



TECHNICAL &  
VOCATIONAL  
EDUCATION &  
TRAINING



# National Competency Standard for Construction Site Supervision Standard Code: CON<sub>21</sub>S<sub>17</sub>V<sub>1</sub>



## **PREFACE**

The ADB Loan 2028 MLD, Employment Skills Training Project's (ESTP) objective is to increase the number of Maldivians, men and women, actively participating in the labor force, employed and self-employed. The Project will support the expansion of demand driven employment-oriented skills training in priority occupations and improve the capacity to develop and deliver Competency Based Skill Training (CBST). The Project aims to (i) provide youth with employment-oriented skills training; (ii) improve public perception of training and employment in locally available skills-oriented occupations; (iii) make available employment-related information to more Maldivians; and (iv) strengthen the capacity for labor administration and for labor market analysis.

The objective of the project is to deliver CBST programs to satisfy employer demand-driven needs. The National Competency Standards (NCS) provide the base for this training. Initially training will be focused on five key sectors: tourism, fisheries and agriculture, transport, construction and the social sectors. These sectors are included as priority sectors in the national development plan and play a vital role in the continued economic growth of the country.

The NCS are developed in consultation with Employment Sector Councils representing employers. They are designed using a consensus format endorsed by the Maldives Accreditation Board (MAB) to maintain uniformity of approach and the consistency of content amongst occupations. This single format also simplifies benchmarking the NCS against relevant regional and international standards.

NCS specify the standards of performance of a competent worker and the various contexts in which the work may take place. NCS also describes the knowledge, skills and attitudes required in a particular occupation. They provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competency acquired following training or through work experience. By sharing this information, all participants in the training process have the same understanding of the training required and the standard to be reached for certification. Certification also becomes portable and can be recognized by other employers and in other countries with similar standards.

NCS are the foundation for the implementation of the Technical and Vocational Education and Training (TVET) system in Maldives. They ensure that all skills, regardless of where or how they were developed can be assessed and recognized. They also form the foundation for certifying skills in the Maldives National Qualification Framework (MNQF).

NCS are developed by the TVET Section of Ministry of Higher Education, Employment and Social Security. The NCS are endorsed by the Employment Sector Councils of the respective sectors and validated by the Maldives Qualifications Authority.

## KEY FOR CODING

### Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC (Three letters)	Construction Sector ( <b>CON</b> ) Fisheries and Agriculture Sector ( <b>FNA</b> ) Transport sector ( <b>TRN</b> ) Tourism Sector ( <b>TOU</b> ) Social Sector ( <b>SOC</b> ) Foundation ( <b>FOU</b> )
Competency Standard	<b>S</b>
Occupation within an industry Sector	<b>Two digits 01-99</b>
Unit	<b>U</b>
Common Competency	<b>1</b>
Core Competency	<b>2</b>
Optional/ Elective Competency	<b>3</b>
Assessment Resources Materials	<b>A</b>
Learning Resources Materials	<b>L</b>
Curricula	<b>C</b>
Qualification	<b>Q1, Q2 etc</b>
MNQF level of Qualification	<b>L1, L2 etc</b>
Version Number	<b>V1, V2 etc</b>
Year of endorsement of standard, qualification	<b>By two digits Example- 07</b>

**1. Endorsement Application for Qualification 03****2. NATIONAL CERTIFICATE III IN CONSTRUCTION SITE SUPERVISION**

<b>3. Qualification code:</b> CON21SQ1L317	<b>Total Number of Credits: 40</b>
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**4. Purpose of the qualification**

This qualification is designed to meet the needs of site managers and supervisors in the building and construction industry. It includes core competency units that cover common skills for the construction industry.

<b>5. Regulations for the qualification</b>	National Certificate III in Construction Site Supervision Qualification will be awarded to those who are competent in unit 1+2+3+4+5+6+7+8+9+10
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**6. Schedule of Units**

<b>Unit Title</b>	<b>Unit Title</b>	<b>Code</b>
1	Observe personal and workplace hygiene practices	CON21S1U01V1
2	Practice effective workplace communication	CON21S1U02V1
3	Perform computer operations	CON21S1U03V1
4	Promote team effectiveness	CON21S1U04V1
5	Manage occupational health and safety in the building and construction workplace	CON21S1U05V1
6	Work discipline management	CON21S1U06V1
7	Conduct on-site supervision of building and construction projects	CON21S1U07V1
8	Apply legal requirements to building and construction projects	CON21S1U08V1

9	Arrange resources and prepare for the building or construction project	CON21S1U09V1
10	Minimise waste on the building and construction site	CON21S1U10V1
<b>7. Accreditation requirements</b>	The training and assessment leading to recognition of skills must be undertaken in a real or very closely simulated workplace environment.	
<b>8. Recommended sequencing of units</b>	As appearing under the section 06	

## 1. Endorsement Application for Qualification 04

### 2. NATIONAL CERTIFICATE IV IN CONSTRUCTION SITE SUPERVISION

**3. Qualification code:**  
CON21SQ2L417

**Total Number of Credits: 160**

#### 4. Purpose of the qualification

This qualification is designed to meet the needs of site managers and supervisors in the building and construction industry. It includes core competency units that cover common skills for the construction industry.

#### 5. Regulations for the qualification

National Certificate IV in Construction Site Supervision Qualification will be awarded to those who are competent in unit 1+2+3+4+5+6+7+8+9+11+12+13+14+15+16+17+18+19+20+21+22

#### 6. Schedule of Units

Unit Title	Unit Title	Code
1	Observe personal and workplace hygiene practices	CON21S1U01V1
2	Practice effective workplace communication	CON21S1U02V1
3	Perform computer operations	CON21S1U03V1
4	Promote team effectiveness	CON21S1U04V1
5	Manage occupational health and safety in the building and construction workplace	CON21S1U05V1
6	Work discipline management	CON21S1U06V1
7	Conduct on-site supervision of building and construction projects	CON21S1U07V1
8	Apply legal requirements to building and construction projects	CON21S1U08V1
9	Arrange resources and prepare for the building or construction project	CON21S1U09V1
10	Apply building codes and standards to the construction process for building projects	CON21S2U11V1
12	Plan building or construction work	CON21S2U12V1
13	Apply structural principles to residential constructions	CON21S2U13V1
14	Implement continuous improvement	CON21S2U14V1
15	Apply quality management techniques	CON21S2U15V1
16	Apply risk management techniques	CON21S2U16V1
17	Read and interpret plans and specifications	CON21S2U17V1
18	Prepare simple building sketches and drawings	CON21S2U18V1
19	Prepare specifications for all construction works	CON21S2U19V1

20	Apply site surveys and set out procedures to building and construction projects	CON21S2U20V1
21	Manage personal work priorities and professional development	CON21S2U21V1
22	Implement and monitor environmentally sustainable work practices	CON21S2U22V1
23	Produce labour and material schedules for ordering	CON21S2U23V1
<b>7. Accreditation requirements</b>	The training and assessment leading to recognition of skills must be undertaken in a real or very closely simulated workplace environment.	
<b>8. Recommended sequencing of units</b>	As appearing under the section 06	



## UNIT DETAILS

Unit Title	Unit Title	Code	Level	No of credits
1	Observe personal and workplace hygiene practices	CON21S1U01V1	3	3
2	Practice effective workplace communication	CON21S1U02V1	3	3
3	Perform computer operations	CON21S1U03V1	3	3
4	Promote team effectiveness	CON21S1U04V1	3	3
5	Manage occupational health and safety in the building and construction workplace	CON21S1U05V1	3	3
6	Work discipline management	CON21S1U06V1	3	3
7	Conduct on-site supervision of building and construction projects	CON21S1U07V1	3	6
8	Apply legal requirements to building and construction projects	CON21S1U08V1	3	6
9	Arrange resources and prepare for the building or construction project	CON21S1U09V1	3	6
10	Minimise waste on the building and construction site	CON21S1U10V1	3	4
11	Apply building codes and standards to the construction process for low rise building projects	CON21S2U01V1	4	9
12	Plan building or construction work	CON21S2U02V1	4	9
13	Apply structural principles to residential low-rise constructions	CON21S2U03V1	4	9

14	Implement continuous improvement	CON21S2U04V1	4	9
15	Apply quality management techniques	CON21S2U05V1	4	9
16	Apply risk management techniques	CON21S2U06V1	4	9
17	Read and interpret plans and specifications	CON21S2U07V1	4	9
18	Prepare simple building sketches and drawings	CON21S2U08V1	4	12
19	Prepare specifications for all construction works	CON21S2U09V1	4	9
20	Apply site surveys and set out procedures to building and construction projects	CON21S2U10V1	4	9
21	Manage personal work priorities and professional development	CON21S2U11V1	4	9
22	Implement and monitor environmentally sustainable work practices	CON21S2U12V1	4	9
23	Produce labour and material schedules for ordering	CON21S2U23V1	4	9

### **Packaging of National Qualifications:**

National Certificate III in Construction Site Supervision will be awarded to those who are competent in units

1+2+3+4+5+6+7+8+9+10

Qualification Code:

CON21SQ1L317

National Certificate IV in Construction Site Supervision will be awarded to those who are competent in units

1+2+3+4+5+6+7+8+9+11+12+13+14+15+16+17+18+19+20+21+22

Qualification Code:

CON21SQ2L417

## COMPETENCY STANDARD FOR CONSTRUCTION SITE SUPERVISION

Unit No	Unit Title
1.	Observe personal and workplace hygiene practices
2.	Practice effective workplace communication
3.	Perform computer operations
4.	Promote team effectiveness
5.	Manage occupational health and safety in the building and construction workplace
6.	Produce labour and material schedules for ordering
7.	Conduct on-site supervision of building and construction projects
8.	Apply legal requirements to building and construction projects
9.	Arrange resources and prepare for the building or construction project
10.	Minimise waste on the building and construction site
11.	Apply building codes and standards to the construction process for low rise building projects
12.	Plan building or construction work
13.	Apply structural principles to residential low-rise constructions
14.	Implement continuous improvement
15.	Apply quality management techniques
16.	Apply risk management techniques
17.	Read and interpret plans and specifications
18.	Prepare simple building sketches and drawings

19.	Prepare specifications for all construction works
20.	Apply site surveys and set out procedures to building and construction projects
21.	Manage personal work priorities and professional development
22.	Implement and monitor environmentally sustainable work practices

## **BRIEF DESCRIPTION**

In the recent years, the construction industry has seen a robust expansion towards its growth. A large portion of the construction sector activity consists of public sector infrastructure projects, residential housing and resort development projects.

This unprecedented growth in the industry was driven by a number of factors. They include the launching of large scale public infrastructure projects such as development of Hulhumale', rapid urbanisation, changes to land laws, introduction of housing finance schemes and the massive repair and reconstruction efforts following the 2004 tsunami.

The construction sector is a vital part of the country's economy and it contributes significantly to the GDP. Thus, it plays an important role in delivering the basic infrastructure needed for socio-economic development. In this regard, it covers the construction of roads, highways, harbours, ports, bridges, tunnels and other civil works and also the building of factories, houses, offices, schools and apartments.

The activities in the construction sector are very labour intensive making it a significant contributor to industrial employment in many countries. According to the Household Income and Expenditure Survey 2009/2010, the construction sector employed about 5% of the total local labour force in 2010. Of the total workforce of the construction industry, expatriate employment accounted for 88% in 2010 compared to 75% in 2006. While there has been a slight decline in the number of locals employed in the construction sector between 2006 and 2010, the number of expatriate employment in the sector nearly doubled during this period highlighting the excessive dependence of the sector on expatriate workers. With the large increase in expatriate labour force, the construction sector has also has now become the single largest employer of the country's expatriate labour force (accounting for 43%). Although most expatriate workers in the construction industry are employed as labourers, a significant portion is also employed under the skilled crafts category, partly reflecting shortages in local craftsman.

