinary (grading, surfacing, and/or structural) projects. [On structural projects requiring a Senior Project Supervisor, category 01-63 is to be used.]</p> <p>Duties include managing the project supervision services, ensuring consistency; providing construction quality assurance on the project supervision services; managing the inter-relationship of multiple individual construction project schedules and budgets; liaising with other consultants, other Ministries, individuals and outside agencies; arranging, facilitating and documenting construction project team meetings; ensuring BCMOT is fully informed on all project issues, including regular status reporting.</p> <p>Where the work is on a single project of higher complexity or with value in excess of \$7 – 10 million, this category may be used in conjunction with 06-45 to obtain a project supervision support team as well as the Senior Project Supervisor.</p> | | | | | |
| <i>R</i> | T | 06-91 | Senior Project Supervisor's Services ...Less complex project | <\$100K in fees | |
| <i>Pr</i> | T | 06-93 | Senior Project Supervisor's Services ...Project of medium complexity | \$ 100K to <\$500K in fees | |
| <i>Pr</i> | T | 06-95 | Senior Project Supervisor's Services ...Complex project | \$ 500K to <\$1 M in fees | |
| Fields & RISP Categories | | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 06-SERIES | | |
| Field Services | | | General Adjudication Criteria: | | |
| <p>Professional Cat: (For these, must be P.Eng. member of APEGBC): 06-80, 06-82, 06-84</p> <p>Technical Cat: 06-11, 06-41, 06-43, 06-45, 06-51, 06-53, 06-61, 06-63, 06-65, 06-71, 06-73, 06-91, 06-93, 06-95</p> | | | <ul style="list-style-type: none"> • Size and complexity of projects completed within the past five years, or up to 10 year for high-end categories such as Senior Project Supervisor and Construction Manager. Must be relevant to what the ministry intends in this category • Experience must detail the roles and responsibilities, not generalize, and use appropriate terms (e.g. "Inspecting" is not "project supervision"). Overstating qualifications will be sufficient grounds for rejection. • Whether work was for the ministry or a very similar organization. • Past project success. For any BCMOT project completed under a RISP selection, must provide the final evaluation score • Capital values and fees are guidelines only (except for the maximum \$1 million cap applicable to any RISP selection). Category descriptions and project complexity should be the overriding factor. | | |
| | | | Category Specific Adjudication Criteria: | | |
| | | | <p>06-8x: Construction Management (P.Eng.) - This category is for a single professional Construction Manager to simultaneously oversee the work of multiple Project Supervisors (Professional or Technical; normally employed by other firms) on multi-discipline (grading, surfacing and/or structural) projects.</p> <p>Where professional quality management or certification is required on a single project or the project value exceeds \$7 - 10 million, the category may also be used to retain a Construction Manager plus a Project Supervision team from the same firm, in which case the RISP selection shall be for both this category and</p> | | |

RISP Category Glossary and RISP Adjudication Criteria

06-4x or other suitable supervision category.

Duties include record documentation, cost control and reporting, management of the construction project schedule and budget, administration of the construction contract, second-stage dispute resolution with the Contractor, arranging / facilitating and documentation of construction project team meetings, liaison with other Ministries, individuals and outside agencies, and provision of all equipment, vehicles and tools necessary to complete the work.

Requirements are:

- experience as a Project Supervisor, Senior Project Supervisor, or Construction Manager overseeing large multidisciplinary grading, paving and/or structural projects
- experience with BCMOT Standard Specifications and Major Works Construction Agreement, application and interpretation consistent with Ministry practice
- experience in Quality Management and ability to professionally certify such work
- Geotechnical and highway design/management experience is an asset but is not sufficient unto itself

06-80: [Regional] Moderate experience equivalent to 3 years. Demonstrated experience on a minimum of 2 BCMOT projects within the past 5 years

06-82: [Provincial] Substantial experience, equivalent to 5 years. Successful experience as a Construction Manager under category 06-80, with RISP performance evaluation of 3.5 or greater; or extensive experience on similar work for other jurisdictions.

06-84: [Provincial] Extensive experience, equivalent to 10 years. Successful experience as a Construction Manager under category 06-82, with RISP performance evaluation of 4.0 or greater.

06-11: Construction Survey – [Local] Provide construction surveys including: QA and quantity surveys; pick up of existing and As-built ground and details; material horizons; slope, off-set and shoulder stakes; setting/checking location of culverts, retaining walls, fencing, spot elevations, etc.; providing electronic survey data compatible with CAICE software in accordance with Ministry standards.

Requirements:

- 2 years demonstrated experience in construction surveys
- knowledge of BCMOT survey standards
- Understanding of survey techniques necessary for seamless DTM formation including overhangs
- Must have an internal quality management program in place for ensuring the quality of their work.

Fees will be capped at \$20,000 per assignment until completion of at least two assignments with RISP evaluation scores of 3.2 or better, or demonstration of 2 years successful experience surveying to BCMOT survey Standards.

Project Supervision Categories (Non-structural): 06-4x, 06-5x, 06-6x and 06-7x

These categories are to provide project supervision services for highway grading and/or paving projects, including quality management, record documentation, survey and volume determination, cost control and

RISP Category Glossary and RISP Adjudication Criteria

reporting, and inspection services for compliance with drawings, standards and specifications. It will involve administration of the construction contract, liaison with other individuals and agencies, and will require provision of all equipment, vehicles and tools necessary to complete the work.

On projects requiring a structural Project Supervisor, categories 01-61 or 01-63 are to be used.

Requirements:

- Experience in project supervision, ensuring consistency with BCMOT practices
- Knowledge of BCMOT Standard Specifications and Major Works Construction Agreement, application and interpretation consistent with Ministry practice, with experience commensurate with the category level
- Practical and technical knowledge of construction, including familiarity with grading, paving and small structural (such as retaining walls and multiplate culverts) aspects
- Detailed knowledge in specific disciplines
- Sound knowledge of Quality Management in project supervision services
- Ability to:
 - manage individual construction project schedules and budgets,
 - timely and accurate surveying and quantity determination
 - liaise with other consultants, other Ministries, individuals and outside agencies,
 - arrange, facilitate and document project team meetings,
 - ensure BCMOT is fully informed on all project issues, including regular status reporting.

06-4x: Project Supervision – Roadway: This category is to provide project supervision services for roadway grading projects, including CAiCE volume determination. The work will include paving and small structural elements (such as retaining walls and multiplate culverts) to a lesser extent.

For supervision of projects with a high degree of complexity or risk, add a Senior Project Supervisor or Construction Manager by selecting 06-4x plus 06-8x or 06-9x. For projects valued at over \$10 million, select category 06-45 plus 06-84 or 06-93.

Requirements:

- Practical and technical knowledge of grading construction, including familiarity with paving and small structural aspects of roadway construction
- timely and accurate surveying and quantity determination, including application of BCMOT CAiCE standards

06-41: [Local] Moderate experience in construction supervision, equivalent to 2 years

06-43: [Regional] Substantial experience in construction supervision (5 years), a RISP evaluation of 3.5 or better in category 06-41, or successful completion of three supervision assignments on BCMOT projects within the past 10 years.

06-45: [Provincial] Extensive experience in construction supervision (10 years), a RISP evaluation of 4.0 or better in category 06-43, or

RISP Category Glossary and RISP Adjudication Criteria

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| | <p>successful completion of five supervision assignments on BCMOT projects within the past 10 years</p> <p>06-5x: Project Supervision – Seal Coat/Micro-surfacing: This category is to provide project supervision services for seal coat, chip sealing, graded aggregates seal, and micro-surfacing projects. The work will include grading elements to a lesser extent.</p> <p>Requirements:</p> <ul style="list-style-type: none">• Practical and technical knowledge of seal coating and micro-surfacing materials and procedures• Knowledge of asphaltic cements, emulsions and admixtures• experience in Quality Assurance and its application in End Product Specification contracts <p>06-51: [Local] Moderate experience in inspection of seal coat and/or micro-surfacing pavements (2 years) or 5 years in related paving contract inspection and administration</p> <p>06-53: [Provincial] Substantial experience in inspection of seal coat and/or micro-surfacing pavements (5 years) or 10 years in related paving and/or grading contract inspection and administration with 3 years in seal coating and/or micro-surfacing.</p> <p>06-6x: Project Supervision – Day Labour: This category is for staff to provide project supervision and equipment selection, direction and monitoring on Day Labour construction. Must demonstrate the ability to plan and analyze work; select appropriate equipment; balance fleets; set and achieve challenging productivity targets; administer hired equipment; prepare and administer labour, equipment and materials supply contracts; maintain a safe and environmentally compliant site.</p> <p>Where survey and layout of the work is a substantial component of the work, category 06-11 may also be selected.</p> <p>Requirements are experience in:</p> <ul style="list-style-type: none">• selecting, directing and administering construction equipment fleets (experience as a contractor preferred)• supervising grading and paving construction, including multiplate culverts, concrete block retaining walls• preparing and implementing construction-related plans: traffic, safety, quality management, environmental, etc.• Stakeholder liaison• familiarity with BCMOT hired equipment procedures <p>06-61: [Local] Generally a single person required. Equipment fleet would typically be 1-2 excavators, a loader, compactor, grader, and 6-10 trucks; Staff of 6-10, including labourers, flaggers and first aid. 3 years demonstrated experience.</p> <p>06-63: [Regional] Generally a small team will be required – a project supervisor, with one or two assistants for inspection, surveying and QC, overseeing a larger fleet operating on multiple fronts. 5 years</p> |
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RISP Category Glossary and RISP Adjudication Criteria

demonstrated experience.

