



The provincial government has announced an enhanced licensing system for residential builders in British Columbia that will help protect new homebuyers and lead to higher professional standards in the residential construction sector. Core competency requirements will be phased in for new general contractor licensees starting on March 4, 2016. An applicant for a new licence will need to successfully demonstrate proficiency in seven core competencies by completing training courses in each area of competency outlined in schedule 6 of the *Homeowner Protection Act Regulation*.

This information bulletin is intended as a helpful guide for education providers who will play a key role in delivering the required training. It provides a summary of learning outcomes related to the competency requirements. Learning outcomes are statements of what a builder is expected to know, understand and/or be able to demonstrate by the end of a training course.

## 1. RELEVANT ENACTMENTS

- a. Describe the role of the BC Building Code (the “Building Code”)
  - i. Describe how the Building Code is developed (objective-based) and what it accomplishes
  - ii. Identify who enforces it and the general permit process
  - iii. Describe the difference between minimum and best practice
  - iv. Identify who is responsible for compliance and consequences of non-compliance
  - v. Understand how the Building Code relates to other codes e.g. electrical regulations, British Columbia Fire Code
- b. Describe what the Building Code governs and identify the location of all key aspects of Division B, Parts 9 and 12, relating to residential construction:
  - i. Identify soil bearing capacity and problematic soil conditions
    - Geotechnical investigation
    - Footing sizes
    - Building on filled ground



- ii. Identify structural materials and methods of assembly to reduce damage from movement
    - Foundations
    - Superstructure
    - Roof structure
  - iii. Identify building envelope and keeping the weather out, and resolve simple issues
    - Foundation drainage
    - Insulation and air/vapour barriers
    - Windows and doors
    - Flashing and cladding types - EIFS as a drained system
    - Flashing and roofing types - flat roofs
  - iv. Identify sound transmission into residential units, and solve simple problems
    - No requirements for impact noise but consider mitigating
    - Lab tests cannot be replicated onsite, therefore consider increasing STC for assemblies
    - Plumbing and mechanical noise
  - v. Identify heating and ventilation systems controlling indoor air quality
    - Design temperatures
    - Air conditioning not required
    - Ventilation equipment, sizing and ducting
  - vi. Identify Septic Systems
    - Overview of design and operation
  - vii. Identify installation of interior finishes
    - e.g flooring, cabinetry, trimwork, etc.
- a. Demonstrate understanding of British Columbia Fire Code and application to residential construction
  - b. Demonstrate general understanding of how local bylaws may affect residential construction and where to locate the bylaws
  - c. Understand application of Building Code and other relevant provincial enactments in areas with no local bylaws

## 2. CONSTRUCTION MANAGEMENT AND SUPERVISION

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- a. Describe and use project planning
  - i. Compare and contrast ways of meeting human resource requirements through staff and subcontractors: advantages and disadvantages of each approach; need for job descriptions
  - ii. Understand tendering: bid requirements and practices; trade selection
  - v. Know how to prepare and use scheduling: value of scheduling, scheduling guidelines, critical scheduling stages, time management
- b. Organize and implement project supervision
  - i. Know how to organize material and labour acquisition: purchasing order system and guidelines, substitutions, timing, storage and care
  - ii. Understand responsibility for pre-construction activities: site logistics, site servicing, mitigating environmental impacts, contingency plans (e.g., bad weather)
  - iii. Describe best practices for working relationships with people involved in the construction process, including employees, sub-contractors, suppliers and inspectors; describe key elements of a human resources plan
  - iv. Contract compliance and plan checks
  - v. Understand different types of inspections and be able to apply inspection guidelines (e.g. for building officials or engineers)
  - vi. Understand key elements of quality control: performance benchmarks, associated requirements
  - vii. Describe reporting requirements (internal and external)
  - viii. Describe how to set-up and monitor cost control: comparison of costs with budget
  - ix. Describe how to use a change/work order system
- c. Identify and implement project site work safety
  - i. Identify and implement guidelines on safe site conditions
  - ii. Identify and implement guidelines from Occupational Health and Safety (OHS) regulation
  - iii. Identify and implement guidelines from WHMIS regulations
  - iv. Identify and implement guidelines from WCB standards, including site specific safety plan, company safety plan, and insurance requirements



