

# Self-Screening Registration Criteria

## P05: Retaining Structure Design

### Mandatory Knowledge Requirements

The Ministry of Forests and Range will only contract with qualified professional engineers (PEngs) to provide professional services for design of retaining structures for Forest Service roads. Professional engineers providing this service must:

1. be members in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC);
2. have appropriate education, training and experience within the discipline of engineering that are congruent with the retaining structure design services required by the ministry;
3. have considerable recognized specialization in forest road construction techniques and methods, retaining structure alternatives, methods for slope stability investigation and assessment in the forest sector, and slope stability analysis.
4. be thoroughly familiar with Provincial legislation such as the *Forest Practices Code of British Columbia Act*, and *Forest and Range Practices Act*, and associated regulations under those acts, including the Forest Road Regulation, and the Forest Planning and Practices Regulation, among other legislation relevant to specific forest road retaining structure projects;
5. be thoroughly familiar with accepted engineering practice and sign and seal design drawings as the Engineer of Record for the structure;
6. have a comprehensive working knowledge and understanding of the principles and best management practices provided in the following government publications:
7. Forest Practices Code of BC Forest Road Engineering Guidebook (June 2002)
8. in the case of projects that come under the control and administration of BC Timber Sales (BCTS), obtain BCTS Environmental Management System (EMS) Level 3 training prior to commencing work on any BCTS Worksite.

### Mandatory Experience Requirements

All professional engineers providing services for design of Forest Service road retaining structures require a minimum of 5 years of demonstrated relevant professional engineering experience in retaining wall design. This experience must include retaining structure design work in forestry or related resource industries in British Columbia.

Registered professional engineers must have specific work experience in the following retaining structure design activities:

1. Field investigation, assessment and design recommendations, reporting, field inspection, and assessment of forest road construction.

2. Slope stability, global stability and internal stability analysis of the wall. Experience in geotechnical engineering as it relates to the soil/structure interaction for retaining walls, especially for reinforced soil walls.
3. Field inspection, assessment and analysis for rehabilitation of existing retaining structures.
4. Preparation of detailed structural design, engineering reports, drawings, specifications and cost estimates.
5. Field reviews during construction of retaining walls to provide quality assurance and confirmation of conformance to design, including:
  - field monitoring of construction activities during critical phases
  - reviewing and interpreting design and shop drawings
  - assessing actual field conditions for consistency with design assumptions and recognized “changed conditions”
  - assessing alternatives, and providing revisions to designs for “changed conditions”
  - preparing as-built drawings, and providing statements of construction conformance.