06-65: [Provincial] A team of a project supervisor, assistants, surveyors, QC and administrative personnel are required, with foremen potentially required. Extensive fleet, much of it provided under supply contracts which would include foremen, including all types of construction equipment (excavators, scrapers, dozers, compactors, graders, on- and off-road trucks, cranes, etc.) 10 years demonstrated experience

06-7x: Project Supervision – Surfacing: This category is to provide project supervision services for asphalt concrete paving projects (includes conventional, EPS, HIP, etc.). The work will include grading and structural elements to a lesser extent.

Requirements:

- Practical and technical knowledge of asphalt pavements
- experience in Quality Assurance and its application in End Product Specification contracts

06-71: [Local] Substantial experience in inspection of asphaltic pavements (5 years)

06-73: [Provincial] Extensive experience in inspection of asphaltic pavements (10 years)

06-9x: Senior Project Supervisor - This category is for a single, non-professional, highly experienced Project Supervisor to oversee the work on one high-value or complex project, or simultaneously oversee multiple Project Supervisors (Professional or Technical; normally employed by other firms) on multidisciplinary (grading, surfacing, and/or structural) projects. [On structural projects requiring a Senior Project Supervisor, category 01-63 is to be used.]

Duties include managing the project supervision services, ensuring consistency; providing construction quality assurance on the project supervision services; managing the inter-relationship of multiple individual construction project schedules and budgets; liaising with other consultants, other Ministries, individuals and outside agencies; arranging, facilitating and documenting construction project team meetings; ensuring BCMOT is fully informed on all project issues, including regular status reporting.

Where the work is on a single project of higher complexity or with value in excess of \$7 – 10 million, this category may be used in conjunction with 06-45 to obtain a project supervision support team as well as the Senior Project Supervisor.

Requirements are:

- extensive experience as a Project Supervisor or Construction Manager overseeing large multidisciplinary (grading, surfacing and/or structural) projects
- extensive experience with BCMOT Standard Specifications and Major Works Construction Agreement, application and interpretation consistent with Ministry practice
- sound knowledge and experience in Quality Management

06-91: [Regional] Moderate experience equivalent to 10 years.

RISP Category Glossary and RISP Adjudication Criteria

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| | <p>Demonstrated experience with increasing responsibility and complexity on a minimum of 2 complex BCMOT projects within the past 5 years</p> <p>06-93: [Provincial] Substantial experience, equivalent to 15 years with 2 years at the Senior Project Supervisor level. Successful experience as a Senior Project Supervisor under category 06-90 with personal RISP performance evaluation of 3.5 or greater; or extensive experience on similar work with BCMOT or other jurisdictions.</p> <p>06-95: [Provincial] Extensive experience, equivalent to 20 years with 5 years at the Senior Project Supervisor level. Successful experience as a senior project supervisor or construction manager with the Ministry, or under category 06-92 with personal RISP performance evaluation of 4.0 or greater.</p> |
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RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 10-series | | | |
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| 10-series | | GEOTECHNICAL / GEOLOGICAL/SOIL TESTING | |
| L | T | 10-07 | Soil Mechanics - Field Investigations: To supervise subsurface sampling operations involving soils and rock. This may also include arranging equipment access, preparation of logs and other records, installation of instrumentation, establishing exact site locations and elevations. For contracts less than \$100,000. |
| R | T | 10-09 | Same as 10-07. For contracts between \$100,000 and \$300,000. |
| Pr | P | 10-10 | Soil Mechanics / Investigation and Design: Assignments may include field investigation, laboratory testing, design, reporting, recommending and construction monitoring or supervision of earthwork projects. Must be Qualified Professional member of APEGBC. |
| Pr | T | 10-11 | Same as 10-07. For contracts greater than \$300,000. |
| L | T | 10-13 | Soil Mechanics - Laboratory Testing: To conduct sophisticated soil testing to establish standards and reporting criteria. Testing and procedures may include Shelby tube extraction and sample logging, unconfined compression, consolidation shear box, tri-axial testing, etc. For contracts less than \$100,000. |
| R | T | 10-15 | Same as 10-13. For contracts between \$100,000 and \$300,000. |
| Pr | T | 10-17 | Same as 10-13. For contracts greater than \$300,000. |
| Pr | T | 10-19 | Project Supervision, Rock Slope Stabilization: To provide project supervision services, including quality management, record documentation, cost control and reporting, inspection services for compliance with drawings, standard specifications, traffic management plans and compliance with WCB regulations. It will involve administration of the construction contract, liaison with BCMOT staff and or its delegates, liaison with utilities and agencies and project stakeholders. Project supervision will also include services for Day Labour slope stabilization construction including quality management, record documentation, inspection, work direction involving labourers and Hired Equipment and traffic management, and compliance with WCB regulation. Project Supervision will include the provision of all equipment, vehicles and tools, necessary to perform the above tasks. |
| R | P | 10-20 | Terrain and Natural Hazard Evaluation: Assignments may include interpretation of air photos or other “remote” resources; field investigation to classify soils and rock for route selection; assessment of debris flow and other natural hazards; risk assessment and recommendations for mitigation; aggregate potential assessments; etc. - and designs of mitigation for hazard control or prevention. Must be Qualified Professional member of APEGBC. |
| Pr | P | 10-30 | Rock Slope Design and Stabilization: Rock slope design / stabilization assessments for new rock cut construction and remedial stabilization of existing rock slopes; preparation of blast plans in support of new construction or remedial stabilization of rock slopes. The work may involve structural and geologic mapping; statistical analysis of structural data; assessment of local rock conditions, rockfall behaviour including accessing steep and difficult terrain possibly including the use of ropes to characterize site conditions and identify potential rockfall hazards; other field investigation necessary to properly characterize rock conditions and develop mitigation measures specifically for rockfall control along transportation corridors; any laboratory test/analysis to determine rock properties, global and local stability analysis, rockfall modeling, ditch configuration design preparing blast plans to minimize back-break and fly-rock, control vibration, and optimize fragmentation; assessment of ground vibration and air noise; and preparation of design reports describing work performed and recommendations developed. Must be Qualified Professional member of APEGBC. |
| Pr | P | 10-32 | Rock fall Hazard Assessment and Slope Hazard Rating: To perform rockfall hazard ratings along highway corridors through the application of specific procedures combined with solid engineering experience in a manner that will produce consistent and repeatable results. Work involves assessment and scoring of site factors related to slope rockfall hazard potential, geometric data, other data describing site conditions, conceptual remedial stabilization costs and entry of data in a database. Must be Qualified Professional member of APEGBC. |
| Pr | P | 10-40 | Pavement Evaluation and Design: Assignments may include field investigation, laboratory testing, design, reporting, recommending and construction monitoring or supervision of projects relating to pavement structure including base courses and surface. Must be Qualified Professional member of APEGBC. |

RISP Category Glossary and RISP Adjudication Criteria

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| Pr | P | 10-50 | Groundwater Studies: Assignments may include field investigation; laboratory testing, design, reporting, recommending and monitoring of groundwater related projects. Must be Qualified Professional member of APEGBC. |
| R | T | 10-41 | Pavement Evaluation, Testing and Data Collection: Conducting routine field testing and data collection using established standards and testing frequencies. |
| L | T | 10-55 | Geotechnical Drafting Services: Scope of work generally includes preparation of drawings for bridge foundations, construction details, surveys/mapping and related data in accordance with Ministry standards. |
| L | T | 10-61 | Aggregate Prospecting and Supply Evaluation: Scope of work generally includes field investigations, sample collection, evaluation of laboratory test results and preparation of gravel pit reports. For contracts less than \$100,000. |
| R | T | 10-63 | Same as 10-61. For contracts between \$100,000 and \$300,000. |
| Pr | T | 10-65 | Same as 10-61. For contracts greater than \$300,000. |
| Pr | P | 10-70 | Earthquake Engineering Studies. Must be Qualified Professional member of APEGBC. |
| Pr | P | 10-80 | Geophysical Investigations: Includes seismic refraction and reflection; electrical and electromagnetic; ground penetrating radar or other geophysical field investigations; interpretation of results, recommendations. Must be Qualified Professional member of APEGBC. |
| Pr | P | 10-90 | Contamination and Remediation Provide soil, water and air contaminant investigation and evaluate, recommend and design solutions to achieve compliance with current Waste Management Act, MWLAP standards. Develop environmental solutions that will reduce concentrations of pollutants in highway runoff or leachate from fills before entering receiving waters. May include field investigation, laboratory testing, design, preparation of contract documents and monitoring. Must be Qualified Professional member of APEGBC. |
| Pr | T | 10-91 | Rock slope Survey and Modeling: Provide detailed survey of rock slopes, including topographic detail, identification of major geological structural features in UTM coordinates, pickup of geologic boundaries, utility pole, fences posts, property boundaries; produce a DTM model and conduct 3-D modeling of rock slopes, structural features (including overhangs) to determine area/volume estimates, overlay mesh area estimates, locational positioning of other remedial measures and extrapolation of geologic features; preparation of front view plans, 3-D views, cross sections generally conforming to Ministry AutoCAD standards. Provide surveys for slope movement monitoring, establish back sights, establish new or rehabilitate existing optical prism targets, plot target positioning information on DTM model, develop time based cumulative vector displacement plots. |