## 3. CONSTRUCTION TECHNOLOGY

- a. Explain “House-as-a-system” concept
- b. Understand Building science that affects building durability and occupant comfort, including the following:
  - i. Explain Controlling heat flow (heat flow mechanisms, i.e., conduction, convection and radiation)
  - ii. Explain Controlling moisture flow (moisture movement mechanisms, i.e., bulk moisture movement, capillary action, air-borne moisture and vapour diffusion)
- c. Categorize Indoor air quality: contributors and detractors (pollutants, moisture, mold, etc.), material selection
- d. Interpret sustainable development: energy efficiency, resource efficiency, environmental responsibility
- e. Understand building envelope details that focus on the following:
  - i. Classify air barriers (materials and details)
  - ii. Classify vapour barriers (materials and details)
  - iii. Distinguish foundation design: types of foundations, heat loss control, and moisture control
  - iv. Distinguish floors: details for heat flow control, moisture management, details at critical locations, vibration telegraphing sub-floors
  - v. Distinguish wall design: heat loss and moisture control, alternate details
  - vi. Distinguish roof construction and attics: air leakage into attics, details at critical locations, heat loss control, details to deal with specific problems, e.g. truss uplift, ice damming
  - vii. Distinguish windows and doors: installation guidelines to control heat loss and gains and moisture
  - viii. Distinguish off-site panelized wall and floor systems
- f. Understand mechanical systems
  - i. Distinguish heating, cooling and ventilation principles
  - ii. Distinguish heating systems
  - iii. Distinguish heat distribution systems
  - iv. Distinguish ventilation systems: benchmarks, alternate systems, HRVs and ERVs, and design and installation considerations
- g. Distinguish integrated mechanical systems
- h. Determine engineered building components: This refers to the correct use of products such as trusses, wood-ls and insulated concrete forms and load-bearing steel studs
- i. Identify how geographical and geological features can affect residential construction and explain how to mitigate risk due to these features



## 4. CUSTOMER SERVICE AND HOME WARRANTY INSURANCE

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- a. Explain - What is customer service?
  - i. Describe the 5 factors of service excellence: reliability, assurances, tangibles, empathy and responsiveness
  - ii. Demonstrate understanding of customer values, behaviours and expectations
- b. Understand Framework for customer service
  - i. Explain how to establish expectations and why it is important for good customer service
  - ii. Understand the steps in transferring a home to the customer
  - iii. Describe the elements of a walk-through inspection and its relationship to customer service and home warranty
  - iv. Explain the importance of customer orientation, including key components of an effective maintenance manual
  - vi. Explain how to plan for warranty service work, including time management, budget contingency, and sub-contracts
- c. Handling difficult situations: Identification of common difficulties, methods for resolving conflicts
  - i. Identify the common causes of disputes and customer dissatisfaction
  - ii. Explain techniques for resolving disputes; identify and describe briefly the key processes for resolving disputes (mediation, arbitration, civil suit, appeal)
- d. Construct and use a quality customer service action plan
  - i. Represent attributes of an effective customer service strategy
  - ii. Identify procedures for identifying customer service problems and solutions
- e. Explain the roles of the homeowner, builder and home warranty insurance provider in identifying and responding to possible construction defects for the homeowner and future homeowners

## 5. FINANCIAL PLANNING AND BUDGET MANAGEMENT

- a. Describe financial planning
  - i. Integration with business plan, purpose and main elements of the business plan
  - ii. Construct financial projections
  - iii. Compute pro-forma statement of operations (budget)
    - explanation/elements (sales, costs, gross income, net income, etc.)
    - Purposes of the pro-forma statement of operations
  - iv. Compute pricing: alternate methods, factors to consider
  - v. Compute break-even analysis: explanation
  - vi. Discussion of overhead costs
  - vii. Apply margin/mark-up: explanation and guidelines
  - viii. Pro-forma statement of financial position: explanation, elements
  - ix. Calculate pro-forma cash flow statement
- b. Financial management
  - i. Explanation of financial management practices: records requirements and operating guidelines, e.g., timely reporting, communicating guidelines
  - ii. Explain accounting concepts, principles and practices
    - Accounting cycle
    - Alternate accounting benchmarks
    - Accrual accounting
    - Accounts receivable
    - Accounts payable
  - iii. Bookkeeping: explanation; concepts and practices: journal entries, double-entry, preparation of ledgers, trial balance, etc.
  - iv. Describe financial statements
    - Statement of operations: explanation, elements (sales, costs (fixed,variable), gross income, net income)
    - Statement of financial position: explanation; elements (assets, liabilities, shareholders' equity)
    - Cash flow statement: timing of costs and income, guidelines
    - Analysis of variances (between forecasts and actual results)
  - v. Describe financial performance measures: financial ratios, benchmarking
  - vi. Give examples of financing: types of construction financing
  - vii. Describe lender policies; working with lenders
  - viii. Describe credit arrangements
  - ix. Describe loan and collateral security requirements and arrangements
  - x. Apply cost control (general and specific, i.e., overhead, construction, sales, administration costs)
  - xi. Define purchase order system
  - xii. Construct a System to control/account for extras and changes