### UNIT 01

<b>UNIT TITLE</b>	Observe personal and workplace hygiene practices				
<b>DESCRIPTOR</b>	<p>This unit covers the knowledge, skills and attitudes required to observe workplace hygiene procedures and maintaining of personal presentation and grooming standard.</p> <p>This unit deals with necessary skills and knowledge required for maintaining the hygiene of workers and the hygienic practices that should be applied while on the job.</p>				
<b>CODE</b>	CON21S1U01V1	<b>LEVEL</b>	3	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Observe grooming, hygiene and personal presentation standards	1.1. Grooming, hygiene and personal presentation practices maintained at high standards in line with industry norms and procedures 1.2. Adequate level of personal cleanliness observed throughout the work 1.3. Effects of poor personal hygiene understood and avoided in all practices
2. Follow hygiene procedures	2.1. Hygiene procedures followed in line with procedures and legal requirements 2.2. Hygiene standards maintained in line with procedures
3. Identify and avoid hygiene risks	3.1. Hygiene risks understood and avoided in line with general standards and guidelines

## **ASSESSMENT GUIDE**

### **Form of assessment**

- Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- Any written or oral examinations may include questions related to hygiene, illness and personal grooming standard.

### **Assessment context**

Assessment may be done in workplace or a simulated work environment.

### **Critical aspects**

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of:

- Maintaining adequate level of all aspects of personal hygiene and cleanliness
- Following cleaning procedures for effective cleaning of work areas
- Immediately reporting any symptoms of illness
- Undertaking routine medical check-ups
- This unit may be assessed in conjunction with all and units which form part of the normal job role

### **Assessment conditions**

- Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- Assessment of hygienic work practices must be constantly evaluated.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"><li>• General knowledge of common terminologies used in hygiene including personal hygiene</li><li>• Knowledge on general symptoms of different types of diseases</li><li>• Detailed knowledge and importance of illness and injury reporting procedures</li></ul>	<ul style="list-style-type: none"><li>• Ability to follow procedures and instructions</li><li>• Competent to work according to relevant hygiene regulations and procedures</li><li>• Competent to work to meet requirements for personnel hygiene and hygienic practices</li><li>• Communication skills</li><li>• Interpersonal skills</li></ul>

## UNIT 02

<b>UNIT TITLE</b>	Practice effective workplace communication				
<b>DESCRIPTOR</b>	This unit addresses the need for effective communication in the spa environment. It describes the ethics of communication and shows the importance of selecting the best method of communication during various situations. It also identifies the barriers to communication and explains how to overcome them. The unit also describes how to use the telephone; the procedures for answering, transferring and holding calls, making outgoing calls and taking messages. In addition, it also highlights the need for cleaning telephone equipment.				
<b>CODE</b>	CON21S1U02V1	<b>LEVEL</b>	3	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Communicate with customers and colleagues	1.1. Proper channels and methods of communication used 1.2. Workplace interactions with customers and colleagues appropriately made 1.3. Appropriate non-verbal communication used 1.4. Appropriate lines of communication followed
2. Participate in workplace meetings and discussions	2.1. Meetings and discussions attended on time 2.2. Procedures to expressing opinions and following instructions clearly followed 2.3. Questions asked and responded to effectively 2.4. Meeting and discussion outcomes interpreted and implemented correctly



<p>3. Handle relevant work-related documentation</p>	<p>3.1. Conditions of employment understood correctly</p> <p>3.2. Relevant information accessed from appropriate sources</p> <p>3.3. Relevant data on workplace forms and other documents filled correctly</p> <p>3.4. Instructions and guidelines understood and followed properly</p> <p>3.5. Reporting requirements completed properly</p>
<p>4. Handle telephone</p>	<p>4.1. Procedures for taking messages and making outgoing calls followed correctly</p> <p>4.2. Incoming calls answered correctly</p> <p>4.3. Calls put on hold and transferred properly</p> <p>4.4. Outgoing calls made efficiently</p> <p>4.5. Communication in both English and Dhivehi demonstrated correctly</p>

## **RANGE STATEMENT**

Procedures included:

- Organizational hierarchy and reporting order
- Communications procedures
- Telephone handling procedures

Aspects evaluated:

- Non-verbal communication
- Interpersonal skills
- General attitude to customers, colleagues and work
- Conformity to policies and procedures

**Tools, equipment and material used in this unit may include**

- Telephone

- Note pads
- Pens
- Forms and formats related to inter-personal communication

## **ASSESSMENT GUIDELINE**

### **Forms of assessment**

Assessment for the unit needs to be continuous and holistic and must include real or simulated workplace activities.

### **Assessment context**

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of opportunities for communication.

### **Critical aspects (for assessment)**

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of communicating effectively with others involved in or affected by the work. This unit may be assessed in conjunction with all and units which form part of the normal job role.

### **Assessment conditions**

It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying circumstances.

### **Special notes for assessment**

Evidence of performance may be provided by customers, team leaders/members or other persons, subject to agreed authentication arrangements

### **Resources required for assessment**

The following should be made available:

- A workplace or simulated workplace
- Materials and equipment

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• General knowledge of English and Divehi grammar</li> <li>• General knowledge of common telephone equipment</li> <li>• General knowledge on effective communication</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake effective customer relation communications</li> <li>• Competent in communicating basic with customers</li> <li>• Fluency in English and Dhivehi language usage</li> </ul>

### UNIT 03

<b>UNIT TITLE</b>	Perform computer operations				
<b>DESCRIPTOR</b>	This unit covers the knowledge, skills and attitudes and values needed to perform computer operations that include inputting, accessing, producing and transferring data using the appropriate hardware and software.				
<b>CODE</b>	CON21S1U03V1	<b>LEVEL</b>	3	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Input data into computer	<p>1.1. Data entered into the computer using appropriate program/application in accordance with company procedures</p> <p>1.2. Accuracy of information checked and information saved in accordance with standard operating procedures</p> <p>1.3. Input data stored in storage media according to requirements</p>
2. Access information using computer	<p>2.1. Correct program/application selected based on job requirement</p> <p>2.2. Program/application containing the information required accessed according to company procedures</p> <p>2.3. Desktop icons correctly selected, opened and closed for navigation purposes</p>

<p>3. Produce/output data using computer system</p>	<p>3.1. Entered/stored data processed using appropriate software commands</p> <p>3.2. Data printed out as required using computer hardware/peripheral devices in accordance with standard operating procedures</p> <p>3.3. Files and data transferred between compatible systems using computer software, hardware/ peripheral devices in accordance with standard operating procedures</p>
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### **RANGE STATEMENT**

This unit covers computer hardware to include personal computers used independently or within networks, related peripherals, such as printers, scanners, keyboard and mouse, and storage media such as disk drives and other forms of storage. Software used must include but not limited to word processing, spreadsheets, database and billing software packages and Internet browsing software.

### **Tools, equipment and materials required may include:**

- Storage device
- Different software and hardware
- Personal computers system
- Laptop computer
- Printers
- Scanner
- Keyboard
- Mouse
- Disk drive /CDs, DVDs, compressed storage device

### **ASSESSMENT GUIDE**

#### **Forms of assessment**

The assessor may select two of the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration

### **Assessment context**

Assessment may be conducted out of the workplace preferably in a computer classroom

### **Critical aspects (for assessment)**

Assessment must show that the candidate:

- Selected and used hardware components correctly and according to the task requirement
- Identified and explain the functions of both hardware and software used, their general features and capabilities
- Produced accurate and complete data in accordance with the requirements
- Used appropriate devices and procedures to transfer files/data accurately

### **Assessment conditions**

Assessment may be conducted out of the work environment and may include assignments and projects.

### **Special notes for assessment**

During the assessment the trainees shall:

- Carry out all the tasks according to the industry and organizational policies and procedures
- Meet the performance criteria of all competence
- Demonstrate accepted level of performance determined by the assessors

### **Resources required for assessment**

Computer hardware with peripherals and appropriate software

## UNIT 04

<b>UNIT TITLE</b>	Promote team effectiveness				
<b>DESCRIPTOR</b>	This unit describes the performance outcomes, skills and knowledge required to promote teamwork. It involves developing team plans to meet expected outcomes, leading the work team, and proactively working with the management of the organisation.				
<b>CODE</b>	CON21S1U04V1	<b>LEVEL</b>	4	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Plan to achieve team outcomes	<p>1.1. Identify, establish and document team purpose, roles, responsibilities, goals, plans and objectives in consultation with team members</p> <p>1.2. Support team members in meeting expected outcomes</p>
2. Develop team cohesion	<p>2.1. Provide opportunities for input of team members into planning, decision making and operational aspects of work team</p> <p>2.2. Encourage and support team members to take responsibility for own work and to assist each other in undertaking required roles and responsibilities</p> <p>2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions</p> <p>2.4. Recognise and address issues, concerns and problems identified by team members or refer to relevant persons as required</p>
	<p>3.1. Actively encourage team members to participate in and take</p>

<p>3. Participate in and facilitate work team</p>	<p>responsibility for team activities and communication processes</p> <p>3.2. Give the team support to identify and resolve problems which impede its performance</p> <p>3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image within the work team, the organisation and with clients/customers</p>
<p>4. Liaise with management</p>	<p>4.1. Maintain open communication with line manager/management at all times</p> <p>4.2. Communicate information from line manager/management to the team</p> <p>4.3. Communicate unresolved issues, concerns and problems raised by the team/team members to line manager/management and ensure follow-up action is taken</p> <p>4.4. Communicate unresolved issues, concerns and problems related to the team/team members raised by line managers/management to the team and ensure follow-up to action is taken</p>

## **RANGE STATEMENT**

Team purpose, roles, responsibilities, goals, plans and objectives

- action plans, business plans and operational plans linked to strategic plans
- expected outcomes and outputs
- goals for individuals and the work team
- individual and team performance plans and key performance indicators

- occupational health and safety (OHS) responsibilities

#### Feedback

- formal/informal gatherings between team members where there is communication on work related matters
- informal communication of ideas and thoughts on specific tasks, outcomes, decisions, issues or behaviours

### **ASSESSMENT GUIDE**

#### **Assessment form**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

#### **Critical aspects of assessment**

Evidence of the following is essential:

- teamwork plan with details of how it was generated and how it will be monitored so that team goals can be met
- techniques in communicating information, dealing with team conflict and resolving issues

#### **Assessment context**

Assessment must ensure:

- access to appropriate documentation and resources normally used in the workplace.

#### **Assessment method**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- analysis of responses to case studies and scenarios
- direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
- observation of demonstrated techniques in working with team dynamics
- observation of performance in role plays
- oral or written questioning to assess knowledge of principles and techniques associated with group dynamics and processes



- evaluation of opportunities provided for input of team members into planning, decision making and operational aspects of work team
- review of feedback provided to team members
- review of teamwork plan.

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<p>organisational goals, objectives and plans</p> <p>organisational policy and procedures framework</p> <p>principles and techniques associated with:</p> <ul style="list-style-type: none"> <li>• delegation and work allocation</li> <li>• goal setting</li> <li>• group dynamics and processes</li> <li>• individual behaviour and difference</li> <li>• leadership</li> <li>• motivation</li> <li>• negotiation</li> <li>• planning.</li> </ul>	<p>communication skills to:</p> <ul style="list-style-type: none"> <li>• boost team morale</li> <li>• deal with team conflict</li> <li>• deliver messages from management</li> <li>• facilitate discussion</li> <li>• mentor and coach</li> </ul> <p>leadership skills</p> <p>planning and organising skills.</p>

## UNIT 05

<b>UNIT TITLE</b>	Manage occupational health and safety in the building and construction workplace				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to conduct an OHS risk analysis, including the inspection of workplaces for hazards. The development and implementation of appropriate responses, including responses required by legislation and regulations, to mitigate the risks are also addressed.				
<b>CODE</b>	CON21S1U05V1	<b>LEVEL</b>	4	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Determine areas of potential risk in the building and construction workplace.	1.1. Specific risks for the range of occupations in the workplace are identified and prioritised. 1.2. Construction site safety is evaluated and construction hazards and potential risk areas are identified in accordance with legislative requirements for OHS and company policies. 1.3. Hazards are identified and prioritised and required approaches to remediation are documented.
2. Inspect and report on areas of specific risk	2.1. Inspection of the workplace is conducted to identify specific risks. 2.2. Expert advice, including advice from workplace personnel, is sought as appropriate. 2.3. Inspection report is completed in accordance with best practice and statutory obligations.
	3.1. Recommendations are made from findings of inspection report. 3.2. Relevant parties are consulted.