RISP Category Glossary – Professional and Technical: 15-series

| 15-series | | | MATERIALS TESTING & ENGINEERING |
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| L | P | 15-10 | Soils: Assignments may include laboratory and field testing using standard specification test methods, interpretation of results and recommendations on appropriate action. For contracts less than \$100,000. Must be Qualified Professional member of APEGBC. |
| L | T | 15-11 | Soils and Aggregates: Assignments may include laboratory and field testing using standard specification test methods, in-situ compaction measurement using nuclear methods. This also includes interpretation of results, recommendations on appropriate actions and preparation of pit development plans. For contracts less than \$100,000. |
| R | P | 15-12 | Same as 15-10. For contracts between \$100,000 and \$300,000. Must be Qualified Professional member of APEGBC. |
| R | T | 15-13 | Same as 15-11. For contracts between \$100,000 and \$300,000. |
| Pr | P | 15-14 | Same as 15-10. For contracts greater than \$300,000. Must be Qualified Professional member of APEGBC. |
| Pr | T | 15-15 | Same as 15-11. For contracts greater than \$300,000. |
| L | T | 15-17 | Sieve Analysis and Crusher Control: To provide quality control and/or assurance on projects such as crushing operations where strict control of gradation is required. Testing shall conform to established standards. For contracts less than \$100,000. |
| R | T | 15-19 | Same as 15-17. For contracts between \$100,000 and \$300,000. |
| L | P | 15-20 | Asphaltic Concrete Mix Design, Testing and Evaluation: Assignments may include design of asphalt concrete mixes; laboratory and field test using standard specification test |

RISP Category Glossary and RISP Adjudication Criteria

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| | | | methods; interpretation of results, recommendations. For contracts less than \$100,000. Must be Qualified Professional member of APEGBC. |
| Pr | T | 15-21 | Same as 15-17. For contracts greater than \$300,000. |
| R | P | 15-22 | Same as 15-20. For contracts between \$100,000 and \$300,000 Must be Qualified Professional member of APEGBC.. |
| Pr | P | 15-24 | Same as 15-20. For contracts greater than \$300,000. Must be Qualified Professional member of APEGBC. |
| L | T | 15-27 | Asphalt Concrete Field-Testing: Conducting routine field tests according to established standards and testing frequencies. For contracts less than \$100,000. |
| R | T | 15-29 | Same as 15-27. For contracts between \$100,000 and \$300,000. |
| L | P | 15-30 | Portland Cement Mix Design, Concrete Testing and Evaluation: Assignments may include concrete mix design, laboratory and field test using standard specification test methods, interpretation of results, recommendations. For contracts less than \$100,000. Must be Qualified Professional member of APEGBC. |
| Pr | T | 15-31 | Same as 15-27. For contracts greater than \$300,000. |
| R | P | 15-32 | Same as 15-30. For contracts between \$100,000 and \$300,000. Must be Qualified Professional member of APEGBC. |
| Pr | P | 15-34 | Same as 15-30. For contracts greater than \$300,000. Must be Qualified Professional member of APEGBC. |
| L | T | 15-37 | Portland Cement Concrete Field Testing: To provide on-site quality control services on plastic Portland Cement concrete such as slump measurement, temperature monitoring, air content and the sampling and preparation of laboratory test samples. For contracts less than \$100,000. |
| R | T | 15-39 | Same as 15-37. For contracts between \$100,000 and \$300,000. |
| Pr | T | 15-41 | Same as 15-37. For contracts greater than \$300,000. |
| L | T | 15-45 | Chemical Testing - Specification Compliance: Scope is limited to the provision of non-interpretative chemical test data required for specification compliance. For contracts less than \$100,000. |
| R | T | 15-47 | Same as 15-45. For contracts between \$100,000 and \$300,000 |
| Pr | T | 15-49 | Same as 15-45. For contracts greater than \$300,000. |
| L | P | 15-50 | Other Materials: Laboratory and field tests on materials other than specified above using standard specification and modified test methods, interpretation of results, and recommendations on appropriate action. For contracts less than \$100,000. Must be Qualified Professional member of APEGBC. |
| R | P | 15-52 | Same as 15-50. For contracts between \$100,000 and \$300,000. Must be Qualified Professional member of APEGBC. |
| Pr | P | 15-54 | Same as 15-50. For contracts greater than \$300,000. Must be Qualified Professional member of APEGBC. |
| L | T | 15-55 | General Materials Testing - Specification Compliance: Scope is limited to the provision of non-interpretative physical test data required for specification compliance. For contracts less than \$100,000. |
| R | T | 15-57 | Same as 15-55. For contracts between \$100,000 and \$300,000. |
| Pr | T | 15-59 | Same as 15-55. For contracts greater than \$300,000. |
| Pr | T | 15-65 | Paint and Coating Systems Evaluation: Assignments may include field and laboratory testing and assessment of paint and coating systems including bridge coatings and centerline paints; recommendations for inclusion of paints and coating systems in the Ministry's Recognized Products List; project specific recommendations for coating systems for application to bridge structures; quality audit of contracts for application of coatings; advice and recommendations on long-term and project specific strategies for maintaining and rehabilitation bridge coatings. |
| Pr | T | 15-71 | Non-Destructive Weld Testing. |
| Fields & RISP Categories | | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 10 AND 15-SERIES |
| Materials Testing | | | The firm must have access to an appropriate lab facility and equipment. |
| Technical Cat: 10-07 , | | | For category 10-55 , applicants must have geo-technical experience. |