## 6. LEGAL ISSUES

- a. Summarize legal requirements of contracts including: necessary elements, requirements and conditions of contracts, basis for and patterns of payment, breach of contract and remedies for breach of contract
- b. Demonstrate how to construct basic contracts with sub-contractors, suppliers, insurers and lenders; describe subcontractor and supplier responsibilities; describe requirements of insurers and lenders
- c. Describe types of contracts including: types of building contracts, contracts with subcontractors, contracts with lending institutions, contracts with homeowners, and contracts with realtors
- d. Distinguish between an Agreement of Purchase and Sale, and a contracted home
- e. Describe the land registry system and related topics including land transfer, closing procedures, conditions and easements
- f. Summarize builder liability including: liability under contract, liability for negligence, tort law, environmental liability, WCB/OHS liability, statute of limitations, liability and responsibilities under the *Homeowner Protection Act*
- g. Explain *Builders Lien Act* including: purpose, lien claimants, filing procedures, amounts, holdbacks and enforcement of liens
- h. Describe dispute resolution mechanisms including: information on mediation and arbitration; *Homeowner Protection Act Regulation* mediation provisions
- i. Describe how provincial legislation and local bylaws may affect residential construction:
  - a. Zoning and easements
  - b. Development permits
  - c. Building permits
  - d. Inspection requirements
  - e. Occupancy permits
- j. Describe how regulatory requirements or prohibitions with respect to health, the environment, riparian areas, and energy performance may affect residential construction



## 7. BUSINESS PLANNING, MANAGEMENT AND ADMINISTRATION

- a. Explain business vision, objectives and goals
  - i. Describe statement of vision, objectives and goals
  - ii. Explain statement of company rationale, values, directions and risks
  - iii. Explain statement of ethics
  - iv. Explain products and services
- b. Integration with financial plan
  - i. understand purpose of financial plans
  - ii. Explain pro-forma statement of operations (income statement)
  - iii. Explain pro-forma statement of financial position (balance sheet)
  - iv. Explain cash flow estimates
  - v. Explain mark-ups
- c. Marketing plan
  - i. Be able to explain the following terms: market research, marketing, marketing planning
  - ii. Describe market research methods
  - iii. Describe elements of marketing planning: market environment, target market, positioning, pricing, strategy, sales strategy (public relations plan, advertising plan and referrals plan)
- d. Operating plan
  - i. Describe different business forms (i.e. sole proprietorships, partnership, corporations, limited partnerships, partnerships of corporations) and some pros and cons of each model
  - ii. Describe the major functions of a residential business: land acquisition, house designs, estimating, contract administration, quality control, customer service and waste management
  - iii. Describe how to use management control systems (general, construction management, site management)
  - iv. Know how to assess business goals and evaluate performance against objectives using sales and financial measures
  - v. Give examples of protecting the business: overview of insurance and *Builders Lien Act*
  - vi. Explain why and when a new/updated plan should be developed
  - vii. Managing change: Give examples of when changes to one part of the business plan affect other parts.
  - viii. Explain importance of communications to business success, construct guidelines for effective communication

### For more information

We welcome your comments or questions by email or phone. If you need more information about Core Competencies or Continuing Professional Development you can email us at [qualifications@hpo.bc.ca](mailto:qualifications@hpo.bc.ca) or contact us at the Homeowner Protection Office, a branch of BC Housing.

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