<p>3. Advise on implementation of control measures at the building and construction workplace.</p>	<p>3.3. Agreed control measures are implemented in conjunction with relevant workplace personnel.</p> <p>3.4. Effectiveness of control measures are monitored and reviewed.</p>
<p>4. Establish and review communications and educational programs.</p>	<p>4.1. Effective strategies for communicating OHS policy and practice are determined in consultation with appropriate personnel.</p> <p>4.2. Communication strategies and educational programs specific to the building and construction industry and in accordance with statutory requirements and best practice are established.</p> <p>4.3. Effectiveness of the communication and educational programs is reviewed.</p>

### **RANGE STATEMENT**

- commonly used high risk construction equipment:
  - lasers
  - explosive powered tools
  - compressed air nailing tools
  - ladders
  - high pressure jetting systems
  - material conveyors
- fall protection and access equipment
- falling objects
- falls from height
- pressure equipment
- scaffolding
- welding, cutting and gouging processes in the construction industry in particular, oxy-acetylene.

- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- legislative requirements to be adhered to in all planning and implementation stages, which may require the development and use of site safety plans and safe work methods statements hazard control
- hazardous materials and substances
- organisational first aid
- personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
  - machines
  - surrounding structures and facilities
  - traffic control
  - underground services
  - working in confined spaces
  - trip hazards
  - work site visitors and the public
  - working at heights
  - working in confined spaces
  - working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.

## **ASSESSMENT GUIDELINE**

### **Assessment form**

This unit of competency could be assessed by conducting an OHS inspection and developing an OHS risk analysis for a building project.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects of assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with organisational quality procedures and processes
- apply and interpret relevant documentation and codes
- accurately apply national OHS requirements relating to construction workplace
- identify faults and problems impacting on OHS and proposed action to rectify.

### **Assessment context**

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- current copy of relevant OHS legislation, regulation and advisory standard for first aid
- samples of workplace incident data and incident reports
- other relevant codes, standards and government regulations
- office equipment
- computers with appropriate software.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>current workplace and OHS legislation and advisory standards</p> <p>other relevant building and construction codes, standards and government regulations.</p>	<p>application of regulatory requirements, including safe work method statements and plans such as site safety plans</p> <p>appropriate literacy and numeracy skills</p> <p>attention to detail in applying building codes and standards</p> <p>communication skills</p> <p>conducting OHS legislation and documentation research</p> <p>construction site inspection techniques for OHS compliance</p> <p>interpretation and application of construction documentation</p> <p>knowledge of the technical and trade skills in building and construction processes</p> <p>maintaining records and documents</p> <p>negotiation and conflict resolution skills</p> <p>OHS compliance investigation skills.</p>

## UNIT 06

<b>UNIT TITLE</b>	Work discipline management				
<b>DESCRIPTOR</b>	This unit applies to those who play a supervisory role in any work setting. It describes the skills required to monitor offensive behaviour, prevent and manage conflict and respond to unacceptable behaviour.				
<b>CODE</b>	CON21S1U06V1	<b>LEVEL</b>	3	<b>CREDIT</b>	3

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Create awareness	<p>1.1. Conduct information sessions for the employees so that they become aware of acceptable and unacceptable behaviours in a work setting.</p> <p>1.2. Stress on the importance of working together as a team and to prevent any form of work harassment in the work place.</p>
2. Monitor behaviour	<p>2.1. Use formal and informal methods to observe, monitor and gather information about individual and group behaviour.</p> <p>2.2. Assess behaviour for potential conflict and use a range of preventative and defusing strategies.</p> <p>2.3. Investigate offender behaviour and interactions in a fair, objective and consistent manner.</p> <p>2.4. Check accuracy of information received from others that might indicate conflict and determine a response that is consistent with the issues and their gravity</p> <p>2.5. Make decisions on action consistent with available</p>

	<p>evidence and organisation's practice and procedures</p> <p>2.6. Seek specialist advice and make referrals where required</p>
3. prevent and manage conflict	<p>3.1. Conduct interactions with offenders in an appropriate location and a positive manner.</p> <p>3.2. Use communication strategies with individuals to promote effective interaction and problem solving.</p> <p>3.3. Use negotiation to examine cause and effect and encourage appropriate responsibility and accountability for behaviour and its outcomes.</p>

**RANGE STATEMENT**

Conflict management techniques

- Collaborating
- Compromising
- Avoiding
- Accommodating



## **ASSESSMENT GUIDELINE**

Evidence for assessment must be gathered over time in a range of contexts to ensure the person can achieve the unit outcome and apply the competency in different situations or environments.

Valid assessment of this unit requires a workplace environment or one that closely resembles normal work practice and replicates the range of conditions likely to be encountered by an individual promoting cooperative behaviour, including coping with difficulties, irregularities and changes to routine.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"><li>• Company policies on work discipline</li><li>• Communication techniques</li><li>• Conflict management techniques</li></ul>	<ul style="list-style-type: none"><li>• checking the accuracy of information from different sources</li><li>• using a range of conflict management techniques</li><li>• using a range of conflict management techniques</li></ul>

## UNIT 07

<b>UNIT TITLE</b>	Conduct on-site supervision of building and construction projects				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to supervise implementation of administration processes relating to construction projects.				
<b>CODE</b>	CON21S1U07V1	<b>LEVEL</b>	3	<b>CREDIT</b>	6

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Supervise the administration of claims and payment processes.	<p>1.1. Contract payments are made in accordance with the contract allowance or orders.</p> <p>1.2. Drawings against allowances are carried out in accordance with organisation policy and procedures.</p> <p>1.3. Variations to contracts are authorised and corrective action is taken where necessary.</p> <p>1.4. Back-charges are applied in accordance with policy guidelines.</p> <p>1.5. Payment of invoices for material supply is authorised.</p> <p>1.6. Insurance claims for site loss or damage are completed and processed.</p> <p>1.7. Administrative processes are conducted and supervised with reference to relevant regulatory and organisational requirements.</p>
	2.1. Diary of on-site communication and events is maintained, including communications with clients, contractors, inspections, union matters and suppliers.

<p>2. Supervise and maintain on-site communications</p>	<p>2.2. File notes detailing specific instructions are prepared and issued.</p> <p>2.3. Site reports detailing specific supervisory inspections are prepared and kept.</p> <p>2.4. Variation requests or requirements are communicated to the appropriate person.</p> <p>2.5. Requests for extensions of time are communicated to the appropriate person.</p> <p>2.6. Notice of unsatisfactory work is communicated in writing to the appropriate individuals.</p> <p>2.7. Administrative processes are conducted and supervised with reference to relevant regulatory and organisational requirements.</p>
<p>3. Ensure management of and compliance with quality control procedures.</p>	<p>3.1. Relevant quality control procedures are identified.</p> <p>3.2. Site checklists detailing specific items to be inspected at appropriate stages are used and completed.</p> <p>3.3. Industry and organisational quality manuals and procedures are used in managing the quality process.</p> <p>3.4. Local authority inspections are arranged.</p> <p>3.5. Quality requirements are communicated to on-site personnel and building work is assessed against construction standards.</p> <p>3.6. Processes are put in place to supervise on-site work to ensure the performance of work to industry,</p>

	<p>regulatory and contractual standards.</p> <p>3.7. Contractual quality standards are met.</p>
<p>4. Complete project administration processes.</p>	<p>4.1. Project administration processes and preparation for practical completion are carried out in accordance with the contract requirements and company policy.</p> <p>4.2. Practical completion inspection procedure is identified, communicated to the client and applied on site.</p> <p>4.3. Handover procedures are identified and carried out in accordance with company policy.</p> <p>4.4. Certificates and appropriate client information are provided at handover.</p> <p>4.5. Defects liability items are obtained from clients.</p> <p>4.6. Defects are rectified and client sign-off is obtained.</p> <p>4.7. Administrative processes are conducted and supervised with reference to relevant regulatory and organisational requirements.</p>

## **RANGE STATEMENT**

### Regulatory and organisational requirements

- building approval conditions
- contract documents
- engineer reports
- environmental standards
- planning and scheduling
- plans and specifications

- safety management plans
- site consultations
- wage and taxation requirements.

#### On-site communication

- allocating and managing human resources
- applying communication and interpersonal skills to facilitate dispute prevention and resolution
- communicating with regulatory authorities and ensuring conformity with relevant requirements
- dispersal and scheduling of plant and equipment
- maintaining environmental controls and obligations
- managing expenditure
- participating in on-site meetings
- placing orders for supplies or equipment.

#### Quality control procedure

- checking materials supplied to the site
- comparing materials against specifications
- quality checklists
- regular on-site progress and quality checks
- reviews of plans and specifications with clients.

#### Project administration processes

- contract variations
- defect identification and rectification
- determining project progress
- inspections
- obtaining required certification
- progress payments.

## **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the supervision of administration processes relating to a construction project, including the administration of payments, supervision of on-site communications, compliance with quality control and record keeping processes.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- administer claims, variations, and drawings for work done and materials supplied in accordance with relevant regulatory and organisational requirements
- establish functional on-site communication systems that include the systematic gathering of information on site events
- implement a site safety policy
- maintain and monitor on-site quality processes
- assess work against construction quality standards and ensure that rework is carried out
- administer on-site project completion procedures and inform client as required.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and regulations
- office equipment
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- suitable work area appropriate to the construction process.

### **Method of assessment**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>Required knowledge for this unit is:</p> <ul style="list-style-type: none"> <li>• building and construction industry contract payment system and obligations</li> <li>• building and construction industry standards</li> <li>• certification requirements arising from work performed under regulations or local authority requirements</li> <li>• contract variation procedures and associated documentation requirements</li> <li>• contracts employed in the building and construction industry.</li> </ul>	<ul style="list-style-type: none"> <li>• application of contract terms and conditions</li> <li>• application of quality processes</li> <li>• communication skills to: <ul style="list-style-type: none"> <li>• communicate request and requirements</li> <li>• communicate with the client and regulatory authorities</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• facilitate on-site meetings and dispute resolution</li> </ul> </li> <li>• read and interpret: <ul style="list-style-type: none"> <li>• quality control procedures</li> <li>• regulatory and organisational requirements</li> <li>• other relevant workplace documentation</li> </ul> </li> <li>• written skills to: <ul style="list-style-type: none"> <li>• complete site reports</li> <li>• develop and maintain site records</li> </ul> </li> <li>• interpersonal skills relevant to the supervision and monitoring of work processes</li> <li>• numeracy skills to apply calculations.</li> </ul>

## UNIT 08

<b>UNIT TITLE</b>	Apply legal requirements to building and construction projects				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to apply legal requirements to building and construction projects. Application of legal requirements includes the capacity to ensure compliance with all contractual requirements. A thorough knowledge of the application of current legal and regulatory requirements is essential.				
<b>CODE</b>	CON21S1U08V1	<b>LEVEL</b>	3	<b>CREDIT</b>	6

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Apply the laws relating to builder licensing or registration.	1.1. Licensing or registration legislation is researched and identified. 1.2. Classifications for builders, supervisors and managers are applied.
2. Apply OHS legislation and provisions on site.	2.1. Main provisions of OHS legislation and regulations are researched and identified and local legislative requirements are met. 2.2. Regulations and codes applicable to on-site construction are identified, applied and monitored. 2.3. Site safety signage requirements are identified and applied.
3. Apply the codes, Acts, regulations and standards relevant to construction.	3.1. Current codes, Acts, regulations and standards applicable to a particular building and construction project are researched. 3.2. Construction process is carried out in accordance with codes, Acts, regulations and standards concerning construction, insurance, sustainability, environmental matters and appropriate by-laws.



<p>4. Apply dispute resolution processes.</p>	<p>5.1. Organisational dispute resolution processes are applied.</p> <p>5.2. Customer complaints are dealt with according to company policy.</p> <p>5.3. Disputes are documented and outcomes recorded and maintained.</p>
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### **RANGE STATEMENT**

- Government laws
- OHS legislation
- Codes, Acts, regulations and standards
- Insurance cover

### **ASSESSMENT GUIDE**

This unit of competency could be assessed by the preparation of a portfolio of the legislative requirements for residential and commercial building and construction project case study.

The unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- understand appropriate registration, licensing or compliance requirements
- meet appropriate business registration requirements
- identify and specify requirements for compliance with:
  - OHS legislation
  - legislation pertaining to financial transactions, including payment of wages and subcontractor and supplier invoices
  - relevant building and construction codes, Acts, regulations and standards
  - sustainability and environmental legislation
  - industrial relations laws

- legal obligations of contractual agreements.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems
- technical reference library with current publications on measurement, design, building construction and manufacturer's product literature
- a suitable work area appropriate to the construction process.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm a reasonable inference that competency is not only verified under the particular assessment circumstance, but is able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and practical requirements of the workplace

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<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"><li>• building and construction industry contracts</li><li>• OHS frameworks and obligations</li><li>• risk management processes and practices and the planning required to develop plans</li><li>• building and construction codes, standards and government regulations</li><li>• workplace safety requirements.</li></ul>	<ul style="list-style-type: none"><li>• ability to research, access and interpret complex documents</li><li>• communication skills to:<ul style="list-style-type: none"><li>• communicate with local or regulatory authorities on matters relating to site conditions or approvals and to negotiate on matters concerning industrial relations by telephone, or face to face</li><li>• written skills to communicate by memo, letter, facsimile or email with subcontractors, staff, clients and regulatory authorities</li></ul></li><li>• interpersonal skills relevant to the supervision and monitoring of work processes</li><li>• numeracy skills to apply calculations.</li></ul>

### UNIT 09

<b>UNIT TITLE</b>	Arrange resources and prepare for the building or construction project				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to procure the <b>physical and human resources</b> necessary to ensure the development of on-site facilities and the availability of personnel, equipment, materials and other site-essential items for construction projects.				
<b>CODE</b>	CON21S1U09V1	<b>LEVEL</b>	3	<b>CREDIT</b>	6

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Notify client and relevant authorities and agencies of the schedule of works	1.1. Fees due are paid and site handover date is confirmed with client. 1.2. Insurance and security requirements are established and provided. 1.3. Authorities requiring formal notification of the commencement of work are contacted
2. Organise the delivery of on-site accommodation and facilities.	2.1. Requirements for on-site accommodation and facilities are identified. 2.2. Site office, storage sheds and on-site toilet facilities are arranged, received and positioned. 2.3. Site signage is erected to comply with regulations. 2.4. Processes are developed and implemented to identify and protect existing services at the site.
3. Organise the delivery of plant.	3.1. On-site plant delivery dates are confirmed. 3.2. Hoardings are erected and rubbish removal facilities are arranged.

<p>4. Arrange the connection of temporary services.</p>	<p>4.1. Temporary power and water connections are arranged with service providers.</p> <p>4.2. Temporary site access and egress are arranged and authorisations obtained from the local authority.</p>
<p>5. Organise on-site human resources.</p>	<p>5.1. On-site human resource requirements are identified.</p> <p>5.2. Industrial relations and safety matters occurring on supervised work site that could impact on the resourcing and preparation for building work are addressed where required.</p> <p>5.3. Appropriate personnel is engaged according to project needs.</p>
<p>6. Order materials</p>	<p>6.1. Orders for prefabricated materials are placed using approved company documentation and site delivery dates are confirmed.</p> <p>6.2. Construction arrangements required by contract are finalised to satisfy the project schedule.</p>

## **RANGE STATEMENT**

### On-site accommodation and facilities

- dormitories
- office facilities
- sheds
- toilet facilities.

### Plant

- air compressors
- pile driving equipment
- portable generators and lighting equipment

- pumps
- wheeled or tracked earthmoving equipment

On-site human resource requirements

- construction workers
- drivers and machine operators
- forepersons

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by identifying, planning and putting in place the essential infrastructure (including human, physical, plans and processes) required to commence and support a construction project.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- procure resources effectively
- communicate effectively, both verbally and in writing with suppliers and subcontractors
- complete documentation to organisational standards
- advise appropriate authorities and gain necessary approvals or responses.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- a technical reference library with current publications on measurement, design, building construction and manufacturers' product literature
- a suitable work area appropriate to the construction process.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• contract documentation, quantities, rates and costs related to payments and claims</li> <li>• differences in and uses of various building and construction industry contracts</li> <li>• resource procurement processes</li> <li>• safe working policy and procedures</li> <li>• scope, operations and structures of the building and construction industry subcontractor system</li> <li>• building and construction codes, standards and government regulations relevant to the form of building or construction being undertaken.</li> </ul>	<ul style="list-style-type: none"> <li>• apply numeracy skills to workplace requirements</li> <li>• communication skills to: <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• provide information to client, authorities and relevant on-site and off-site personnel by telephone, facsimile, email and in writing</li> <li>• read and interpret plans</li> <li>• written skills to complete workplace documentation</li> </ul> </li> <li>• coordinating a range of team members and activities</li> <li>• effective management of a construction work site</li> <li>• interpreting plans</li> <li>• planning and scheduling construction work</li> <li>• supervising site.</li> </ul>



## UNIT 10

<b>UNIT TITLE</b>	Minimise waste on the building and construction site				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to support sustainable building practices by minimising waste on the building and construction site.				
<b>CODE</b>	CON21S1U10V1	<b>LEVEL</b>	3	<b>CREDIT</b>	4

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Plan a waste management strategy.	<p>1.1. Current relevant state requirements for managing and minimising building waste are identified.</p> <p>1.2. Relative costs and savings associated with strategies to minimise waste are calculated and negotiated.</p> <p>1.3. Effective communications are established with the architect, designer, engineer and other relevant professionals to ensure project plans incorporate waste minimisation strategies.</p> <p>1.4. Relevant standards are consulted to identify the implications of waste minimisation strategies for the conduct of the building project.</p> <p>1.5. Waste management strategy to support the building and construction project is developed.</p>
2. Manage materials procurement to minimise waste.	<p>2.1. Building and construction materials are evaluated to identify high quality and more durable materials that will extend the life of the structure and simplify its future extension and refurbishment.</p>

	<p>2.2. Recycled materials are used where appropriate and with regard to regulatory and standards' restrictions.</p> <p>2.3. Procurement specifications are developed that seek to minimise packaging waste.</p>
<p>3. Manage the building process to reduce waste.</p>	<p>3.1. Demolition practices are determined and used to increase the recovery of materials for recycling and reuse.</p> <p>3.2. Strategies are adopted to minimise the volume of site excavation and other materials that are disposed of in landfill.</p> <p>3.3. Litter abatement strategies are adopted on site.</p> <p>3.4. Safe and environmentally effective disposal of unavoidable waste is planned and implemented.</p>

## **RANGE STATEMENT**

### Strategies to minimise waste

- procurement policies that encourage use of recyclable and recycled material
- contracts with subcontractors that require implementation of waste minimisation
- materials salvage and recycling
- litter abatement
- use of reusable delivery and storage containers

### Packaging waste reduction methods

- metal strapping in place of shrink wrapping
- paper packaging in place of plastic
- shredded paper packing in place of foam
- recyclable or reusable containers.

## **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the effective application of sustainable waste management principles and concepts on a construction work site.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- source and analyse legislative and planning requirements for waste minimisation in the building process
- calculate costs and savings of implementing alternative waste minimisation systems
- produce a strategy or plan for effective waste minimisation.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- a technical reference library with current publications on measurement, design, building construction and manufacturers' product literature
- a suitable work area appropriate to the construction process.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• building and construction industry processes for building sustainability</li> <li>• relevant state or territory building and construction codes, standards and government regulations</li> <li>• workplace safety requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• application of relevant standards and manufacturer specifications</li> <li>• application of the Building Codes</li> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• communicate information to client</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• identify and negotiate client requirements</li> <li>• seek advice</li> <li>• read and interpret:                   <ul style="list-style-type: none"> <li>• legislative and planning requirements</li> </ul> </li> <li>• written skills to produce a waste management strategy</li> </ul> </li> <li>• numeracy skills to apply calculations</li> <li>• problem solving to determine optimum waste minimisation practices</li> </ul>

## UNIT 11

<b>UNIT TITLE</b>	Apply building codes and standards to the construction process for building projects				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to access, interpret and apply relevant building codes and standards applicable to the construction processes of residential and commercial buildings.				
<b>CODE</b>	CON21S2U01V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Access and interpret relevant codes and standard requirements.	<p>1.1. Relevant performance requirements from the building codes of Maldives that apply are identified.</p> <p>1.2. Requirements of relevant Maldivian standards referenced in the codes are accessed and interpreted accordingly.</p>
2. Classify buildings.	<p>2.1. Nature of a building is determined according to its use and arrangement.</p> <p>2.2. Building codes criteria to determine the defined classification are applied.</p>
3. Analyse and apply a range of solutions to a construction problem for compliance with the Maldivian Building Codes.	<p>3.1. Range of criteria that will ensure that construction methods comply with the building codes performance requirements is determined.</p> <p>3.2. Alternative solutions to a design or construction problem that will comply with the building codes requirements are discussed and proposed in accordance with company policies and procedures.</p> <p>3.3. Performance-based solutions are identified and documented in</p>

	<p>accordance with the building codes requirements.</p> <p>3.4. Relevant documentation is identified and completed in accordance with the building codes requirements.</p>
<p>4. Apply fire protection requirements.</p>	<p>4.1. Passive and active fire control elements required by the building codes and other legislation are identified and applied.</p> <p>4.2. Level of fire resistance required for the construction is determined.</p> <p>4.3. Check of existing buildings for compliance with passive and active fire protection requirements is carried out in accordance with building codes requirements.</p>

## **RANGE STATEMENT**

### Assessment methods

- comparison with the building codes
- evidence of suitability as described in the codes
- expert judgement as defined in the codes
- verification method as defined in the codes.

### Performance requirements

- performance requirements contained within other legislation applicable to a specific project
- performance requirements of the building codes determined to be relevant to a specific project
- performance-based contractual requirements that must be fulfilled by any party.

## **ASSESSMENT GUIDE**

### **Assessment form**

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects of assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with organisational quality procedures and processes
- apply and interpret relevant documentation and codes
- accurately apply building codes performance requirements relating to the design and construction of a building
- understand assessment methods available to determine compliance with the building codes
- identify faults and problems and proposed action to rectify.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- access to building codes and relevant documents referenced in the codes
- access to relevant legislation
- project documentation, including design brief, design drawings, specifications, construction schedules and other supporting documents
- research resources, including product information and data
- relevant computer software package and suitable hardware.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>basic design principles and the behaviour of structures under stress, strain, compression, bending or combined actions</p> <p>definitions and common technical terms or usage specified under general provisions of the building codes</p> <p>general nature of materials and the effects of performance</p> <p>relevant building standards</p> <p>relevant legislative and OHS requirements, codes and practices</p> <p>types of working drawings and specifications</p>	<p>analysis and interpretation skills relating to documentation from a wide range of sources</p> <p>attention to detail in applying building codes and standards</p> <p>communication skills to:</p> <ul style="list-style-type: none"> <li>• discuss and propose alternative solutions</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• read and interpret: <ul style="list-style-type: none"> <li>• documentation from a variety of sources</li> <li>• drawings and specifications</li> </ul> </li> <li>• use and interpret non-verbal communication</li> <li>• written skills to complete documentation in accordance with building codes requirements</li> </ul> <p>numeracy skills to interpret and apply mathematical information included in building codes and standards.</p>



## UNIT 12

<b>UNIT TITLE</b>	Plan building or construction work				
<b>DESCRIPTOR</b>	<p>This unit of competency specifies the outcomes required to plan on-site activities, including the employment of physical and human resources and the development of documentation and advice for relevant authorities concerning residential and commercial projects.</p> <p>The ability to identify appropriate resources and suppliers, and assess the availability of and requirements for skilled labour are essential.</p>				
<b>CODE</b>	CON21S2U02V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
<p>1. Appraise contract documentation to identify operational requirements.</p>	<p>1.1. Contract documentation is reviewed to identify any unusual aspects of construction, use of materials or penalties.</p> <p>1.2. Availability of selected subcontractors to suit the job requirements is determined.</p> <p>1.3. Availability of materials is assessed and confirmed with suppliers.</p> <p>1.4. Site access requirements and limitations are identified and actions taken to facilitate entry.</p> <p>1.5. Documentation for authorities controlling construction work is prepared and project commencement date is determined.</p> <p>1.6. Procedures for controlling and recording site deliveries are implemented.</p>
	<p>2.1. Organisational strategies for implementing construction operations are identified.</p>

<p>2. Implement strategies for construction operations.</p>	<p>2.2. Procedures for recording the hire of plant and equipment are implemented.</p> <p>2.3. Organisational OHS policy and procedures, including hazard and risk management, are implemented.</p> <p>2.4. Procedures for the removal of existing services and hazardous materials are implemented in accordance with Environment Protection Agency requirements.</p> <p>2.5. Procedures for the control of multiple projects are followed.</p>
<p>3. Prepare project schedule.</p>	<p>3.1. Construction operations are sequenced.</p> <p>3.2. Operations details are entered into a manually prepared project schedule or computer-based software package.</p> <p>3.3. Critical path of the project is defined and revised as required.</p> <p>3.4. Project timeframes are adjusted to account for anticipated delays</p>
<p>4. Determine required resources.</p>	<p>4.1. Temporary services and site accommodation requirements are determined and documented.</p> <p>4.2. Plant requirements and availability dates are determined and documented with reference to contract documentation.</p> <p>4.3. On-site labour requirements are determined and documented with reference to contract documentation.</p>

6. Prepare and submit condition reports.	<p>5.1. Reports on the condition of existing buildings and structures on adjacent site boundaries are completed.</p> <p>5.2. Copies of condition reports are forwarded to the owners of adjacent buildings prior to commencing construction.</p>
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## **RANGE STATEMENT**

### Documentation

- applications for permits and service connections
- copies of plans, drawings and specifications
- environmental applications

### Organisational strategies

- briefing organisational personnel
- calling for tenders for subcontract operations
- purchasing processes for building supplies or construction materials
- refining project critical path information.