RISP Category Glossary and RISP Adjudication Criteria

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| <p>10-09, 10-11, 10-13, 10-15, 10-17, 10-41, 10-55, 10-61, 10-63, 10-65, 15-11, 15-13, 15-15, 15-17, 15-19, 15-21, 15-27, 15-29, 15-31, 15-37, 15-39, 15-41, 15-45, 15-47, 15-49, 15-55, 15-57, 15-59, 15-65</p> | |
| <p>Rock slopes technology</p> <p>Technical Cat: 10-19</p> | <p>10-19 Project Supervision (Rock Slope Stabilization) Staff must have demonstrated experience performing project supervision on near vertical rock slopes or rock slope stabilization contracts on three Ministry projects within the previous three years. Staff must have detailed knowledge of slope stabilization construction techniques including but not limited to; rock scaling, rock bolting and dcp anchoring, rock drilling, trimming (drilling and blasting of select or unstable rock outcroppings) grouting, shotcrete, slope meshing and rock net fencing. Staff must have experience and the capacity to access and descend (rappel) on high vertical slopes using ropes and climbing equipment. Staff must have experience working at heights and performing inspections from crane man-baskets, manlifts and suspended stagings. Staff must have completed training in cliff rescue and evacuation.</p> |
| <p>Geo-technical/ Geological and Pavement Engineering</p> <p>Professional Cat: (For these, must be a Qualified Professional member of APEGBC): 10-10, 10-20, 10-30, 10-32, 10-40, 10-50, 10-70, 10-80, 15-10, 15-12, 15-14, 15-20, 15-22, 15-24, 15-30, 15-32, 15-34, 15-50, 15-52, 15-54.</p> <p>Technical Cat: 10-91</p> | <p>Only actual full-time design experience specific to the category is considered, as these categories are focused on design, as opposed to project management or construction.</p> <p>The Staff members must have completed at least five projects (with a minimum of 400 hours billed on each project) over the previous five years.</p> <p>British Columbia experience is preferred, as this indicates knowledge and experience in dealing with the unique conditions of the province. Similarly, firms with design engineering staff based full-time in the relevant area will benefit from their knowledge of local conditions.</p> <p>10-91 Rock Slope Survey and Modeling Staff must have demonstrated experience performing surveying and 3-D modeling for near vertical rock slopes or rock slope stabilization projects on three ministry projects within the previous five years. Staff must have experience modeling overhangs, performing 3-D surface area calculations, projecting 3-D geological features for volume calculations, producing 3-D rendered plans, producing digital terrain models, performing slope movement monitoring (including prism rehabilitation and interpretation of monitoring results), producing cumulative vector displacement plots, producing survey reports and have detailed knowledge of slope mesh draping characteristics.</p> |
| <p>Contamination and Remediation</p> <p>Professional Cat: (For these, must be a Qualified Professional member of APEGBC): 10-90</p> | <p>Only full-time design experience is relevant, as this category is focused on design, as opposed to project management or construction. Geo-science experience must be directly related to highway, or roadway, design and operations.</p> <p>Knowledge and experience in dealing with the unique conditions of the province is preferred, as is demonstrated knowledge of local conditions.</p> |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 20-series | | |
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| 20-series | | TRANSPORTATION & HIGHWAY PLANNING |
| <i>Pr</i> | P | 20-10 Transportation Study: Work done in this category may be quite diverse, and can pertain to any aspects of transportation planning not captured in other specific planning categories. Applications may be rural or urban and may include multi-modal considerations. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 20-16 Project and Corridor Planning: A sequence of activities to identify and define highway performance problems, develop improvement options which address the problems, and evaluate the options using benefit-cost analysis and an assessment of project impacts using multiple account evaluation (MAE) criteria. This is typically performed in advance of design, but may require cooperation in a multi-discipline team including designers, various specialists, and external stakeholders. The principal outputs are project business cases. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 20-18 Advanced Business Case Development: Although preparation of project business cases is also an expected output of category 20-16, category 20-18 requires a high degree of demonstrated expertise in: 1) performance analysis to identify performance problems and justify further analysis, 2) problem definition to show that the causes of the problem are well understood, 3) development of a number of relevant options (including phasing options where appropriate) based on good problem definition work, 4) option evaluation: B/C analysis and MAE presentation, and 5) risk analysis to identify the key sources of uncertainty and assess their impact on the evaluation results. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 20-20 EMME2 Transportation Modeling: Urban transportation demand modeling of current and future conditions using the EMME2 regional land use model, and comprised of trip generation, trip distribution, modal split and trips assignment. This involves developing new network scenarios or modifying existing, calibrating to available data, running the model and interpreting the results. Must have P.Eng. membership in APEGBC. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 20-SERIES |
| Highway Planning | | |
| Professional Cat: (For these, must be P.Eng. member of APEGBC): 20-10 , 20-16 , 20-18 , 20-20 | | <p>The consulting firm must have at least one staff person with relevant planning experience in a hands-on role during the previous five years. “Relevant” ideally means work done for the ministry, but if staff members have carried out very similar types of work for other agencies, that will also be counted.</p> <p>The “other agency” criterion depends to some extent on the RISP category. For the “transportation studies” and “Emme2 transportation modeling” categories it is less relevant who the client was, as the experience likely was similar to what the ministry requires. However for the “project and corridor planning” (20-16) and “advanced business case development” (20-18) categories, the experience must meet specific requirements relating to the analysis of projects and corridors, and the related development of project business cases which are the basis for investment and other decisions of high importance to the ministry. For these 2 categories, example reports must be submitted for review prior to adjudication.</p> <p>This is most likely to have been done for a provincial or state transportation agency, although in some cases the clients could have been municipalities or regional governments. If past work done for the ministry or other clients was considered unsatisfactory, then it will not be considered “relevant” planning experience.</p> |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 25-series | | |
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| 25-series | | TRAFFIC ENGINEERING |
| <i>Pr</i> | P | 25-10 Traffic Studies: To provide an operational analysis of a highway corridor or highway segment with or without traffic. Recommendations will be the result of on-site observations, safety reviews, conflict analyses and capacity analyses, etc. These recommendations will center on revisions to: guide, regulatory, or warning signing; signal phasing; pavement markings; or minor geometric improvements including laning, curb radii or turn bay storage lengths, etc. Also included here are studies for pedestrian and cycling facilities. This category includes the performance of warrant analysis for different traffic control devices, including traffic signals and pedestrian crossings. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 25-20 Traffic Signal Analysis and Optimization These studies will involve detailed capacity and accident analyses. The results will be recommendations and design of efficient signal phasing; optimal timing plans and progression strategies based on sound engineering principles. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 25-30 Traffic Signs and Pavement Marking: To provide the evaluation, design and recommendation for the installation of appropriate signing including warning, regulatory and guide signs, and pavement markings Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 25-40 Traffic Micro-simulation Modeling: This will involve the use of Synchro / Sim Traffic and TSIS micro-simulation software and other Ministry approved micro-simulation tools to model the traffic flow of roadway networks including signalized and non-signalized intersections in a corridor or network; and freeway operations (merge, diverge, weaving). Must have P.Eng. membership in APEGBC. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 25-SERIES |
| Traffic Engineering | | ADJUDICATION CRITERIA BY CATEGORY |
| Professional Cat: (For these, must be P.Eng. member of APEGBC): 25-10 , 25-20 , 25-30 , 25-40 | | <p>25-10 - Traffic Studies</p> <p>Staff members must have completed a minimum of three studies, containing safety analysis, capacity analysis and warrant analysis. These three components, safety, capacity and warrants and/or combination thereof must be included in any or all of these studies. These studies/experiences must have been achieved within the previous five years with a minimum worth of \$5K each. Must identify the type of software used in the analysis.</p> <p>25-20 - Traffic Signal Analysis and Optimization</p> <p>Staff members must have completed a minimum of three studies, containing signal timing plans and/or signal progression plans, within the previous five years, worth a minimum of \$2,500 each. The three studies cumulatively must contain at least one instance of prepared and implemented signal timing plans and one instance of signal progression plan and implementation. The intent here is that actual signal timing plans have been prepared and the type of software and controller types/cabinets used must be identified.</p> <p>25-30 - Traffic Signs and Pavement Markings</p> <p>Staff members must have completed three studies, containing signing design and/or pavement marking design, within the previous five years, worth a minimum of \$2,500 each. The three studies cumulatively must contain at least one instance of signing design and one instance of pavement marking design.</p> <p>25-40 Traffic Micro-simulation Modeling</p> <p>Staff members must have completed three studies, containing micro-simulation analysis, within the previous five years, worth a minimum of \$5K each.</p> |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 30-series | | |
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| 30-series | | ROAD MAINTENANCE / REHABILITATION PROGRAM SERVICES |
| Pr | P | 30-10 Snow Avalanche Slope Assessment and Mitigation Design. Must have P.Eng. membership in APEGBC. |
| Pr | P | 30-12 Road Maintenance Systems: Development of reporting processes and systems / procedures, maintenance performance/materials standards and road infrastructure analysis management for quality assurance on maintenance contracts. Must have P.Eng. membership in APEGBC. |
| | | Pavement Rehabilitation |
| Pr | T | 35-15 Preliminary Condition Analysis: Pavement surface analysis. |
| Pr | T | 35-17 Pavement Condition - Data Gathering: Pavement surface conditions data gathering by manual and automated means. Excludes analysis and recommendations. |
| Pr | T | 35-21 Detailed Surface / Roadway Studies: Conditions of pavements, road structure and bridge decks. |
| Pr | T | 35-23 Surface / Roadway Status Data Gathering: The collection and collating of data on pavement, structures and bridge decks, excluding analysis and recommendations. |
| | | Road & Bridge Rehabilitation |
| Pr | T | 35-51 Infrastructure Analysis and Recommendations: Condition inspection and assessment of existing infrastructure systems/corridors (including roads, bridges and other structures) and preparation of status reports and/or development of long term rehabilitation and maintenance strategies for infrastructure corridors and systems. |
| | | Maintenance Auditing Services |
| Pr | T | 35-53 Highway Maintenance Quality Auditing Services ...to provide quality auditing services on the road and bridge maintenance contractor's Quality Management Systems (QMS). The assignments will require acting as Lead Auditor when performing Regional Audits as part of the Ministry Quality Plan and Contractor Assessment Program (CAP) and will include: <ul style="list-style-type: none"> - Reviewing the most recent version of the Ministry Quality Plan and CAP Manual to ensure understanding of the provincial criteria for audits, as the criteria may be amended from time to time; - Coordinating schedule of audits with the audit team (at least one BCMOT staff must be on the team and a maximum of 2) and the contractors; - Reviewing the most recent version of the contractors' QMS; - Reviewing the Maintenance agreement between the Ministry and the contractor; - Meeting with Ministry personnel as required (pre/post audit meetings); - Giving notice to the contractor of the audit; - Performing the audit; - Completing the Audit Report; - Completing the Assessment; - Debriefing to District Management; - Providing all relevant documentation to the Regional Operations Technician. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 30-SERIES |
| Highway Operations | | ADJUDICATION CRITERIA BY CATEGORY |
| Professional Cat: (For these, must be P.Eng. member of APEGBC): 30-10 , 30-12 | | 30-10 <i>Snow Avalanche Slope Assessment and Mitigation Design</i> Staff members must have senior experience on at least two projects involving the assessment of avalanche slopes to determine requirements for protection or mitigation strategies for roadways. Staff members must have senior experience on at least one project in designing mitigation for avalanche slopes in a highway setting. |
| Technical Cat: 35-15 , 35-17 , 35-21 , 35-23 , 35-51 | | 30-12 <i>Road Maintenance Systems</i> Staff members must have senior experience on at least one project developing a maintenance system for a large, complex highway inventory similar to the BC Provincial Highway system, including maintenance activities for all inventory features and a variety of climatic, geographic and demographic variation. This project must include developing maintenance processes, procedures, standards and specifications, including quality management systems, reporting systems and documentation systems. |

