

|              |  |                |           |
|--------------|--|----------------|-----------|
| <b>Title</b> | <b>Demonstrate knowledge of principles related to provision of services for medium and large buildings</b> |                |           |
| <b>Level</b> | <b>5</b>   | <b>Credits</b> | <b>10</b> |

|                |  |
|----------------|--|
| <b>Purpose</b> | People credited with this unit standard are able to, for medium and large buildings: explain purposes and operating principles of services; explain principles of coordination and placement and reticulation of services; and demonstrate knowledge of legislative requirements relevant to services. |
|----------------|--|

|                       |   |
|-----------------------|---|
| <b>Classification</b> | Construction > Core Planning and Construction |
|-----------------------|---|

|                        |          |
|------------------------|----------|
| <b>Available grade</b> | Achieved |
|------------------------|----------|

---

### Explanatory notes

- 1 Definitions  
*Medium buildings* are light to medium weight commercial or industrial buildings up to three levels above ground which utilise commercial or industrial materials, construction techniques, and services.  
*Large buildings* are high-rise, large and complex buildings of more than three levels above ground level, and/or complex specialist structures.
- 2 Assessment of this unit standard can be by simulation and/or observation.
- 3 Legislation and publications relevant to this unit standard include: Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995; Resource Management Act 1991; Building Act 2004; Electricity Act 1992; Plumbers, Gasfitters, and Drainlayers Act 2006; Telecommunications Act 2001; New Zealand Building Code; AS/NZS 3500 Set, available from Standards New Zealand (<http://www.standards.co.nz>).

---

## Outcomes and evidence requirements

### Outcome 1

Explain purposes and operating principles of services in medium and large buildings.

Range plumbing, cold and hot water, solid waste disposal, drainage, electricity, gas, ventilation, air conditioning, heating, telecommunications, transport systems, active fire protection, building management system, access control, building maintenance unit, specialist services (such as in a hospital).

### Evidence requirements

- 1.1 Purposes of services are identified with reference to the requirements of medium and large buildings.
- 1.2 Components of services are identified in terms of their function.
- 1.3 Operating principles of services are explained in terms of their effects on building design and construction.
- 1.4 Explanation of services identifies their safety features.

### Outcome 2

Explain principles of coordination and placement and reticulation of services for medium and large buildings.

Range electrical, plumbing including cold and hot water, active fire protection, transport systems, heating, ventilation and air conditioning (HVAC).

### Evidence requirements

- 2.1 Principles of coordination and placement of services are explained in terms of their compatibility in medium and large buildings.
- 2.2 Principles regarding the placement of services in medium and large buildings are explained in terms of requirements for construction, use, and servicing.
- 2.3 Principles of coordination between services consultants are explained in terms of their requirements for the project.
- 2.4 Service drawings are interpreted to enable coordination of services.

**Outcome 3**

Demonstrate knowledge of legislative requirements relevant to services in medium and large buildings.

Range electrical, plumbing including cold and hot water, active fire protection, transport systems, heating, ventilation and air conditioning (HVAC).

**Evidence requirements**

3.1 Legislative requirements are analysed to determine the provision of services for medium and large buildings.

3.2 Situations are identified where the expertise of other professionals is required.

|                            |                  |
|----------------------------|------------------|
| <b>Planned review date</b> | 31 December 2015 |
|----------------------------|------------------|

**Status information and last date for assessment for superseded versions**

| Process      | Version | Date             | Last Date for Assessment |
|--------------|---------|------------------|--------------------------|
| Registration | 1       | 21 March 1997    | 31 December 2014         |
| Revision     | 2       | 10 December 1997 | 31 December 2014         |
| Revision     | 3       | 7 June 2000      | 31 December 2014         |
| Review       | 4       | 20 March 2003    | 31 December 2014         |
| Revision     | 5       | 19 July 2004     | 31 December 2014         |
| Review       | 6       | 18 March 2011    | N/A                      |

|  |      |
|--|------|
| <b>Accreditation and Moderation Action Plan (AMAP) reference</b> | 0048 |
|--|------|

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

---

**Comments on this unit standard**

Please contact the Building and Construction Industry Training Organisation [national.office@bcito.org.nz](mailto:national.office@bcito.org.nz) if you wish to suggest changes to the content of this unit standard.