### Project schedule

- human resource schedules
- materials delivery schedules
- project critical path
- project timeframes
- schedules of plant and equipment.

## **ASSESSMENT GUIDE**

This unit of competency could be assessed by preparing a project schedule and the associated documentation for a construction project.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques

fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- identify supplier alternatives and gather supply information effectively
- plan and allocate human resources effectively
- produce documentation that meets the timeframes and quality standards established by the organisation
- communicate information effectively within the organisation and to external agencies and the client, as required
- identify and communicate with the appropriate regulatory authorities to gain the necessary approvals.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- a technical reference library with current publications on measurement, design, building construction and manufacturers' product literature
- a suitable work area appropriate to the construction process.

## Assessment method

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• application of project management and critical path techniques to the organisation of materials, plant and people</li> <li>• building and construction industry subcontractor system</li> <li>• building, construction or civil construction practices in on-site project management</li> <li>• internal documentation systems</li> <li>• processes and timeframes for regulatory approvals</li> <li>• relevant state or territory building and construction codes, standards and government regulations</li> <li>• types of building and construction industry contracts</li> </ul> <p>types of plant and equipment employed in the undertaking of the organisation's projects.</p>	<p>communication skills to:</p> <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• communicate by telephone, facsimile, email and in writing</li> <li>• identify availability of subcontractors</li> <li>• liaise with suppliers</li> <li>• read and interpret:               <ul style="list-style-type: none"> <li>• contract documentation</li> <li>• organisational policies</li> <li>• other relevant workplace documentation</li> </ul> </li> <li>• communication</li> <li>• written skills to:               <ul style="list-style-type: none"> <li>• document required resources</li> <li>• prepare documentation for authorities</li> <li>• prepare reports</li> <li>• record site deliveries</li> </ul> </li> </ul> <p>numeracy skills to apply calculations.</p>

### UNIT 13

<b>UNIT TITLE</b>	Apply structural principles to residential constructions				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to apply structural principles to the erection or demolition of residential structures using conventional methods.				
<b>CODE</b>	CON21S2U13V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
<p>1. Apply structural principles when planning the erection or demolition of a structure.</p>	<p>1.1. Main structural principles that apply to the erection or demolition of a residential structure are identified.</p> <p>1.2. Structural performance of a structure is described in terms of the effect of section properties on various materials.</p> <p>1.3. Structural performance characteristics of slabs, floors, beams, columns and retaining walls are explained and applied to the planning of the construction work.</p> <p>1.4. Demolition of existing structures is coordinated in accordance with legislative and planning requirements, environmental standards, and safe work practices.</p>
<p>2. Analyse and plan for the structural buildings.</p>	<p>2.1. Relevant industry professionals are consulted as required to provide advice regarding the design process and the structural integrity of the proposed building.</p> <p>2.2. Project documentation is collected and analysed to assist in the analysis of plans and specifications.</p> <p>2.3. New and emerging building technologies are assessed for</p>

	<p>application to the construction process and their compliance with building requirements and standards.</p> <p>2.4. Pre-commencement site inspection is conducted to confirm analysis.</p>
<p>3. Plan, coordinate and manage the laying of footings.</p>	<p>3.1. Footings are set out in accordance with building's plan.</p> <p>3.2. Structural integrity of the footings specified in building's plan is assessed for compliance with relevant codes and accepted industry construction principles.</p> <p>3.3. Footings specified in building's plan are laid and checked for compliance with project documentation.</p> <p>3.4. Damp coursing, provision of termite barriers, and other relevant techniques are planned, implemented and checked in accordance with codes, standards and industry practice.</p>
<p>4. Plan, coordinate and manage the laying of floor system.</p>	<p>4.1. Concrete slab or bearers and joists specified in building's plan are assessed for structural integrity and compliance with relevant codes and accepted industry construction principles.</p> <p>4.2. Laying of floor system specified in building's plan is supervised and checked for compliance with project documentation.</p>
<p>5. Plan, coordinate and manage the building of structural and non-structural wall systems.</p>	<p>5.1. Technical construction principles and performance of materials used in the construction are identified</p>

	<p>and analysed in the planning of the building and construction project.</p> <p>5.2.Application of bracing requirements, tie-downs, tolerances, allowances, and fixing and installation of components are planned, implemented and checked for compliance with relevant standards, codes and manufacturer specifications.</p> <p>5.3.Processes are put in place and managed to ensure quality of the frame, whether factory pre-cut and pre-nailed, factory pre-cut and assembled on site, or cut and assembled on site.</p> <p>5.4.Vapour permeable sarking or a waterproof membrane, relevant to construction method, is attached and checked.</p>
<p>6. Plan, coordinate and manage the building of roof system.</p>	<p>6.1.Structural integrity of roof system components specified in building's plan is assessed for compliance with relevant codes and accepted industry construction principles.</p> <p>6.2. Erection of roof trusses is planned, implemented and checked in accordance with requirements of building plan, type of roof being constructed, relevant codes and accepted industry construction principles.</p> <p>6.3. Processes are put in place and managed to ensure quality of the manufactured roof trusses or hand-cut roof system.</p>



	<p>6.4. Roof sarking and cladding are planned and installation is supervised and checked for compliance with codes, standards and industry practice.</p>
<p>7. Plan, coordinate and manage the external wall cladding of structure.</p>	<p>7.1. Structural performance of cladding to be used for bracing in the frame construction is assessed for compliance with relevant codes, manufacturer specifications and accepted industry construction principles.</p> <p>7.2. Installation of the cladding, as specified in building's plan, is supervised and checked for compliance with standards and accepted industry construction principles.</p> <p>7.3. Installation of windows and external doors is supervised to ensure compliance with relevant codes, manufacturer specifications and accepted industry construction principles.</p>

## **RANGE STATEMENT**

### Structural principles

- behaviour of structural materials
- loads and loading
- performance of beams
- performance of columns
- performance of roof trusses
- section properties
- solution of force systems
- wind bracing.

### Industry professionals

- architects
- draftspersons
- engineers
- quantity surveyors
- surveyors.

### Project documentation

- building approval plans
- contract plans
- designs and specifications
- engineer footing designs and specifications
- original contour survey plan
- registered plans
- retaining walls
- site plans
- structural floor systems, wall systems and roof systems

### Footings

- bored pier footings
- columns or stumps
- concrete slab floors
- piers and beams.

### Floor system components of the bearers and joists

- compressed sheet wet area flooring
- engineered floor joists
- fitted (cut-in) floors
- platform floor construction
- sheet flooring
- tongue and groove flooring.

### Materials

- concrete block
- structural steel
- timber.

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the effective application of structural principles and concepts in accordance with the range of variables and application.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects of assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- assess the structural integrity of a variety of structures found on building and construction sites
- apply the structural principles behind the safe erection and demolition
- apply technical construction principles to the appropriate selection, integration and building in of construction elements and components
- coordinate, plan, implement and check the building of a structure.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems

- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- technical reference library with current publications on measurement, design, building construction and manufacturers' product literature
- suitable work area appropriate to the construction process.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• building and construction industry contracts</li> <li>• relevant state or territory building and construction codes, standards and government regulations</li> <li>• underlying mathematics related to structural analysis</li> <li>• workplace safety requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• apply manufacturer specifications and Australian standards and codes</li> <li>• apply structural principles to low rise structures</li> <li>• communication skills to: <ul style="list-style-type: none"> <li>• consult with industry professionals</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• read and interpret project documentation</li> <li>• use language and concepts appropriate to cultural differences</li> <li>• use and interpret non-verbal communication</li> </ul> </li> <li>• identify and analyse relevant information</li> <li>• select structural members based on project or specification requirements</li> <li>• work safely to OHS regulations and site requirements.</li> </ul>

## UNIT 14

<b>UNIT TITLE</b>	Implement continuous improvement				
<b>DESCRIPTOR</b>	This unit describes the skills and knowledge required to implement the organisation's continuous improvement systems and processes. It covers using systems and strategies to actively encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.				
<b>CODE</b>	CON21S2U04V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
4. Implement continuous improvement systems and processes	<p>4.1. Implement systems to ensure that individuals and teams are actively encouraged and supported to participate in decision making processes, assume responsibility and exercise initiative</p> <p>4.2. Communicate the organisation's continuous improvement processes to individuals and teams, and obtain feedback</p> <p>4.3. Ensure effective mentoring and coaching allows individuals and teams to implement the organisation's continuous improvement processes</p>
5. Monitor and review performance	<p>2.1. Use the organisation's systems and technology to monitor and review progress and to identify ways in which planning and operations could be improved</p>

	<p>2.2. Improve customer service through continuous improvement techniques and processes</p> <p>2.3. Formulate and communicate recommendations for adjustments to those who have a role in their development and implementation</p>
<p>6. Provide opportunities for further improvement</p>	<p>3.1. Implement processes to ensure that team members are informed of savings and productivity/service improvements in achieving the business plan</p> <p>3.2. Document work performance to aid the identification of further opportunities for improvement</p> <p>3.3. Manage records, reports and recommendations for improvement within the organisation's systems and processes</p>

### **ASSESSMENT GUIDE**

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>To complete the unit requirements safely and effectively, the individual must:</p> <ul style="list-style-type: none"> <li>• give examples of continuous improvement processes</li> <li>• list typical areas of need for coaching and mentoring to support continuous improvement</li> <li>• explain how change management techniques can support continuous improvement and initiative</li> <li>• identify the organisation’s systems and data that can be used for benchmarking and monitoring performance for continuous improvement.</li> </ul>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• implement continuous improvement systems and provide mentoring and coaching support to enable individuals and teams to participate in decisions, take responsibility, show initiative and implement improvement processes</li> <li>• implement processes to inform team members about savings and productivity/service improvements achievements</li> <li>• communicate effectively to support the continuous improvement system and implementation of improvements</li> <li>• apply continuous improvement to customer services including internal and external customers</li> <li>• implement, monitor and adjust improvement plans, processes and procedures to improve performance</li> <li>• document performance to identify further opportunities for improvement</li> <li>• manage records and reports within the organisation’s systems and procedures.</li> </ul>



## UNIT 15

<b>UNIT TITLE</b>	Apply quality management techniques				
<b>DESCRIPTOR</b>	This unit describes the performance outcomes, skills and knowledge required to enhance project outcomes through contributing to quality planning, applying quality policies and procedures and contributing to continuous improvement within projects.				
<b>CODE</b>	CON21S2U05V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Contribute to quality planning	1.1. Contribute to determining quality requirements of project stakeholders 1.2. Contribute to establishing quantifiable quality criteria for project outcomes and objectives 1.3. Source information to locate and interpret quality policy and procedures 1.4. Contribute to the development of quality requirements in the project plan and processes
2. Apply quality policies and procedures	2.1. Undertake work under delegated authority to implement quality assurance within the project in accordance with agreed quality standards and guidelines 2.2. Maintain records and documentation in accordance with set procedures to facilitate quality control and to provide an audit trail 2.3. Document and evaluate results of project activities and product performance to determine compliance with agreed quality standards

	2.2. Report shortfalls in quality outcomes to others to enable appropriate action to be initiated
3. Contribute to continuous improvement process	3.1. Participate in the ongoing review of project outcomes to determine the effectiveness of quality management activities 3.2. Report quality management issues and responses to others for application in future projects

## **RANGE STATEMENT**

### Information

- designated standard operating procedures and regulations
- organisation and project standards
- organisational quality management policy and guidelines as applied to specific requirements of a project
- project quality guidelines and instructions

### Delegated authority

- carried out under limited guidance and supervision
- subject to frequent change in a multi-disciplinary environment
- within agreed authorisation and limits
- within established organisational framework, procedures and routines

### Quality assurance

- project finalisation process to capture lessons learned and to enable continuous improvement
- systematic review of the project management process to ensure compliance with organisational policy and guidelines

## Quality control

- inspections and audits in compliance with guidelines
- monitoring conformance with the specification
- recommending ways to eliminate causes of unsatisfactory performance of products or processes
- regular inspection by the individual or the monitoring of inspections by internal or external agents
- reporting of variances

## **ASSESSMENT GUIDE**

### **Form of Assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

### **Critical aspects of Assessment**

Evidence of the following is essential:

- application of quality management and continuous improvement techniques in relation to multiple complex projects
- knowledge of quality auditing processes and requirements.