RISP Category Glossary and RISP Adjudication Criteria

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| | <p>35-15 <i>Preliminary Condition Analysis: Pavement Surface</i></p> <p>Staff members must have completed at least three projects involving the analysis of deficiencies of pavement surfaces or a total of three years experience in a position with responsibility for pavement surface deficiency analysis, including interpretation of collected data. Experience must be in an area with climate, geography and geology similar to British Columbia.</p> <p>35-17 <i>Pavement Condition</i></p> <p>Staff members must have completed at least one project involving collection of pavement condition data or one year in a position responsible for collecting pavement condition data. Must have access to and be familiar with data collection techniques and equipment to be used such as FWD or Benkleman Beam, coring equipment, and labs.</p> <p>35-21 <i>Detailed Surface/ Roadway Studies</i></p> <p>Staff members must have completed at least three projects involving or three years experience in a position responsible for the analysis of roadway structures including surface, base, sub-base and bridge deck condition analysis. Experience must in an area with climate, geology and geography similar to British Columbia.</p> <p>35-23 <i>Surface/Roadway Status Data Gathering</i></p> <p>Staff members must have completed at least one project or have at least one year of experience in a position responsible for collecting data on a variety of roadway surfaces, bases and sub-bases including dirt, gravel, pavement and bridge decks. Must have access to and be familiar with data collection techniques and testing equipment used in collecting information on road and bridge structures.</p> |
| <p>Maintenance Audit</p> <p>Technical Cat: 35-53</p> <div style="border: 2px solid red; padding: 5px; display: inline-block; color: red; font-weight: bold;">No Longer Used</div> | <p>35-53 Highway Maintenance Quality Auditing Services</p> <ul style="list-style-type: none"> - Must be able to provide certificate of completion for Lead Auditor training; - Experience in auditing against the ISO 9001:2000 standard; - Experience conducting 2nd or 3rd party audits; - Experience conducting audits on highway maintenance and/or construction contractors' QMS; - Must <u>not</u> have performed, within the last 12 months, an internal audit on the Quality Management System (QMS) of a maintenance contractor that is the subject of the work being offered. |

RISP Category Glossary and RISP Adjudication Criteria

| RISP CATEGORY GLOSSARY – PROFESSIONAL AND TECHNICAL: 45-SERIES | | | |
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| 45-series | | ELECTRICAL ENGINEERING | |
| ELECTRICAL DESIGN - Traffic Systems | | | |
| <i>Pr</i> | P | 45-10 | Street Lighting Design: Design street lighting installations using the latest lighting analysis software packages, complying with the latest IES lighting Guidelines, and applying appropriate lighting engineering judgment.. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-12 | Traffic Signal Design: Design multi-traffic signal installations including performing site assessments, identifying deficiencies / requirements and ensuring compliance with MUTCD and Ministry standards. This will include designing, evaluating and recommending appropriate interconnection media for closed loop and multi-jurisdictional coordinated systems Must have P.Eng. membership in APEGBC.. |
| <i>Pr</i> | P | 45-14 | Lane Control Systems Design: This category is no longer in use. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-16 | Traffic Management Systems: Evaluate, design and make recommendations on various Traffic Management System components such as dynamic message signs, CCTV / video systems, traffic monitoring systems (computerized and electronic systems to monitor queues, speed, flow and occupancy of vehicles on the roadway) and other components related to Intelligent Transportation systems. Must have P.Eng. membership in APEGBC. |
| ELECTRICAL DESIGN – Electrical / Electronic Systems | | | |
| <i>Pr</i> | P | 45-20 | Equipment Design and Specification Evaluate, design and provide recommendations in report or technical specification form for miscellaneous electrical equipment such as light fixtures, traffic controllers, service, equipment, steel poles, etc.... Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-22 | Power Distribution and Emergency Backup Systems Evaluate, design and recommend appropriate service and emergency generation/backup equipment; size and specify feeders, transformers, protection devices, transfer switches, etc... Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-24 | Specialized Electrical / Electronic Systems Evaluate, design and provide recommendations for telemetry, instrumentation and other specialized electrical and electronic systems such as communication for remote electronic equipment (open/closed signs, traffic counters, changeable message signs, etc.); control systems for pump systems, over height detection systems, fog sensors and other similar devices; prototype equipment used for traffic signal controller enhancements, fire signal controllers, special crosswalk controllers, preemption systems, etc... Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-26 | Bridge and Tunnel Electrical and Electronic Systems Evaluate, design and make recommendations for electrical and electronic systems for bridges such as deck heating, cathodic protection, swing bridge mechanisms and control, bridge signals, pier lighting, aircraft and navigational warning lights / signs, tunnel ventilation systems, fire suppression systems, and other related work. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 45-28 | System Integration Evaluate, design, specify, develop, integrate, test and commission hardware and software systems (including communications). This includes the capability to modify commercially available software and hardware and develop new hardware and software as well as provide long term support, training and systems documentation. Must have P.Eng. membership in APEGBC. |
| General Electrical Services | | | |
| <i>Pr</i> | T | 45-31 | Electrical Drafting: The scope of work generally includes the drafting of electrical drawings for traffic signals, street lighting, etc., in accordance with Ministry standard layout. |
| <i>Pr</i> | T | 45-33 | Electrical Inspection: To conduct inspection of new and rehabilitation electrical and signing installations in accordance with Ministry standards and practice. |
| <i>Pr</i> | T | 45-35 | Electrical Technical Services: management of drawings, inventory confirmation and data management, BC Hydro calculation / cost sharing agreements and other related technical services. |
| <i>Pr</i> | T | 45-37 | Electrical Standards Development: includes research, development, enhancement and documentation of electrical, traffic and sign design, construction, material, inspection and maintenance standards. |

RISP Category Glossary and RISP Adjudication Criteria

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| L | T | 45-51 | Project Supervision (Electrical) - up to \$ 250,000 cap. cost |
| L | T | 45-53 | Project Supervision (Electrical) - over \$ 250,000 cap. cost |
| Fields & RISP Categories | | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 45-SERIES |
| Electrical Engineering | | | ADJUDICATION CRITERIA BY CATEGORY |
| Professional Cat: (For these, must be P.Eng. member of APEGBC): 45-10 , 45-12 , 45-16 , 45-20 , 45-22 , 45-24 , 45-26 , 45-28 | | | <p>45-10 <i>Street Lighting Design</i> Staff members must have completed three street lighting projects using lighting analysis software; each project shall be over \$5,000 and have been completed within the previous five years.</p> <p>45-12 <i>Traffic Signal Design</i> Staff members must have performed three <i>NEW</i> traffic signal designs, each over \$5,000 within the previous five years.</p> <p>45-16 <i>Traffic Management Systems</i> Staff members must have performed three Intelligent Transportation Systems (ITS) projects representing at least three different ITS technologies valued over \$25,000 within the previous five years.</p> <p>45-20 <i>Equipment Design and Specifications</i> Staff members must have completed three relevant electrical equipment design projects valued over \$5,000 within the previous ten years.</p> <p>45-22 <i>Power Distribution and Emergency Backup</i> Staff members must have completed three relevant power distribution or emergency backup design projects valued over \$5,000 within the previous ten years.</p> <p>45-24 <i>Specialized Electronic / Electrical Systems</i> Staff members must have completed three electrical or electronic systems projects incorporating three different technologies valued over \$5,000 within the previous ten years.</p> <p>45-26 <i>Bridge and Tunnel Electrical and Electronic Systems</i> Staff members must have performed three relevant designs valued over \$5,000 within the previous ten years.</p> <p>45-28 <i>System Integration</i> Staff members must have completed two complete System Integration Projects valued over \$25,000 within the previous ten years.</p> |
| Electrical Technology | | | ADJUDICATION CRITERIA BY CATEGORY |
| Technical Cat: 45-31 , 45-33 , 45-35 , 45-37 , 45-51 , 45-53 | | | <p>45-31 <i>Electrical Drafting</i> Staff members must have completed three ministry projects valued over \$1,000 within the previous two years.</p> <p>45-33 <i>Electrical Inspection</i> Staff members must have completed three ministry projects values over \$1,000 within the previous two years.</p> <p>45-35 <i>Electrical Technical Services</i> Staff members must have completed three relevant projects valued over \$1,000 within the previous two years.</p> <p>45-37 <i>Electrical Standards Development</i> Staff members must have completed three traffic/electrical related standards projects valued over \$5,000 within the previous five years.</p> <p>45-51 <i>Project Supervision (Electrical)- construction projects under \$250K</i></p> |

