



# BUILDING CONTRACTORS PROJECT MANAGEMENT EXAMINATION CONTENT INFORMATION

Revised September 5, 2014

The Project Management portion of the examination will be administered daily in Computer Based Testing (CBT) format. The examination will consist of 60 equally weighted questions covering managing, controlling, and conducting a specific project.

The examination will have questions relating to the following content areas and necessary knowledge for each area includes:

- reading and interpreting plans and specifications
- reading and interpreting codes
- basic mathematics (addition, subtraction, multiplication, division, calculations of area and volume, fractions, decimals, percentages, calculating the sides of triangles, square roots, powers of numbers, and solving simple algebraic equations for unknown variables)

You should be prepared to respond to examination questions on any of the content areas listed. Questions asked and content areas tested on previous examinations should not be assumed to be the only possible questions to be asked or content areas to be tested on this examination.

The percentage of questions shown for each content area may vary by as much as plus or minus three (3) percent. Please refer to the Candidate Information Brochure and the Reference List for additional information.

## **Content Area E** **68%** **Construction Methods, Materials, Tools, and Equipment**

### **1. Site layout**

- construction layout
  - benchmarks
  - elevations

- setbacks
- site plan interpretation and knowledge

### **2. Soil conditions**

types and characteristics of soils

- compaction
  - density
  - proctor
  - moisture content
- knowledge of soil reports, soil test results  
knowledge of appropriate foundation types given soil conditions

### **3. Characteristics and uses of survey instruments**

builder's level  
transit and theodolite  
water bubble  
string line  
laser level

### **4. Concrete**

knowledge of shoring  
knowledge of formwork including terminology and techniques  
knowledge of loads (e.g., volume, pressure)  
knowledge of systems and methods for concrete

- footings
- piles and pile caps
- placing slabs and decks
- columns
- walls

knowledge of proper forming practices, bracing and erection  
knowledge of concrete reinforcement  
knowledge of quality control related to concrete

### **5. Masonry**

knowledge of erection and bracing  
knowledge of masonry materials and handling  
knowledge of quality control related to masonry

## 6. Earth-work

knowledge of excavations

- cut and fill calculations
- calculating excavations and grades
- trenching

preparation of site for foundation

- angle of repose
- soil compaction

knowledge of sheeting, shoring for excavations and dewatering

knowledge of erosion control

knowledge of quality control related to earth-work

## 7. Wood framing

knowledge of truss erection and bracing

knowledge of rafters, floor joists and studs

knowledge of and ability to use span tables

knowledge of wind loads and fasteners

knowledge of roofing and materials

## 8. Steel framing

knowledge of erection and bracing techniques

knowledge of metal studs, beams columns and bar joists

knowledge of painting and fire protection of steel framing

knowledge of welding and connections of steel framing

## 9. Energy efficient construction

knowledge of R-values

knowledge pertaining to energy efficiency

## 10. Miscellaneous materials

knowledge of gypsum materials and methods

knowledge of plaster materials and methods

## 11. Other tools

## 12. Other equipment

## Content Area F

12%

### Safety

#### 1. Compliance with OSHA standards

knowledge of site layout

knowledge of soil conditions

knowledge of shoring for concrete

knowledge of bracing and erection

knowledge of earth-work

knowledge of formwork for concrete

knowledge of framing

knowledge of scaffolding

knowledge of trench safety

knowledge of ground fault interruption

knowledge of record keeping

knowledge of fall protection

knowledge of other OSHA regulations

#### 2. Other safety standards and practices

knowledge of asbestos

knowledge of lead paint

knowledge of hazardous waste disposal

## Content Area G

20%

### Reading Plans and Specifications

#### 1. Reading blueprints

ability to read and understand plans and drawings

basic math skills and calculations associated with reading blueprints

knowledge of architectural and engineering symbols

#### 2. Interpreting construction codes and standards

ability to read, understand, and apply codes and standards including building codes

knowledge of ADA requirements

#### 3. Shop drawings and submittals

ability to understand technical concepts

product knowledge

blueprint reading and interpretation

(e.g., clearances, support clearances, openings)