### **Assessment Context**

Assessment must ensure:

- access to examples of project management documentation used for quality control purposes
- access to project team records.

### **Assessment method**

A range of assessment methods should be used to assess practical skill and knowledge. The following assessment methods are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- oral or written questioning to assess knowledge of strategies for managing project quality and their application to different situations

- analysis of responses to case studies and scenarios which present issues and problems in project quality management
- review of records documented and maintained
- evaluation of documented results of project activities and product performance
- evaluation of reports developed about shortfalls in quality outcomes.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>quality auditing processes and requirements</p> <p>quality standards and their place in the project life cycle.</p>	<p>literacy skills to work with quality documents and project records, and to produce records for quality control and auditing purposes</p> <p>organisational skills and attention to detail to monitor compliance with agreed standards</p> <p>teamwork and communication skills to communicate quality issues.</p>

## UNIT 16

<b>UNIT TITLE</b>	Apply risk management techniques				
<b>DESCRIPTOR</b>	This unit describes the performance outcomes, skills and knowledge required to assist with aspects of risk management within a project. It specifically involves assisting the project team to plan for, control and review risks associated with the project.				
<b>CODE</b>	CON21S2U06V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Assist with risk analysis and planning	<p>1.1. Contribute to identifying and prioritising potential risks throughout the project life cycle</p> <p>1.2. Provide input, within delegated authority, to develop risk management strategies and risk management plans within established guidelines</p> <p>1.3. Establish risk analysis methods, techniques and tools <i>to assist</i> in the analysis of risks</p> <p>1.4. Ensure reporting mechanisms for risks are planned for and agreed to</p>
2. Conduct risk control activities	<p>2.1. Undertake control activities in accordance with agreed project and risk management plans to achieve project objectives</p> <p>2.2. Measure progress and act on perceived, potential or actual risks within authority or report to others for response</p> <p>2.3. Contribute to the implementation of agreed risk approaches and the amendment of plans to reflect the changing environment</p>

	2.4. Identify and report opportunities for action in the same way as risks
3. Contribute to assessing risk management outcomes	<p>3.1. Contribute to the ongoing review of project outcomes to determine the effectiveness of risk management activities by accessing project records and other available information</p> <p>3.2. Report risk management issues and responses to others for lessons learned or application in future projects</p>

## **RANGE STATEMENT**

### Risk analysis methods, techniques and tools

- using personal experience and/or subject matter experts
- assisting in qualitative and/or quantitative risk analysis, such as schedule simulation, decision analysis, contingency planning and alternative strategy development
- using specialist risk analysis tool/s to assist in the decision-making process

### Records

- lists of potential risk events (risk register/log)
- project and/or organisation files and records
- risk analysis and reappraisal
- risk diaries, incident logs, occurrence reports and other such documentation
- risk management lessons learned
- risk management plan

## **ASSESSMENT GUIDE**

### **Assessment form**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

### **Critical aspect of assessment**

Evidence of the following is essential:

- application of risk management techniques in relation to multiple complex projects
- knowledge of risk management methods, techniques and tools.

### **Assessment context**

Assessment must ensure:

- access to examples of project management
- documentation for risk management.

### **Assessment method**

A range of assessment methods should be used to assess practical skill and knowledge. The following assessment methods are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
- analysis of responses addressing case studies and scenarios which present issues and problems in project risk management
- oral or written questioning to assess knowledge of strategies for managing project risk and their application to different situations
- review of risk analysis methods, techniques and tools
- review of risk management plans
- evaluation of reporting of risk management issues and responses.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<p>risk management framework and risk management processes.</p>	<p>planning, organising and analytical skills to assist with risk analysis, risk management planning and review of risk management outcomes</p> <p>communication and teamwork skills to contribute to collective processes for risk management</p> <p>initiative and enterprise to think laterally about risks and how they might occur.</p>



## UNIT 17

<b>UNIT TITLE</b>	Read and interpret plans and specifications				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to read and interpret plans and specifications applicable to low rise residential projects in order to inform estimation, planning and supervisory activities.				
<b>CODE</b>	CON21S2U07V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Identify types of drawings and their purposes	1.1. Purpose and advantage of different types of drawings are identified 1.2. Different aspects of drawings are identified
2. Apply commonly used symbols and abbreviations.	2.1. Commonly used symbols and abbreviations on drawings are identified, understood and applied 2.2. Common building and construction terms used on drawings are identified, understood and applied
3. Locate and identify key features on a site plan	3.1. Building site is identified from location drawings 3.2. True north and building orientation are identified from details provided on site plan. 3.3. Key features of site plan are identified
4. Identify and locate key features on drawings.	4.1. Key features of plans, elevations and sections are identified. 4.2. Client requested variations to standard plans are identified on drawings.

<p>5. Correctly read and interpret specifications.</p>	<p>5.1. Provisional sum (PS) and prime cost (PC) values are identified and correctly applied.</p> <p>5.2. Customer variations to standard specifications are identified.</p> <p>5.3. Correct interpretations of essential elements are applied to estimation, planning and supervisory tasks and are communicated.</p> <p>5.4. Building codes or standards affecting the work to be undertaken are identified</p>
<p>6. Identify non-structural aspects to the specification.</p>	<p>6.1. Key features of products included in the specification are identified, including the design, purpose, aesthetics and cost relationships</p>

## **RANGE STATEMENT**

### Types of drawings

- CAD drawings
- construction information
- detailed amendment drawings
- initial sketches
- preliminary and final drawings and plans
- presentation drawings
- service details, such as:
  - wiring
  - piping
  - ducts and waste disposal
- sketch plans
- working drawings

### Aspects of drawings

- elevations

- plans
- sections
- views in isometric projection and perspective.

#### Key features of site plan

- access and egress
- contours and slopes
- drainage lines
- easements
- existing dwellings, buildings or other structures
- location and situation
- major geological and topographical features
- paving
- retaining walls
- service connection points
- set backs
- stormwater disposal
- trees and vegetation.

#### Specification

- levels and survey information
- materials lists
- performance data and material technical data
- schedules of quantities
- stress, load and bearing calculations.

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by correctly interpreting a range of plans and specifications for activities relating to low rise residential construction projects.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

## **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- read and interpret plans and specifications including identification of key features, levels, contours, sections, service entry points, site features to be removed or retained and other details pertinent to the construction process
- identify the characteristics and features of sites and structures pertinent to a construction project, including:
  - determine correct orientation of structures on site
  - establish location of key on-site features in relation to building or other structures
- identify and incorporate customer variations to agreed plans and specifications
- correctly interpret essential elements and apply these to estimation, planning and supervisory tasks
- effectively communicate specification changes to organisational personnel and confirm variations with the client.

## **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in either a building or construction office
- relevant codes, standards and government regulations
- office equipment, including calculators, photocopiers and telephone systems
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- technical reference library with current publications on measurement, design, building construction and manufacturer's product literature
- suitable work area appropriate to the construction process.

## **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• building and construction practices</li> <li>• internal documentation systems</li> <li>• regulatory approvals processes and timeframes</li> <li>• relevant state or territory building and construction codes, standards and regulations</li> <li>• types of building and construction drawings and drawing perspectives</li> <li>• types of building and construction industry contracts</li> </ul>	<ul style="list-style-type: none"> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• consult with industry professionals</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• interact effectively by telephone, facsimile, email and in writing with clients, organisational personnel and appropriate local authorities</li> <li>• read and interpret:                   <ul style="list-style-type: none"> <li>• tender documentation</li> <li>• other relevant workplace documentation</li> </ul> </li> <li>• use language and concepts appropriate to cultural differences</li> <li>• use and interpret non-verbal communication</li> <li>• written communication skills to produce required documentation</li> </ul> </li> </ul>

	<ul style="list-style-type: none"><li>• identify and analyse relevant information</li><li>• numeracy skills to calculate labour hours and costs and material quantities and costs</li><li>• translation of documented requirements into on-site activities and site and structural features from two-dimensional to three-dimensional formats</li></ul>
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## UNIT 18

<b>UNIT TITLE</b>	Prepare simple building sketches and drawings				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to produce sketches and drawings. The sketches may be used to clarify or communicate ideas to clients or other parties. They may also be simplified versions taken from architectural drawings, designed to capture design concepts or options. The sketches may be used for estimating purposes and to show measurements and other requirements for building and construction works. This unit does not describe more complex drafting skills				
<b>CODE</b>	CON21S2Uo8V1	<b>LEVEL</b>	4	<b>CREDIT</b>	12

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare to make sketches and drawings.	<p>1.1. Types of drawings required and key features to be recorded are identified in compliance with the scope and standard of the job being undertaken.</p> <p>1.2. OHS requirements on site are identified and followed.</p> <p>1.3. Tools and equipment required for inspection and measurement and for producing drawings are gathered and checked for serviceability.</p>
2. Create simple sketches and drawings.	<p>2.1. Inspection of relevant area is carried out as required and measurements are taken and recorded.</p> <p>2.2. Simple two and three-dimensional sketches and drawings are created using standard drawing conventions and incorporating relevant codes and standards.</p> <p>2.3. Sectional drawings of simple structural elements are created using standard drawing conventions</p>

<p>3. Notate and process drawings.</p>	<p>3.1. Essential information is recorded on the drawing with symbols and abbreviations according to standard drawing conventions.</p> <p>3.2. Drawings are labelled, dated and processed according to organisational administration and quality procedures.</p>
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## **RANGE STATEMENT**

### Types of drawings required

- floor plan
- land boundaries and footprint of building
- orthographic drawings
- schematic drawings of wiring and pipe work
- sectional views

### Key features to be recorded

- ceiling heights and variations
- doors
- light fittings and power supplies
- services
- wall penetrations
- walls.

### OHS requirements

- detailing appropriate installation of scaffolding
- detailing power supplies
- details of all services
- understanding hazards located in the area
- use of personal protective equipment.

### Tools and equipment

- recording devices, including:
  - computer
  - digital camera



- pen and paper

Standard drawing conventions

- standard design symbols common to the building and construction industries.

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by creating a set of sketches and drawings for a small work project in the relevant field of expertise.

Measurements of components, sub-assemblies, products, models, equipment, layouts or facilities needed for the preparation of the required drawings and calculations of required dimensions and other drafting details based on the measurements and other relevant information should be made and recorded.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- produce clear and effective drawings and sketches with appropriate notations and labelling
- apply appropriate techniques for making inspections and taking measurements
- make good incursions into the fabric of a building
- comply with OHS regulations applicable to workplace operations
- apply organisational quality procedures and processes
- select and use appropriate processes, tools and equipment

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include access to:

- an appropriate work site

- appropriate documentation and data related to tasks
- scaffolding and fall protection equipment
- tools and equipment relevant to activity process.

**Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace.

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• drawing conventions and features, including direction, scale, key, contours, symbols and abbreviations</li> <li>• requirements of the relevant codes, standards, statutory and authority requirements</li> <li>• safe work methods.</li> </ul>	<ul style="list-style-type: none"> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• use language and concepts appropriate to cultural differences</li> <li>• use and interpret non-verbal communication</li> </ul> </li> <li>• drawing techniques</li> <li>• interpret and apply relevant standards and codes</li> <li>• numeracy skills to apply measurements and calculations.</li> </ul>

## UNIT 19

<b>UNIT TITLE</b>	Prepare specifications for all construction works				
<b>DESCRIPTOR</b>	<p>This unit of competency specifies the outcomes required to prepare specifications, using standard forms of specification as a basis. The preparation of a clearly understood specification for construction works requires establishing the level of detail required and identifying all the inherent contractual obligations.</p> <p>The specifications may stipulate materials, quality of work and project timelines. In order to achieve the outcomes for this unit, knowledge of relevant industry legislation and standards, and the ability to research information and communicate well with clients are required.</p>				
<b>CODE</b>	CON21S2U09V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
<p>1. Determine specification requirements</p>	<p>1.1. Project brief, working drawings, development approval and other relevant documents are examined to identify essential information to be included in the specification.</p> <p>1.2. Standard specifications are examined to determine suitability for adaptation to the current project.</p> <p>1.3. Non-standard requirements are developed and where technical aspects require clarification, advice is sought from specialists</p>
<p>2. Assess the nature and scope of the work.</p>	<p>2.1. Site inspection is conducted to establish site layout and preliminary site-work requirements, and site details and features are recorded.</p> <p>2.2. Specification includes all relevant details at a level necessary to describe clearly the nature and scope</p>

	<p>of the work, including prescriptive and performance requirements.</p> <p>2.3. Research is undertaken to establish appropriate schedules, using relevant data sources.</p> <p>2.4. Details are tabulated and cross-referenced to ensure consistency between the design brief, working drawings and specifications.</p> <p>2.5. Details in the specification conform to industry codes of practice, and relevant statutory requirements.</p> <p>2.6. Information requested from specialists, colleagues and clients is coordinated and added to the specifications where required.</p>
<p>3. Prepare the specification document.</p>	<p>3.1. Specification clearly identifies the contractual obligations and rights of the parties involved.</p> <p>3.2. Specification document is complete, checked thoroughly for compliance with requirements and edited.</p> <p>3.3. Specification is presented to the client in the required format and timeframe</p>

## **RANGE STATEMENT**

### Standard specifications

- detailed specifications that address specific components such as mechanical, structural, electrical or other requirements
- developed specifications
- documentation requirements arising from building information modelling (BIM)
- industry standard specifications
- preliminary or outline specifications

### Scope of the work

- allowance for the provision of services
- characteristics
- compatibility
- dimensions
- fitout
- lining systems
- location
- patterns
- quantities
- sizes
- surfaces
- type of product or service

#### Prescriptive and performance requirements

- performance requirements:
  - standards of work
  - work schedules
  - milestones
- prescriptive requirements:
  - detail relating to materials and quality of work
  - nominated subcontractors
  - provision and costs of site access and facilities
  - quality assurance.

#### Data sources

- computer data files
- local, state and federal government documents and registers
- media reports
- policy statements
- publications and journals
- statistical summaries
- statutes.

#### Contractual obligations

- expected performance levels

- insurance requirements
- OHS issues
- prescriptive requirements
- type of tender.

## **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the effective preparation of a specification meeting of relevant standards applicable to a building project.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- use a range of research methodologies and tools
- correctly identify and use specifications for the range of work
- apply contractual principles to the specification drafting.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include access to documentation such as:

- computer data files
- detailed specifications that address specific components such as mechanical, structural, electrical or other requirements
- media reports
- industry standard specifications
- policy statements
- preliminary, outline or developed specifications

- publications and journals
- statistical summaries

**Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• client requirements</li> <li>• document control</li> <li>• documentation requirements for specifications</li> <li>• organisational policy relating to specifications</li> <li>• industry codes of practice</li> <li>• research sources to determine schedules</li> <li>• schedule of rates</li> <li>• standard specification documents</li> <li>• types of specification and their use.</li> </ul>	<ul style="list-style-type: none"> <li>• apply numeracy skills to workplace requirements</li> <li>• attention to detail in preparing documentation</li> <li>• client service standards</li> <li>• commonly used document management</li> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• enable liaison with specialists to seek advice and request information</li> <li>• prepare, read and interpret:                   <ul style="list-style-type: none"> <li>• codes of practice</li> <li>• design briefs</li> <li>• plans and drawings</li> <li>• regulations</li> </ul> </li> </ul> </li> </ul>

	<ul style="list-style-type: none"><li>• use and interpret non-verbal communication</li><li>• use language and concepts appropriate to cultural differences</li><li>• written skills to prepare reports and specifications</li><li>• construction work site teamwork</li><li>• identifying specification requirements</li><li>• identifying documentation requirements for a range of sources</li><li>• product and service analysis</li><li>• research methods and investigation techniques relevant to construction specification preparation.</li></ul>
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## UNIT 20

<b>UNIT TITLE</b>	Apply site surveys and set-out procedures to building and construction projects				
<b>DESCRIPTOR</b>	<p>This unit of competency specifies the outcomes required to conduct basic measuring and levelling techniques as part of the set-out procedures performed on building projects.</p> <p>It includes the use of technical instruments, application of standard procedures and performance of calculations necessary in the set-out of construction projects</p>				
<b>CODE</b>	CON21S2U10V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
<p>1. Perform setting out, measuring techniques and associated calculations.</p>	<p>1.1. Trigonometric and geometric calculations commonly used with grid lines, off sets and right-angle triangles are calculated and recorded without error.</p> <p>1.2. Site set-out procedures are carried out according to standard work methods on sites.</p> <p>1.3. Errors in measured distances due to site characteristics and measurement methods are identified and explained.</p> <p>1.4. Cut and fill calculations are conducted without error.</p>
<p>2. Set up and use levelling devices.</p>	<p>2.1. Use of levelling device is demonstrated in accordance with standard operating procedures.</p> <p>2.2. Error present in a level by the 'two peg test' device is demonstrated in accordance with standard operating procedures.</p>

	<p>2.3. Reduction in a closed level run by rise and fall method and by height of plane of collimation (HPC) method is carried out in accordance with standard practices.</p> <p>2.4. Calculation of staff readings to enable a specific reduced level (RL) set-out to be determined is calculated without error.</p>
<p>3. Mark out and determine levels on a grid for contouring and volume calculations.</p>	<p>3.1. Set out grid and levels are determined.</p> <p>3.2. Contour plans are prepared from grid levels to specified tolerances and stated contour intervals.</p> <p>3.3. Volume of solids and the surface being levelled and contoured are determined to specified tolerances</p>
<p>4. Construct longitudinal sections and determine associated grades and levels in typical drainage and pipeline situations.</p>	<p>4.1. Longitudinal sections are drawn from reduced levels and running chainages.</p> <p>4.2. Levels and clearances from given grades and distances are determined to specified tolerances.</p> <p>4.3. Calculations and expressions of grades in three forms are determined to specified tolerances.</p> <p>4.4. Calculations for batter levels from grades and distances are determined without error.</p>

## **RANGE STATEMENT**

### Cut and fill calculations

- area and volume of land to be levelled
- area of land to be filled
- use of appropriate software

- volume of fill required.

Levelling devices

- electronic distance measuring (EDM) equipment
- laser
- optical plummets
- theodolite.

Three forms

- angles
- percentages
- run ratios.

## **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the application of survey and site set-out procedures and principles of selection and use of two levelling devices to survey and set out building projects.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with OHS and organisational quality procedures and process within the context of this unit of competency
- apply and interpret relevant documentation and codes
- accurately apply survey and levelling principles relating to performance of site set-out, including contouring, volume and grade calculations
- identify typical faults and problems and necessary action taken to rectify such faults.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation, including design brief drawings, specifications, codes, design concepts, construction schedules and other necessary supporting documents
- research resources, including levelling device information and data
- access to relevant legislation, regulations and codes of practice
- relevant computer software package and suitable hardware where applicable to survey and set-out practices.

### **Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
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<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• applications of structure in building systems and application to survey and site set-out</li> <li>• design principles</li> <li>• level and grade checking used to perform survey control to accuracy criteria</li> <li>• nature of survey and levelling devices and effect of performance on site</li> <li>• work drawings and specifications.</li> </ul>	<ul style="list-style-type: none"> <li>• application of design concepts and principles relating to structural systems</li> <li>• application of measurements and calculations</li> <li>• attention to detail when transferring levels</li> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm</li> </ul> </li> </ul>

	<p>requirements, share information, listen and understand</p> <ul style="list-style-type: none"><li>• read and interpret plans</li><li>• numeracy skills to apply measurements and calculations</li><li>• use of levelling devices for survey and site set outs</li></ul>
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## UNIT 21

<b>UNIT TITLE</b>	Manage personal work priorities and professional development				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to present confidently, prepare for personal responsibilities in the workplace and provide opportunities for personal professional development.				
<b>CODE</b>	CON21S2U11V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Manage own work performance.	<p>1.1. Personal qualities appropriate to the construction workplace environment and culture are known and demonstrated.</p> <p>1.2. Organisational strategies and priorities linked to personal responsibilities and accountability are reflected in personal performance plans.</p> <p>1.3. Stable work performance is maintained consistently and under pressure situations.</p> <p>1.4. Difficult workplace situations are recognised, addressed promptly and sensitively, and concluded positively.</p> <p>1.5. Work performance and presentation requirements are established and met.</p>
2. Set and meet own work priorities.	<p>2.1. Competing demands for work time and priority action are assessed and organised to achieve individual, team and organisational work priorities.</p> <p>2.2. Activities are managed effectively to accomplish personal, team and</p>

	<p>organisational goals and objectives.</p> <p>2.3. Technology is used where appropriate to improve efficiency and effectiveness in managing work priorities and commitments</p>
<p>3. Develop and maintain professional competence</p>	<p>3.1. Personal strengths and weaknesses are assessed against job requirements to determine personal development priorities and action where necessary.</p> <p>3.2. Feedback on performance is regularly sought and used to improve professional development.</p> <p>3.3. Management skills relevant to the job role are identified and developed to enhance performance.</p> <p>3.4. Participation in professional networks and associations is used to enhance knowledge, skills and relationships.</p>

## **RANGE STATEMENT**

### Personal qualities

- appropriate personal presentation for the job role
- confidence
- fairness
- integrity
- patience
- perseverance

- probity
- timeliness and punctuality.

#### Work priorities

- dealing with conflicting goals
- determining work and personal needs
- individual and team goals and targets
- planning new work
- prioritising and scheduling
- reassessing performance
- work in progress.

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by the preparation of a personal work and development plan.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

#### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- recognise and apply personal motivation and commitment to the work role
- manage day to day responsibilities and conflicting demands in an efficient and cooperative manner
- relate positively to clients, fellow workers and the management team
- assess personal strengths and weaknesses and plan and implement appropriate personal development.

#### **Assessment context**



This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in a building or construction office
- relevant codes, standards and government regulations
- a suitable work area appropriate to the construction process.

**Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• mores and values of the workplace</li> <li>• professional network and associations within the industry</li> <li>• relevant local codes, standards and regulations applicable to the building and construction industry</li> <li>• technologies applicable to and found within the workplace</li> <li>• workplace safety requirements</li> </ul>	<p>Required skills for this unit are:</p> <ul style="list-style-type: none"> <li>• adherence to organisational ethical and probity standards</li> <li>• communication skills to:</li> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• communicate by telephone</li> </ul>

	<ul style="list-style-type: none"><li>• participate in workplace conversations and meetings</li><li>• read and interpret documentation from a variety of sources</li><li>• use and interpret non-verbal communication</li><li>• use language and concepts appropriate to cultural differences</li><li>• written skills to:<ul style="list-style-type: none"><li>• complete checklists</li><li>• produce memos and reports</li><li>• send emails and faxes</li></ul></li><li>• managing conflict and change in construction work situations</li><li>• numeracy skills to apply calculations</li><li>• recognising and managing workplace improvement opportunities</li><li>• teamwork skills to:<ul style="list-style-type: none"><li>• relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities</li></ul></li><li>• work with others to coordinate and action tasks</li></ul>
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## UNIT 22

<b>UNIT TITLE</b>	Implement and monitor environmentally sustainable work practices				
<b>DESCRIPTOR</b>	<p>This unit of competency specifies the outcomes required to effectively analyse, implement and monitor environmentally sustainable work practices and their effectiveness on a work site, including contributing to consumer environmental efficiency.</p> <p>This unit of competency supports the needs of those with responsibility for a specific area or site of work, or those who lead a work group or team by using processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.</p> <p>The context of this competency applies to all sectors of the construction industry. It may be applied to all sections of an organisation, including a work site, designated work area, in transit and/or an office.</p>				
<b>CODE</b>	CON21S2U12V1	<b>LEVEL</b>	4	<b>CREDIT</b>	9

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
<p>4. Investigate current practices in relation to resource usage</p>	<p>4.1. Environmental regulations applying to the organisation are identified.</p> <p>4.2. Procedures for ensuring compliance with environmental regulations are assessed.</p> <p>4.3. Information on environmental and resource efficiency systems and procedures are collected, and where appropriate, provided to stakeholders, key personnel and specialists.</p> <p>4.4. Current resource usage is measured and documented by members of the work group.</p> <p>4.5. Current purchasing strategies are analysed and documented.</p>

	<p>4.6. Current work processes and products are analysed to access information and data and to assist in identifying areas for improvement.</p>
<p>5. Set targets for improvement</p>	<p>5.1. Input is sought from stakeholders, key personnel and specialists and shared with them as appropriate.</p> <p>5.2. External sources of information and data are accessed as required.</p> <p>5.3. Alternative solutions to work site environmental issues are evaluated.</p> <p>5.4. Efficiency targets are set.</p>
<p>6. Implement performance improvement strategies.</p>	<p>6.1. Techniques and tools are sourced to assist in achieving targets.</p> <p>6.2. Continuous improvement strategies are applied to work site, including ideas and possible solutions to communicate to stakeholders, key personnel and specialists.</p> <p>6.3. Environmental and resource efficiency improvement plans for work site and clients are integrated with other operational activities and implemented.</p> <p>6.4. Suggestions and ideas about environmental and resource efficiency management are sought from stakeholders, key personnel and specialists and shared with them to act on as appropriate.</p>

	<p>6.5. Costing strategies are implemented to fully value environmental assets and are shared with stakeholders, key personnel and specialists as necessary.</p>
<p>7. Monitor performance</p>	<p>7.1. Outcomes are documented and reports on targets are communicated to key personnel and stakeholders.</p> <p>7.2. Strategies are evaluated.</p> <p>7.3. New targets are set and new tools and strategies investigated and applied.</p> <p>7.4. Successful strategies are promoted and, where possible, participants rewarded.</p>

## **RANGE STATEMENT**

### Compliance

- meeting relevant Acts, laws, by-laws and regulations, codes of practice or best practice to support compliance in environmental performance and sustainability at each level as required

### Environmental and resource efficiency

- implementing and using alternative practices, procedures or materials to reduce or eliminate resource consumption on work site
- recommendations to stakeholders, including:
- addressing environmental and resource sustainability initiatives, such as an environmental framework, action plan, recommendations, surveys and audits with stakeholders and key personnel
- efficient water use
- energy use (e.g. equipment/appliances installed; equipment, appliance and tool maintenance; transporting materials and building efficiency)

- environmental site management
- evaluating and implementing most appropriate waste treatment, including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment through site management
- improving resource, energy and water efficiency
- including environmental performance in tender and quote specifications
- initiating and maintaining appropriate work site procedures for operational energy consumption, including stationary and non-stationary (transport) energy
- preventing and minimising risks and maximising opportunities on work site and for stakeholders
- reducing emissions of greenhouse gases
- reducing material usage
- reducing use of non-renewable resources
- types of products and materials used
- reference to standards, guidelines, industry association standards, codes of practice and best practice approaches such as:
- government standards

### **ASSESSMENT GUIDELINE**

This unit of competency could be assessed by analyzing and monitoring effective sustainable work practices on a construction project work site.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects for assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- implement and monitor integrated environmental and resource efficiency management policies and procedures within a work site, including:
- access, collect, analyze and organize information from a number of sources to provide information, advice and tools or resources for improvement opportunities to stakeholders and key personnel
- identify possible areas for improved practices and resource efficiency for stakeholders
- communicate benefits of changing practices to work team and customers
- implement new approaches and improvement plans, including planning and organizing activities for staff and stakeholders in relation to:
- measurement of current use
- devising strategies to improve environmental and resource efficiency issues
- reporting as required ensuring appropriate action is taken within work site in relation to environmental and sustainability compliance and potential hazards
- monitor and evaluate improvement plans and efficiency targets, using evaluation and monitoring tools and technology to potentially revise and adjust approaches and strategies to ensure continuous improvement.

Evidence that could be used, reflecting the requirements of the unit of competency and work being performed as evidence, include:

- reports of activities of work group in relation to:
- measurement of resources and efficiency
- development of improvement strategies
- work plans outlining approaches to improved practices, with documented benchmarks
- invoices from stakeholders specifying materials recommended for improved efficiency and those actually used
- quotes and tenders
- lists of environmental hazards, risks and inefficiencies, and opportunities for improvements identified in the work site
- work samples, tools, techniques or simulated activities and the outcomes.

Processes may include:

- relevant authenticated correspondence
- way in which advice is sought and suggestions made about improvements from stakeholders and key personnel
- supply chain program for purchasing sustainable products
- environmental site management framework or product recommendations
- notes on understanding external benchmarks and support for particular benchmarks to be used, with expected outcomes and including approaches to recommend products and practices to stakeholders for improving their resource use.

Resource implications for assessment must include:

- observation by the assessor over a period of time and in a range of situations and/or evidence provided to the assessor in written or verbal form, including:
- implementing tools and techniques
- review of work site and stakeholders/key personnel to assess and measure resource use, hazards and compliance
- application of learning to future activities
- recommended products and practices to stakeholders
- access to a range of information and resources for assessment as listed in the range statement, such as:
- environmental and sustainability legislation
- compliance documentation
- organisational and procedural requirements or organisation plans
- work supervision and work site documentation, including personnel and responsibilities
- quotes, tenders, invoices.

### **Assessment context**

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.



Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements
- relevant specifications and work instructions
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

**Assessment method**

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• how tradespersons can contribute to environmental sustainability</li> <li>• knowledge of compliance requirements for all relevant environmental and sustainability legislation, regulations</li> </ul>	<ul style="list-style-type: none"> <li>• ability to source/identify the latest industry environmental sustainability concepts and technologies</li> <li>• applying learning to future opportunities</li> </ul>

and codes of practice including resource hazards and risks associated with work site:

- supervision
- job specifications
- strategies and procedures to maximise opportunities and minimise impacts relevant to stakeholders and personal area of responsibility
- relevant knowledge of environmental, resource and energy/water efficiency issues, systems and procedures specific to industry practice
- knowledge of best practice approaches and quality assurance systems relevant to area of responsibility and industry
- ability to identify and advise on water/energy efficiency opportunities for stakeholders and key personnel
- supply chain procedures
- OHS issues and requirements
- organisational structure and reporting channels and procedures
- terms and conditions of employment, including policies and procedures, such as:
  - daily tasks
  - equal opportunity
  - work area responsibilities
  - worker, supervisor and employer rights.

- change management skills
- communication skills to:
  - answer questions
  - clarify and acknowledge suggestions relating to work requirements and environmental efficiency with stakeholders
- enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
- read and interpret:
  - documentation
  - environmental and resource efficiency requirements
- support information flow between various internal and external stakeholders to resolve and report on environmental and resource efficiency issues
- creating tools to measure and monitor improvements and report on outcomes to stakeholders
- innovation skills to identify improvements, apply knowledge about resource use to organisational activities and customer service, and develop resource efficiency tools
- numeracy skills to analyse data on company and stakeholder resource consumption and waste product volumes
- problem solving skills to recognise and analyse problems, including:
  - devising approaches
  - implementing and reflecting on environmental and water, energy or resource efficiency management policies and procedures relevant to work site to improve environmental sustainability

	<ul style="list-style-type: none"><li>• share alternative approaches as required</li><li>• skills to relate to different genders and people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities</li><li>• technology skills, including the ability to:<ul style="list-style-type: none"><li>• operate and shut down equipment</li><li>• where relevant, use software systems for recording and filing documentation for measurement and improvement of resource usage and consumption.</li></ul></li></ul>
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### UNIT 23

<b>UNIT TITLE</b>	Produce labour and material schedules for ordering				
<b>DESCRIPTOR</b>	This unit of competency specifies the outcomes required to produce schedules of resource requirements so that orders can be placed for materials and labour for construction projects and to record and track costs as they are incurred.				
<b>CODE</b>	CON21S2U23V1	<b>LEVEL</b>	4	<b>CREDIT</b>	

<b>ELEMENTS OF COMPETENCIES</b>	<b>PERFORMANCE CRITERIA</b>
1. Identify and apply all contract conditions to the schedules.	1.1. All contractual requirements are included in the schedules. 1.2. regulatory bodies ' conditions of approval are included in the schedules. 1.2. Variations to contracts, raised by the client or the builder, are included in the schedules.
7. Produce material and labour schedules, overlays and orders.	7.1. suppliers and contractors are detailed in work schedules. 2.2. Relevant overlay drawings are produced. 2.3. Contract rates are applied to material and labour schedules.
8. Prepare site files.	3.1. All necessary site documents are included, including approved plans and specifications. 8.1. Call forward sheets are prepared detailing all orders.
9. Monitor and report on project costs.	4.1. Project costs are analysed against estimates during construction. 4.2. Approved variation costs are analysed. 4.3. Final project cost analysis is provided.

<p>5. Maintain data files of standard costs.</p>	<p>5.1. Approved variation cost increases are incorporated into site files.</p> <p>5.2. Changes to standard plans, specifications and cost files are included in site files.</p>
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## **RANGE STATEMENT**

### Plans and specifications

- building codes
- colour selections
- contract requirements
- material and labour schedules
- materials specifications
- plans, sketches and drawings
- statements of requirements.

### Project costs

- building or construction materials
- communications costs
- fuels, lubricants and other consumables
- organisational and subcontract labour costs
- overheads
- project administration costs
- site facilities, such as toilets and storage sheds

## **ASSESSMENT GUIDE**

### **Assessment form**

This unit of competency could be assessed by the preparation of schedules for materials and labour for a building project.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### **Critical aspects of assessment**

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- identify materials required for the project and gather supply information effectively
- plan and allocate human and physical resources
- produce documentation that meets the timeframes and quality standards established by the organisation

communicate information effectively within the organisation and to external agencies and the client, as required.

### **Assessment context**

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Resource implications for assessment include:

- documentation that should normally be available in a building or construction office
- relevant codes, standards and regulations
- office equipment
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- a suitable work area appropriate to the construction process.

## Assessment method

Assessment methods must:

- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

<b>UNDERPINNING KNOWLEDGE</b>	<b>UNDERPINNING SKILLS</b>
<ul style="list-style-type: none"> <li>• operation and structure of the organisation's costing and contracting system</li> <li>• building and construction codes, standards and regulations relevant to the form of building or construction being undertaken</li> <li>• types of building or construction drawings and specifications commonly used in the industry</li> <li>• types, scope and usage of labour through the employee and contractor systems.</li> </ul>	<p>communication skills to:</p> <ul style="list-style-type: none"> <li>• enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand</li> <li>• communicate information effectively within the organisation and to external agencies and the client</li> <li>• read and interpret:               <ul style="list-style-type: none"> <li>• contracts</li> <li>• drawings and specifications</li> </ul> </li> <li>• written skills to:               <ul style="list-style-type: none"> <li>• prepare and maintain site files</li> <li>• produce schedules and orders</li> </ul> </li> <li>• identify and analyse relevant information</li> <li>• numeracy skills to apply calculations.</li> </ul>