RISP Category Glossary and RISP Adjudication Criteria

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| | <p>Staff members must have completed three supervision projects valued over \$5,000 within the previous five years.</p> <p>45-53 Project Supervision (Electrical)- construction projects over \$250K Staff members must have completed five supervision projects valued over \$5,000 within the previous five years.</p> |
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| RISP Category Glossary – Professional and Technical: 47-series | | |
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| 47-series | | |
| ACOUSTICS ENGINEERING | | |
| <i>Pr</i> | P | 47-20 |
| | | <p>Vibration Monitoring and Control: vibration exposure of heavy equipment operators or assessment of vibration due to traffic passage. Must have P.Eng. membership in APEGBC.</p> |
| <i>Pr</i> | P | 47-22 |
| | | <p>Community Noise Assessment Assess the community noise effects (applicability of the Ministry’s noise policy) of highway development proposals with the objective of avoiding traffic and construction noise impacts where feasible. Provide mitigation and compensation recommendations and design alternatives for unavoidable impacts. Typically involves working within a multi-disciplinary project team May require design and administration of public surveys and development and implementation of a citizen involvement program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). Must have P.Eng. membership in APEGBC.</p> |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 47-SERIES |
| <p>Acoustics Engineering</p> <p>Professional Cat: (For these, must be P.Eng. member of APEGBC): 47-20, 47-22</p> | | |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 50-series | | |
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| 50-series | | ENVIRONMENTAL SERVICES |
| L | T | 50-31 Roadside Facility Design Develop conceptual design for safety rest area sites which identifies design parameters based on anticipated traffic volumes and site preservation measures and determine feasibility of securing a potable water supply and acceptable sewage disposal system. Provide contract documents including drawings, special provisions and cost estimates for parking, electrical, or solar power, a water delivery system, sewage system, grading and drainage details, building design, site furniture, planting, irrigation and maintenance. |
| L | T | 50-35 Erosion and Sediment Control Develop and implement operations and procedures (may include contract drawings, special provisions and cost estimates) to mitigate erosion and sediment control problems associated with highway construction. These should utilize best management practices, combining the use of native plant material and physical structures. |
| L | T | 50-45 Environmental Impact Assessment Assess the environmental effects of highway development proposals at the corridor evaluation level, route selection level, during refinement of the alignment and detailed design with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively with a multi-disciplinary project team. Liaison and pursuing project approvals from environmental agencies will be required. May require development and implementation of a post-construction monitoring program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). |
| L | T | 50-47 Archaeological Resources Assess the effects of highway development proposals on archaeological resources with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively with a multi-disciplinary project team. Requires liaison with First Nations, and may require the hiring of First Nation assistants to assist in the assessment. Obtain all permits and approvals to undertake work. May require development and implementation of a three-year post-construction monitoring program. May include construction monitoring. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). |
| L | T | 50-49 Fish and Aquatic Resources Assess the effects of highway development proposals on fish and aquatic resources with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively with a multi-disciplinary project team. Requires liaison with environmental agencies, and the acquisition and compliance with permits. May include the design of mitigation works to protect (sediment and erosion control), replace, rehabilitate, or restore disturbed aquatic habitats; including the preparation of contract documents (drawings, special provisions and cost estimates). May require the development and implementation of a post-construction monitoring program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). |
| L | T | 50-51 Terrestrial Wildlife Resources Assess the effects of highway development proposals on terrestrial wildlife resources with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively with a multi-disciplinary project team. Requires liaison with environmental agencies, and the acquisition and compliance with permits. May include the design of mitigation works to replace, rehabilitate, or restore disturbed terrestrial habitats; including the preparation of contract documents (drawings, special provisions and cost estimates). May require the development and implementation of a post-construction monitoring program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). |
| L | T | 50-53 Rare and Endangered Flora / Fauna Assess the effects of highway development proposals on rare and endangered flora / fauna |

RISP Category Glossary and RISP Adjudication Criteria

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| | | | with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively with a multi-disciplinary project team. Requires liaison with environmental agencies, and the acquisition and compliance with permits. May include the design of mitigation works to replace, rehabilitate, or restore habitats; including the preparation of contract documents (drawings, special provisions and cost estimates). May require the development and implementation of a post-construction monitoring program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years). |
| L | T | 50-55 | <p>Environmental Monitoring</p> <p>Supervise and inspect operations and procedures at environmentally sensitive sites during construction period and ensure compliance with environmental designs, specifications, special provisions and all Federal and provincial regulations and standards. Represent the Ministry on environmentally related matters and liaise with environmental agencies, Project Supervisors and Contractors. May include the development and implementation of a quality management system for project environmental components. May require the development and implementation of a post-construction monitoring program, and the preparation of environmental monitoring completion reports or other project-related reporting. May include the acquisition of environmental approvals. May include the design and implementation of mitigation works to protect (sediment and erosion control) replace, rehabilitate, or restore disturbed habitats. May require the development and implementation of a multi-year post-construction monitoring program. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years).</p> |
| L | T | 50-57 | <p>Vegetation Management</p> <p>Develop strategic plans for integrated vegetation management employing chemical, mechanical, cultural, and biological control methods for undesirable vegetation such as noxious weeds. Prepare and obtain approvals of pest management plans for herbicide applications. Administer contracts for vegetation management operations. Monitor contractor operations for compliance with contract and statutory requirements. Conduct field investigations to assess public noxious weed control requests and to collect information required for compliance with environmental approvals. Requires liaison with ministry staff, other agencies, non-governmental organizations, contractors and the public.</p> |
| L | T | 50-59 | <p>Noxious Weed Control</p> <p>Undertake the implementation of, and potentially the day-to-day operation for, mechanical, cultural, and/or biological control (in accordance with the ministry’s integrated Pest Management Plan) of noxious weed species on Ministry right-of-way. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years).</p> |
| L | T | 50-61 | <p>Landscape Design and Management</p> <p>Typically involves working cooperatively within a multi-disciplinary team on projects to satisfy rural, sub-urban and/or urban landscape design standards. Produce a written report and preliminary level landscape design which indicates general planting layout, irrigation requirements, landscape grading and contouring, erosion control, slope stabilization measures and general maintenance requirements. Deliver landscape contract documents including drawings, special provisions, cost estimates and maintenance procedures document. May include the preparation or maintenance plans and construction or post-construction landscape inspection services. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years).</p> |
| L | T | 50-65 | <p>Socio-Community Impact Assessment</p> <p>Assess the socio-community effects of highway development proposals with the objective of avoiding impacts where feasible and providing mitigation and compensation recommendations for unavoidable impacts. Typically involves working cooperatively within a multi-disciplinary team on projects of a multi-modal nature within either a rural or urban setting. May require design and administration of public surveys and development and implementation of a citizen involvement program.</p> |
| L | T | 50-69 | <p>Air Quality</p> <p>Undertake air quality impact assessments and modeling to describe the potential effects of a highway project on a regional and local (community) airshed, and recommend measures and practices to mitigate concerns. Major concerns usually relate to vehicular traffic and</p> |

RISP Category Glossary and RISP Adjudication Criteria

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| | | | highway construction related pollutants, such as ozone, particulate matter, and green house gases. Identification of potential effects must consider the highway construction itself as well as any ancillary construction activities such as gravel production or use of detours during construction. Also may include issues related to operation and maintenance of the highway or a structure such as a tunnel. Must take into consideration traffic volumes as well as traffic idling and delays. |
| L | T | 50-71 | <p>Environmental Project Coordination Provide a single environmental coordinator (or range of environmental specialists where required) to manage the environmental components of a multi-disciplinary project from inception to completion. Requires input into the planning, design, construction, and post-construction stages of the project. Requires liaison and communication with ministry representatives, external government agencies, external engineering and environmental consultants, and the public. Responsible for developing terms of reference for environmental studies, coordinating or undertaking environmental studies, obtaining environmental project approvals, coordinating or undertaking post-construction environmental monitoring programs. Service contract may be requested to be on an “as-and-when-required” basis for a specified period of time (generally 1-2 years).</p> |
| L | T | 50-73 | <p>Agricultural Land Assessment Manage the acquisition of approvals required for project activities affecting Agricultural Land Reserve property. May include preparation of agricultural land reclamation plans or designs. Specific cases may require a qualified Agronomist and/or Agrologist. Requires liaison with other Ministries, government agencies, consultants, and the public.</p> |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 50-SERIES | |
| Environmental Sciences | | ADJUDICATION CRITERIA BY CATEGORY | |
| <p>Technical Cat: 50-31, 50-35, 50-45, 50-47, 50-49, 50-51, 50-53, 50-55, 50-57, 50-59, 50-61, 50-65, 50-69, 50-71, 50-73</p> | | <p>50-31 <i>Roadside Facility Design</i> 50-57 <i>Vegetation Management</i> 50-59 <i>Noxious Weed Control</i> 50-61 <i>Landscape Design and Management</i> 50-65 <i>Socio-Community Impact Assessment</i></p> <p>The staff members must have completed three specific projects in this area of expertise, each over \$5,000 in professional and/or technical fees, within the previous three years.</p> <p>50-35 <i>Erosion and Sediment Control</i> 50-45 <i>Environmental Impact Assessment</i> 50-49 <i>Fish and Aquatic Resources</i> 50-51 <i>Terrestrial Wildlife Resources</i></p> <p>The staff members must have completed three specific projects in this area of expertise, each over \$3,000 in professional and/or technical fees, within the previous three years.</p> <p>50-47 <i>Archaeological Resources</i> The consulting firm must have an archaeologist on staff who is eligible to hold archaeological permits in British Columbia. Staff members must have completed three specific projects in this area of expertise, each over \$1,500 in professional and/or technical fees, within the previous three years.</p> <p>50-53 <i>Rare and Endangered Flora / Fauna</i> 50-55 <i>Environmental Monitoring</i> 50-73 <i>Agricultural Land Assessment</i></p> <p>The staff members must have completed three specific projects in this area of expertise, each over \$2,500 in professional and/or technical fees, within the previous three years.</p> <p>50-69 <i>Air Quality</i> The staff members must have completed three specific projects in this area of expertise, each over \$4,000 in professional and/or technical fees, within the previous three years.</p> <p>50-71 <i>Environmental Project Coordination</i></p> | |

RISP Category Glossary and RISP Adjudication Criteria

The staff members must have completed three specific projects in this area of expertise, each over \$5,000 in professional and/or technical fees, within the previous two years.

| RISP CATEGORY GLOSSARY – PROFESSIONAL AND TECHNICAL: 70-SERIES | | |
|--|---|---|
| 70-series | | HYDRAULICS |
| <i>Pr</i> | P | 70-06 Culvert Hydraulics: Hydrologic analysis of small drainage basins with estimated design flows of less than 10 cubic metres per second (for required return periods), using the Rational Equation or SCS Method. The hydraulic design of culverts shall be based on inlet control. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 70-10 River Engineering: analysis of river hydraulics problems, estimate scour depths, design river training works, bank protection, erosion protection and flood control systems, and hydraulic design constraints for bridges and structures. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 70-16 Mathematical Hydraulic Modeling: development, testing and analysis using mathematical hydraulic models of rivers, creeks and reservoirs. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 70-20 Physical Hydraulic Modeling: construction, testing, and analysis of physical hydraulic models of rivers, creeks, and reservoirs. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 70-60 Coastal Engineering: Analysis and design of bridges, wharfs or other engineering works subject to waves, tides and coastal processes. Must have P.Eng. membership in APEGBC. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 70-SERIES |
| Hydraulics Professional Cat: (For these, must be P.Eng. member of APEGBC): 70-06 , 70-10 , 70-16 , 70-20 , 70-60 | | The glossary of terms for the five professional categories, 70-06 “Culvert Hydraulics”, 70-10 “River Engineering”, 70-16 “Mathematical Hydraulic Modeling”, 70-20 “Physical Hydraulic Modeling” and 80-10 “Coastal Engineering” are explicit and self-explanatory. The pass/fail method is based on whether individuals identified in the consulting firm’s application have had relevant design experience in the specific categories. Work experience in the supervision of related construction projects is not considered as design experience in the specific categories. |

| RISP Category Glossary – Professional and Technical: 85-series | | |
|---|---|---|
| 85-series | | TUNNEL ENGINEERING |
| <i>Pr</i> | P | 85-10 Cut and cover tunnel design. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 85-20 Tunnel ventilation design. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 85-30 Tunnel design in soft ground. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 85-40 Tunnel design in rock. Must have P.Eng. membership in APEGBC. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 85-SERIES |
| Tunnel Engineering Professional Cat: (For these, must be P.Eng. member of APEGBC): 85-10 , 85-20 , 85-30 , 85-40 | | Only actual full-time design experience specific to the category is considered, as these categories are focused on design, as opposed to project management or construction. The Staff members must have completed at least five projects (with a minimum of 400 hours billed on each project) over the previous five years. British Columbia experience is preferred, as this indicates knowledge and experience in dealing with the unique conditions of the province. Similarly, firms with design engineering staff based full-time in the relevant area will benefit from their knowledge of local conditions. |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 87-series | | |
|--|---|--|
| 87-series | | COST ESTIMATING |
| | | <p>Cost Estimating Services...to provide a Lead Cost Estimator and the technical support to produce cost estimates for an assigned project in accordance with the Ministry's cost estimating guidelines and good cost estimating practice.</p> <p>The Lead Cost Estimator must have training in cost estimating or quantity surveying and considerable experience in:</p> <ul style="list-style-type: none"> ◇ project and program level cost estimating and control budget development ◇ cost risk analysis and contingency management ◇ developing cost estimates for a variety of technical and professional disciplines ◇ alternate project delivery models. |
| <i>Pr</i> | T | 87-51 Cost Estimating Services ...Small projects, uni-disciplinary and somewhat complex |
| <i>Pr</i> | T | 87-53 Cost Estimating Services ...Medium projects, multi-disciplinary and somewhat complex. |
| <i>Pr</i> | T | 87-55 Cost Estimating Services ...Large projects, multi-disciplinary and highly complex. |
| | | <p>Cost Estimate Audit Services...to provide a Cost Estimate Audit Leader and the requisite Team Members to conduct an audit of the cost estimate(s) for an assigned project. The Cost Estimate Audit Leader will design and conduct the audit to ascertain the quality of the estimate and supporting documentation in accordance with the assigned project's requirements, the ministry's cost estimating guidelines and good estimating practice.</p> <p>The Lead Cost Estimator must have training in planning and conducting audits, cost estimating or quantity surveying and considerable experience in:</p> <ul style="list-style-type: none"> ◇ engineering quality systems ◇ project and program level cost estimating and control budget development ◇ cost risk analysis and contingency management developing cost estimates for a variety of technical and professional disciplines ◇ alternate project delivery models. <p>The Team members shall be selected in accordance with requirements for the project in relation to the size, complexity and project delivery model. The Team Members must have training in cost estimating or quantity surveying and have experience in developing cost estimates in the discipline they represent.</p> |
| <i>Pr</i> | T | 87-61 Cost Estimate Audit Services ...Small projects, uni-disciplinary and somewhat complex. |
| <i>Pr</i> | T | 87-63 Cost Estimate Audit Services ...Medium projects, multi-disciplinary and somewhat complex. |
| <i>Pr</i> | T | 87-65 Cost Estimate Audit Services ...Large projects, multi-disciplinary and highly complex. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 87-SERIES |
| Cost Estimation | | <p><u>Demonstrated Experience</u></p> <p>The consultant will have employees with demonstrated experience based on the stated requirements for each category.</p> <p style="text-align: center;"><u>For Cost Estimating Services</u></p> <ul style="list-style-type: none"> • Staff members must have training in cost estimating or quantity surveying. • Staff members must have experience with project and program level cost estimating and control budget development. • Staff members must have experience with cost risk analysis and contingency management. • Staff members must have experience with developing cost estimates for a variety of technical and professional disciplines. • Staff members must have experience with alternate project delivery models. <p style="text-align: center;"><u>For Cost Estimate Audit Services</u></p> |
| <p>Technical Cat: 87-51, 87-53, 87-55, 87-61, 87-63, 87-65</p> | | |

RISP Category Glossary and RISP Adjudication Criteria

- Staff members must have training in planning and conducting audits, cost estimating or quantity surveying.
- Staff members must have experience with engineering quality systems
- Staff members must have experience with project and program level cost estimating and control budget development
- Staff members must have experience with cost risk analysis and contingency management
- Staff members must have experience with developing cost estimates for a variety of technical and professional disciplines
- Staff members must have experience with alternate project delivery models.
- Staff members must have experience with multi-disciplinary project teams.

Type of Project or Assignment Experience

Small Projects

Project or assignment involved projects five kilometres or less in length through average rural conditions, or one kilometre or less through average urban conditions.

Medium Projects

Project or assignment involved projects ten kilometres or less in length through moderate rural conditions, or five kilometres or less through moderate urban conditions.

Large Projects

Project or assignment involved projects ten kilometres or greater in length in difficult or highly variable rural conditions or five kilometres or greater through complex urban conditions.

Single Discipline (uni)

Scope of work limited to a single discipline such as geotechnical design, highway design, bridge design, etc.

Multiple Discipline (multi)

Scope of work requires multiple disciplines with a high degree of co-ordination required.

Moderate Complexity (somewhat)

Assignment carried out within a two year time frame, was a stand alone project or assignment, average technical complexity, few external approvals required, etc.

High Complexity (highly)

Assignment carried out in a multi-year time frame, requiring a high degree of coordination of delivery, sustained consultation / public relations required, political sensitivity, technically complex or highly variable, multiple external approvals required, etc.

Other Factors

Component or attribute of project or assignment that increased the difficulty such as compressed time frame, change management issues, special technologies, etc.

Currency of Experience

Small and medium projects must have been completed within the previous five years, while large projects must have been completed within the previous ten years.

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 90-series | |
|--|--|
| 90-series | MARINE ENGINEERING |
| 90-10 | Marine Architecture and Survey: to survey vessels within the existing inland ferry fleet, make recommendations regarding repair or modification, and provide contract drawings and specifications Must have P.Eng. membership in APEGBC.. |
| Fields & RISP Categories | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 90-SERIES |
| Marine Engineering Professional Cat(For this category, must be P.Eng. member of APEGBC): 90-10 | Must demonstrate practical experience for at least 4 years working on assignments in Marine Engineering. |

| RISP Category Glossary – Professional and Technical: 95-series | | |
|---|---|---|
| 95-series | PROJECT MANAGEMENT SERVICES | |
| | Project Management Services... to provide project management services for highly technical projects with significant external partnerships with other agencies or levels of government, comprised of a professional engineering Project Manager as well as the technical support necessary to assist with: <ul style="list-style-type: none"> ◇ creation / execution of a project plan in consultation with the BCMOT Project Manager, project team and stakeholders, ◇ leading a multi-disciplinary project team comprising both BCMOT and consultant representatives to deliver the project within approved scope, schedule and budget, ◇ liaising with other Ministries, individuals and outside agencies, ◇ arranging, facilitating and documenting project team meetings, ◇ monitoring project schedule and costs, ◇ ensuring the BCMOT Project Manager is fully informed on all project issues, including regular status reporting, ◇ management of project documentation, including printing and distribution of meeting minutes, reports, etc, ◇ management of public presentation processes, including preparation of presentation materials, and ◇ project cost management using the Ministry’s Capital Programming System (CPS). | |
| L | P 95-10 | Project Management Services ...Small Projects - technically complex, low project cost. Must have P.Eng. membership in APEGBC. |
| L | T 95-11 | Project Management Services...Small Projects low complexity, low project cost |
| R | P 95-12 | Project Management Services ...Medium Projects - more technically complex, higher project cost Must have P.Eng. membership in APEGBC.. |
| R | T 95-13 | Project Management Services...Medium Projects more complex, higher project cost |
| Pr | P 95-14 | Project Management Services ...Large Projects - high technical complexity, higher project cost. Must have P.Eng. membership in APEGBC. |
| Pr | T 95-15 | Project Management Services...Large Projects high complexity, &/or high project cost |
| Pr | T 95-51 | Value Analysis / Value Engineering (VA / VE): to provide value analysis / value engineering team leadership, coordination of services, assemble the appropriate specialist VA/VE team members and prepare reports and recommendations. |
| Pr | P 95-60 | Project Quality Audit Services |
| Fields & RISP Categories | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 95-SERIES | |
| Project Management Professional Cat: (For these, must be | Project Management | The staff members’ experience described in the application must apply to at least three distinct highway or bridge projects. On these projects, the duties of the staff must have been |

RISP Category Glossary and RISP Adjudication Criteria

| | |
|--|---|
| <p>P.Eng. member of APEGBC): 95-10, 95-12, 95-14</p> <p>Technical Cat: 95-11, 95-13, 95-15</p> <p>Value Analysis 95-51</p> <p>Quality Auditing (For this category, must be P.Eng. member of APEGBC): 95-60</p> | <p>specifically to provide project management services to the identified project from initiation to completion, rather than responsibility for one discreet portion of the project (for example: design portion only). The ministry is looking for consultant project management support in leading multi-disciplinary teams through all phases of project development, design, and implementation; dealing with various stakeholders, regulatory agencies, and interest groups. Value of past projects should state total project value, as well as assignment value.</p> <p>Value Analysis The staff member or members should demonstrate experience, training and/or certification to indicate the capability of facilitating value analysis reviews of projects. Participation as a team member only is not considered sufficient. The staff member or members are not required to be a professional to qualify for this category.</p> <p>Quality Auditing The responsibilities of the relevant staff members must have been those normally assigned to staff having a senior level of technical auditing knowledge and management experience. Only consulting work and knowledge that can be directly applied and are relevant to highway projects will count in the evaluation.</p> |
|--|---|

| RISP Category Glossary – Professional and Technical: 97-series | | |
|--|-------------------------|---|
| 97-series | | ROAD SAFETY AUDIT |
| | | Road Safety Audit Services... conducted in accordance with the Ministry’s RSA policy, and TAC Guidelines. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P 97-70 | Safety Audit Team Leader... to provide a single person to lead a team to conduct a road safety audit of an assigned project. The Team Leader will be required to advise the Ministry on the make-up of the team, to organize and carry out the audit, and to complete all necessary documentation. The Ministry will augment the balance of the team with internal staff or other contracted resource. |
| <i>Pr</i> | P 97-80 | Road Safety Team... to provide a Safety Audit Team Leader and the requisite Team Members to conduct a road safety audit of an assigned project. The Team Members shall be selected in accordance with requirements of the project in relation to size, complexity and staging. Team Members must have training in conducting road safety audits and have considerable experience in the discipline they represent. Must have P.Eng. membership in APEGBC. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 97-SERIES |
| <p>Road Safety Auditing</p> <p>Professional Cat: (For these, must be P.Eng. member of APEGBC): 97-70, 97-80</p> | | <p>The staff members should have conducted a Road Safety Audit similar to the formal process established by TAC, or another jurisdiction. Failing that, they must have formal training in RSA, similar to the Ministry of Transportation and Infrastructure’s five-day training provided in Jan/01, or current training being offered by TAC. If the application states that they “completed a safety review of the design....” or other such words, that will not be deemed sufficient.</p> <p>To qualify for 95-70, an applicant needs to demonstrate that their designated staff member can “go it alone” as the leader. If not, they may still qualify for 95-80, provided they supplement their team with others who do qualify as team leaders.</p> |

RISP Category Glossary and RISP Adjudication Criteria

| RISP Category Glossary – Professional and Technical: 99-series | | |
|--|---|--|
| 99-series | | OWNER’S ENGINEER |
| | | Owner’s Engineer Services: provision of senior multi-disciplinary engineering and technical advice to the Project Team, senior Ministry management and/or Executive, including provision of support to project procurement, public consultation and financial planning. These services include quality management advice and leadership to the Project Director, assistance with project scope and objective development, and representation of the Ministry on large partnership projects where another agency is delivering the work, as well as options analysis and alternative delivery strategy, preparation of engineering assignment terms of reference and proposal evaluation, preparation of construction contract specifications and project scheduling. These services will assist the Project Director with identification, analysis, coordination and implementation of the engineering and technical tasks and components of the project, including those related to design, construction and operation of the assets. The assignment may also include management of independent engineering contracts for the Ministry as well as sub-consulting support services, management of project engineering documentation, provision of project management services, provision of construction management services (both roadwork and structures), etc. Experience in putting together and leading multi-disciplinary engineering project teams is essential. |
| <i>Pr</i> | P | 99-10 Owner’s Engineer Services...Small, less complex projects, or as BCMOT / Provincial representative. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 99-12 Owner’s Engineer Services...Medium, more complex projects, including full engineering support services. Must have P.Eng. membership in APEGBC. |
| <i>Pr</i> | P | 99-14 Owner’s Engineer Services...Large, highly complex projects, including full engineering support services and management of engineering design and other consultant assignments Must have P.Eng. membership in APEGBC.. |
| Fields & RISP Categories | | CATEGORY-SPECIFIC RISP ADJUDICATION CRITERIA – 99-SERIES |
| Owner’s Engineer Professional Cat: (For these, must be P.Eng. member of APEGBC): 99-10 , 99-12 , 99-14 | | The consulting firm’s application is assessed against the definition of owner’s engineer, as set out in the RISP Category Glossary. Key points that are assessed include the following: <ul style="list-style-type: none"> • Whether the employees in question have experience in providing senior, multi-disciplinary engineering and technical advice on projects of a complexity consistent with the category (small and less complex, medium and more complex or large and highly complex). • Whether this experience includes the full range of owner’s engineer activities, as described in the RISP Category Glossary. This requirement is not satisfied by having employees who have carried out design work, project management or simply served as part of a team that carried out owner’s engineer tasks. • Whether the employees in question are seasoned engineers. |